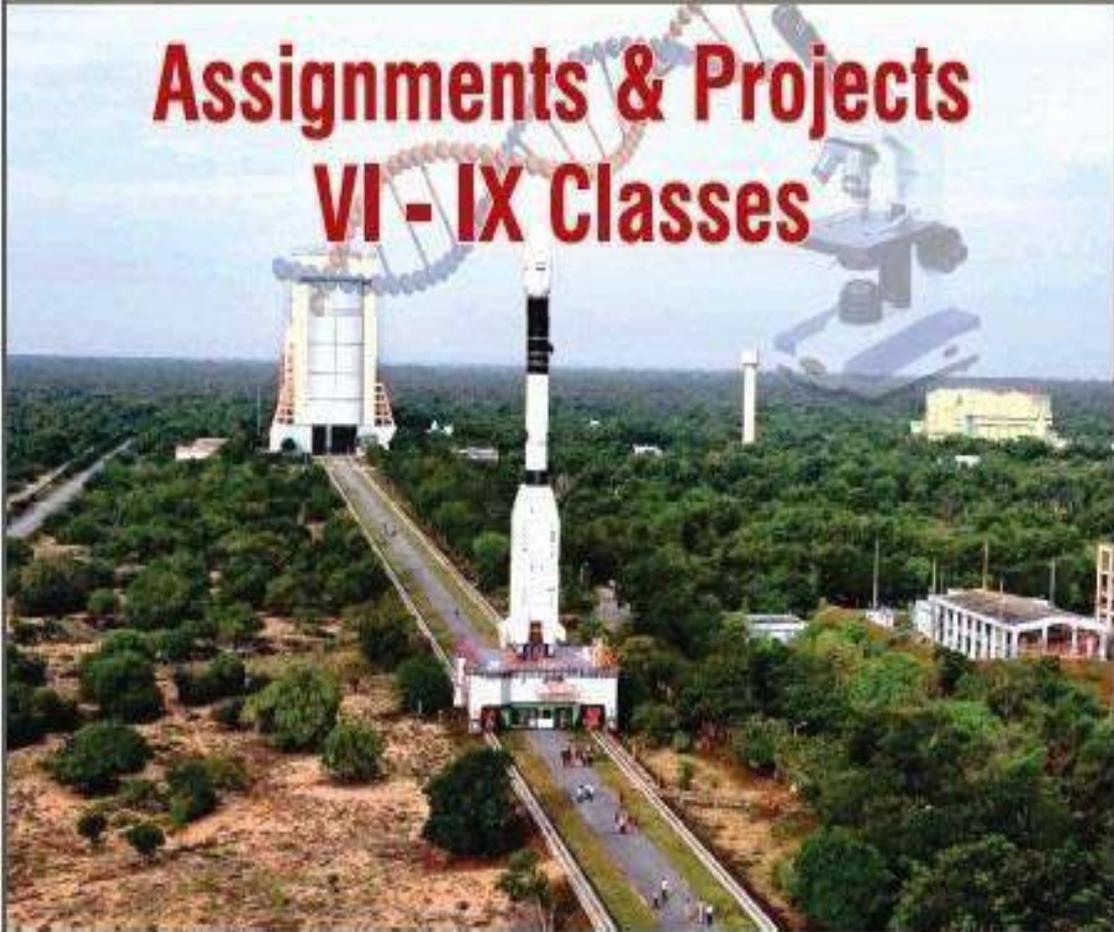


Assignments & Projects VI - IX Classes



Non-Languages

PREFACE

Learning in the classroom cannot be a joyful experience for the child unless we change our perception of the child as a receiver of knowledge and unless we move beyond the conventional use of the text book as the basis for examination.

The present CCE mode of curriculum has evolved from State Curriculum Framework (SCF) 2011. Here the teacher is a facilitator. Gone are the days when the children open their mouths in the classroom only to answer the few questions posed by the teacher. Gone are the days when only the teacher dominates the entire class.

The CCE mode of learning is activity based learning through Projects, Assignments and through real life situations which bring the society at large into the classroom as stated by SCF-2011 : Children's life at school must be linked to their life outside the school. Thus projects are part and parcel of classroom learning. As we are all aware, projects are a set of activities in which students understand the concept thoroughly, collectively collect relevant information and arrive at certain conclusions. Projects, done in groups, as they should be, develop skills in Academic Standards such as Communication, Problem Solving, Connection with other subjects and Representation & Visualization.

In this book, suggestible projects are presented class wise, subject wise, chapter wise and concept wise. The teacher plays a vital role in making the students do the projects. He/she should have a thorough understanding of the projects before they are taken into the classroom. The projects should be clearly explained to the students so that they are done with complete comprehension and with keen interest. The teacher should motivate the students in such a manner that they participate and involve themselves in doing projects, irrespective of their capabilities and limitations.

This book on projects is prepared by our own teaching faculty with much dedication and enthusiasm to make our classrooms lively, meaningful and learning - oriented. I take this opportunity to thank one and all who have put in their heart and soul in bringing out this useful book on projects. And I wish that the same hard work and enthusiasm reflect while doing the projects.

The projects presented here, as said earlier, are only suggestive. You might as well design and do many more innovative projects in your classroom. Such projects could also be sent to us so that they could be incorporated in the next edition. Your suggestions are invaluable.

With greetings.

Assignments & Projects Class VI to IX

Non-languages-INDEX

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CLASS — VI

PROJECTS IN MATHEMATICS

PROJECT: Set of activities in which pupils discover experiment and collect information by themselves in a natural situation to understand a concept and arrive at a conclusion may be called a PROJECT.

Project work will develop the skills in academic standards such as problem solving, logical thinking, mathematical communication, representing data in various forms in daily life situations. This approach is to encourage the pupils to participate, discuss (articulation) and take active part in class room processes.

Project work essentially involves the students in a group work and submitting a report by the students on a given topic, after they worked on it, discussed it and analyzed it from various angles and perspectives.

ASSIGNING PROJECTS – TEACHER’S ROLE

1. Teachers must have a thorough awareness on projects to be assigned to the students.
2. Teachers must give specific and accurate instructions to the students.
3. Teachers must see that all the students must take part in the projects assigned.
4. Allot the projects individually on the basis of student’s capabilities and nature of the projects.
5. Teachers must see that children with different abilities are put in each group and give opportunity to select division of work according to their interesting task at the time of allotment of the project.
6. Teachers must analyze and encourage the pupil, while they work on the project.
7. Teachers should act as facilitators.
8. Proper arrangements must be made for the presentation and discussion of each student’s project, when the students must be told whom to meet to collect the information needed.
9. Allow the students to make use of the library, computer lab etc.
10. Give time and fix a date to present the project. Each project should be submitted within a week in the prescribed Proforma.
11. Each project can be allotted to more number of pupils just by changing the data available in and around the school.
12. The projects presented should be preserved for future reference and inspection.
13. Every mathematics teacher is more capable to prepare projects based on the Talent/Interest/ Capability of students.
14. Teacher also ideal to the students by adopting one difficult project from each class.
15. Procedure of the project should be expressed by the students using his own words.
16. Each student should submit 4 projects in an academic year.

Welcome your comments and suggestions.

PROFORMA FOR THE PROJECT

PRELIMINARY INFORMATION

Class :

Subject :

Name of the Lesson/Unit :

No. of the Project :

Allotment of work :

(i) Identifying the shapes

(ii) Measuring the lengths of the sides

(iii) Recording the measurements

(iv) Calculating the Areas & Perimeters

(v) Presentation of the project

DETAILED INFORMATION OF THE PROJECT

1. Title of the Project :

2. Objectives of the project :

3. Materials used :

4. Tools :

5. Procedure :

1. *Introduction* :

2. *Process* :

3. *Recording the data* :

4. *Analysis* :

5. *Conclusion* :

6. Experiences of the students :

7. Doubts & Questions :

8. Acknowledgement :

9. Reference Books/Resources :

10. Signature of the student(s) :

CLASS—VI
MODEL PROJECT

PROFORMA

PRELIMINARY INFORMATION

Class : 6

Subject : Mathematics

Name of the Lesson/Unit : AREA AND PERIMETER

No. of the Project : 1

Allotment of work :

(i) Identifying the shapes

- Master Krishna Vamsi

(ii) Measuring the lengths of the sides

- Master Venkatesh

(iii) Recording the measurements

- Master Nagoor Vali

(iv) Calculating the Areas & Perimeters

- Master Rama Krishna Naidu

(v) Presentation of the project

- Master Sathya Rama Jayanth

DETAILED INFORMATION OF THE PROJECT

1. Title of the Project :

Identification of rectangle and square shapes in our daily life and find its Perimeter and Area.

2. Objectives of the project :

- (i) Identification of rectangular and square shapes in our surroundings.
- (ii) Finding of perimeter and area of rectangular and square shapes.

3. Materials used :

Tape, twine thread, charts, Long scale, pencil, sketch pens, etc.,

4. Tools :

- (i) Different shapes which are in rectangular, square shapes (class room, table, verandah, game courts, note book, windows, doors etc.,)
- (ii) Measurements of all shapes.

5. Procedure :

1. Introduction : I want to measure the dimensions of rectangle and square shapes in our surroundings.

2. Process : Measure the dimensions of Badminton court, Verandah, Table.

3. Recording the data of rectangular shapes

S. No.	Name of the rectangular shape	Length (l)	Breadth (b)	Perimeter $P = 2 (l + b)$	Area $A = l \times b$
1	Verandah	8 m	2 m	20 m	16 Sq.m.
2	Table	1.8 m	1.2 m	6 m	2.16 Sq.m.
3	Garden	6 m	2 m	16 m	12 Sq.m.
4	Badminton Court	24 m	12 m	72 m	288 Sq.m.
5	Volley Ball Court	18 m	9 m	54 m	162 Sq.m.

Recording the data of square shapes

S.No.	Name of the square shape	Side (s)	Perimeter $P = 4 \times s$	Area $A = s \times s$
1	Class room	25 Ft	100 Ft	625 Sq.Ft.
2	Garden	4 m	16 m	16 Sq.m.
3	Chess board	24 cm	96 cm	576 Sq.cm.
4	Caroms board	75 cm	300 cm	5625 Sq.cm.

4. Analysis :

S. No.	Name of the shape	Length (l)	Breadth (b)	Perimeter $P = 2 (l + b)$	Area $A = l \times b$
1	Garden	6 m	2 m	16 m	12 Sq.m.
2	Garden	4 m	-	16 m	16 Sq.m.

(i) From the above table I noticed that the area of square is more than the area of rectangular shape having the same perimeter.

S. No.	Name of the shape	Length (l)	Breadth (b)	Perimeter $P = 2 (l + b)$	Area $A = l \times b$
1	Verandah	8 m	2 m	20 m	16 Sq.m.
2	Garden	4 m	-	16 m	16 Sq.m.

(ii) From the above table I noticed that the perimeter of rectangle is more than the perimeter of square having the same area.

5. Conclusion :

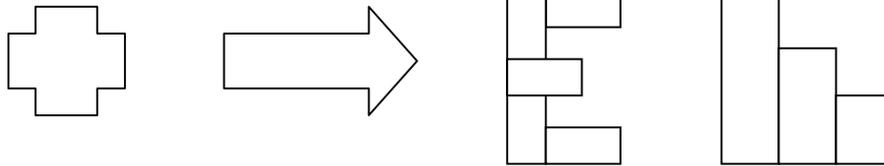
1. The area of square is more than the area of any rectangle having the same perimeter.
2. The perimeter of rectangle is more than the perimeter of any square having the same area.

6. Experiences of the students :

- (i) I measured length in feet and breadth in cm by using a scale.
- (ii) I used $l + b$ instead of $l \times b$ to finding the area.
- (iii) I wrote Sq.units to perimeter which is not correct.
- (iv) I feel very happy while measuring the dimensions and finding the areas of games courts, carom board, chess board and garden etc.,

7. Doubts & Questions :

1. Whether rectangle is a regular figure?
2. How can we find out the area of closed figure other than square and rectangle?
3. How we can find out the area and perimeter of winners stand, and the following closed figures.



8. Acknowledgement :

1. Convey my sincere thanks to our Principal to allow into our kitchen garden.
2. Convey my sincere thanks to our PET to provide games material like chess board, carom board etc.,

9. Reference Books/Resources :

1. Class – VI Mathematics text book

10. Signature of the student(s) :

CLASS—VI : LESSON WISE PROJECTS

S. No.	Name of the Lesson	Title of the Project
1	Knowing our Numbers	<ol style="list-style-type: none"> 1. Collect the information from your surroundings/daily life, like population of some states/countries, food expenditure for one year, distance between earth and moon, planets and write them in Indian system and International system. 2. Collect the information about Indian great mathematician Sri Srinivasa Ramanujan.
2	Whole Numbers	<ol style="list-style-type: none"> 1. Collect the information about whole numbers and represent on number line and perform operations of addition, subtraction and multiplication. 2. Prepare a chart of properties of whole numbers under addition,
3	Playing with Numbers	<ol style="list-style-type: none"> 1. Prepare the list of prime numbers by using Sieve of Eratosthenes with the help of divisibility rules. 2. Establish the relationship between LCM and HCF by collecting some daily life situations.
4	Basic Geometrical Ideas	<ol style="list-style-type: none"> 1. Prepare models/drawing and cutting a colour paper in the shape of circle, and identifying/marketing centre, radius, diameter, chord, arc and a sector. 2. Prepare a model clock and observe different timings and draw the diagrams then find the angles made by the hands of the clock. 3. Collect some rangoli designs and draw them in your book and identify the geometrical shapes in them. 4. Collect information about Euclid and write his contributions to the geometry.
5	Measure of Lines and Angles	<ol style="list-style-type: none"> 1. Prepare models of different types of angles with refills, match sticks and paste them on a chart. Draw the pictures of these angles and note in a tabular form. 2. Observe your surroundings and identify the parallel lines, perpendicular lines and intersecting lines and draw their diagrams with names.

S. No.	Name of the Lesson	Title of the Project
6	Integers	<ol style="list-style-type: none"> 1. Collect information about temperatures recorded in the month of January in various places, heights of the mountains and depth of sea. Write these in an ascending order. 2. Represent the addition and subtraction of integers by using number line.
7	Fractions and Decimals	<ol style="list-style-type: none"> 1. Note the time spent on each activity in a day. Express each time period as a fraction of whole day. Arrange them in ascending order also write them in simplest form and in decimal form. 2. Observe and write some different daily life situations using fractions and decimals. Find the sum and difference of (i) these fractions and (ii) these decimals.
8	Data Handling	<ol style="list-style-type: none"> 1. Collect grades of your classmates in SA-1, and organize the data in the form of frequency distribution table using tally marks. 2. Collect the information of monthly income and expenditure of your family for six months/SSC results of your school for 5 years and represent the data in a bar graph.
9	Introduction to Algebra	<ol style="list-style-type: none"> 1. Make different patterns by using sticks to form different shapes and writing the rules that is used in the patterns. 2. Collect and write the examples for algebraic expression and equations from daily life situations. (Buying of vegetables, pens, books etc.,)
10	Perimeter and Area	<ol style="list-style-type: none"> 1. Identify the rectangular and square shapes of class rooms/verandah/windows/doors/tables/textbooks/games courts etc., and measure the dimensions. Prepare table showing perimeter and area of the above shapes. 2. Measure the dimensions of your kitchen garden/field/the boundaries of your school/house plot. The cost of fencing per meter is Rs.24. Find the total cost for fencing in each case. 3. Identify the shape of class room/verandah/dining hall and measure the dimensions. The cost of 2 Sq.m. tile is Rs.90, how much will it cost for flooring of the above.

S. No.	Name of the Lesson	Title of the Project
11	Ratio and Proportion	1. Collect the marks of Physics and Mathematics of your class. Find all the possible ratios in simplest form and identify the proportion.
12	Symmetry	1. Collect some figures/objects/articles/English alphabets/mathematical diagrams from your surroundings and draw its miniatures and draw the lines of symmetry to them. What do you observe? 2. Collect some rangoli patterns/design of dresses and draw in your project book. Try to draw the lines of symmetry to the, How many such lines can you draw?
13	Practical Geometry	1. Draw some beautiful pictures by using compass/protractor. 2. Collect the life history of mathematicians and their contribution to geometry. (Ex. Pythagoras, Bhaskaracharya)
14	Understanding 3D and 2D Shapes	1. Collect 2D and 3D objects in your surroundings. 2. Take any multi faced solid in your surroundings (verify the Euler's formula: $V + F = E + 2$. Find a relation between the number of vertices, faces and edges.

CLASS—VI : LESSON WISE ASSIGNMENTS

S.No	Name of the chapter	Assignment														
1	Knowing our Numbers	1. Give 5 examples where large numbers used in real life. 2. Take the digits 4, 5, 6, 7, 8 & 9 and make any three 8-digit numbers. (Put commas for easy reading) 3. The distance between the school and house of student is 1 Km 875 Mtrs., every day she walks both ways. Find the total distance covered by her in 6 days.														
2	Whole Numbers	1. Find the following using number line. (i) $4 + 5$ (ii) $2 + 6$ (iii) $5 - 3$ (iv) 2×6 2. Find $14 + 17 + 6$ in two ways. 3. The school canteen charges Rs.20 for lunch and Rs.4 for milk in a day. How much money do you spend in one week on these things? 4. Study the pattern $1 \times 8 + 1 = 9$ $12 \times 8 + 2 = 98$ $123 \times 8 + 3 = 987$ 5. Write the next FOUR steps. Can you say how the pattern works?														
3	Playing with numbers	1. Find the factors of 30, 36 and 45? 2. Match the items in Column-1 with those in Column-2. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Column – 1</th> <th>Column – 2</th> </tr> </thead> <tbody> <tr> <td>1. 35</td> <td>a. Multiple of 8</td> </tr> <tr> <td>2. 15</td> <td>b. Multiple 7</td> </tr> <tr> <td>3. 16</td> <td>c. Factor of 30</td> </tr> <tr> <td>4. 20</td> <td>d. Multiple of 20</td> </tr> <tr> <td>5. 25</td> <td>e. Factor of 50</td> </tr> <tr> <td></td> <td>f. Multiple of 70</td> </tr> </tbody> </table> 3. Find a perfect number(s) between 1 to 100? (Perfect number is a number who's sum of all the factor is double to that number)	Column – 1	Column – 2	1. 35	a. Multiple of 8	2. 15	b. Multiple 7	3. 16	c. Factor of 30	4. 20	d. Multiple of 20	5. 25	e. Factor of 50		f. Multiple of 70
Column – 1	Column – 2															
1. 35	a. Multiple of 8															
2. 15	b. Multiple 7															
3. 16	c. Factor of 30															
4. 20	d. Multiple of 20															
5. 25	e. Factor of 50															
	f. Multiple of 70															
	Basic geometrical ideas	1. Draw a figure suitably in the each of the following cases? a) Point P lies on \overline{AB} b) \overline{XY} and \overline{PQ} intersect at m. c) Line 'l' contain E & F but not D. 2. Draw a rough sketch of a quadrilateral KLMN state (a) 2 Pairs of opposite sides. (b) 2 Pairs of opposite angle. (c) Two pairs of adjacent pairs.														
5	Measure of lines and angles	1. (i) What is the angle name for half a revolution. (ii) what is the angle name of $1/74^{\text{th}}$ revolution. (ii) Draw 5 situations of $1/4^{\text{th}}$, Half and $3/4^{\text{th}}$ revolutions on a clock. 2. How many right angles make 180° , 360° and 270° . 3. Take a post card and measure its two adjacent sides using divider and scale.														
		11														

S.No	Name of the chapter	Assignment																		
6	Integers	<p>1. The list of temperatures of 5 Places in india on a perticular day of the year. Write the temperatures as integers.</p> <table border="1"> <thead> <tr> <th>Place</th> <th>Temperature</th> <th>Integer</th> </tr> </thead> <tbody> <tr> <td>Siachin</td> <td>10°C below 0° C</td> <td></td> </tr> <tr> <td>Simla</td> <td>2°C below 0° C</td> <td></td> </tr> <tr> <td>Ahmebadad</td> <td>30°C above 0°C</td> <td></td> </tr> <tr> <td>Delhi</td> <td>20°C above 0°C</td> <td></td> </tr> <tr> <td>Srinagar</td> <td>5°C belowe 0°C</td> <td></td> </tr> </tbody> </table> <p>2. Find the value of -8- (-10) using the number line.</p>	Place	Temperature	Integer	Siachin	10°C below 0° C		Simla	2°C below 0° C		Ahmebadad	30°C above 0°C		Delhi	20°C above 0°C		Srinagar	5°C belowe 0°C	
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Srinagar	5°C belowe 0°C																			
7	Fractions and Decimal	<p>1. Represent $\frac{3}{5}$ on number line.</p> <p>2. Arrange the following in ascending and descending order.</p> <p>(a) $\frac{1}{5}, \frac{11}{5}, \frac{4}{3}, \frac{3}{5}, \frac{7}{5}$</p> <p>(b) $\frac{1}{7}, \frac{3}{7}, \frac{13}{7}, \frac{11}{7}, \frac{7}{7}$</p> <p>3. In a class A out of 25 students, 20 passed in first class in another class B out of 30 students 24 passed in first class. In which class has a greater fraction of students getting first class.</p>																		
8	Data handling	<p>1. Observe the vehicles which passed on the road in front of your school from 4 PM to 6 PM in one day. Represent this data in a frequency distribution table using tally marks.</p> <p>2. Collect the academic qualifications of at least 40 persons in the nearby houses in your village. Represent a data as a bar graph.</p>																		
9	Introduction to algebra	<p>1. Cost of a book and a pen is Rs.20 and Rs.10 respectively. Ravi purchased some books and pens and paid Rs.100 for them. Express this as simple equation.</p> <p>2. Write some problems in your daily life which involved simple equations.</p> <p>3. Krishna brought 3 shirts and paid Rs.2000 to the shop keeper. Shop keeper gave Rs.200 back to Krishna. Express this as algebraic equation and find the solution.</p>																		
10	Perimeter and area	<p>1. Measure the length and breadth of windows in your dormitories/ class, find total length of mosquito mesh of 1 meter width required for your dormitory.</p> <p>2. Find the length and breadth of black board in your class room find the length of ribbon required to decorate the borders of black board. Find the quantity of black paint required for the board in your class room if 100 ml paint is sufficient for 100 Sq.cm.</p>																		
11	Ratio and Proportion	<p>1. Ravi, Siva went to a picnic with 5 & 4 rotis with them Bheema joined with them. Three eat the food equally. Bheema gave 9 biscuits to Ravi and Siva to share. Find their share.</p> <p>2. Find the ratio of length and breadth of a post card.</p>																		

S.No	Name of the chapter	Assignment
12	Symmetry	<ol style="list-style-type: none">1. Write the capital letters in English which remains same in the mirror image.2. Draw the shapes of regular polygons up to hexagon. Find the number of symmetrical for them.3. Draw symmetrical shapes by using same triangular figures.
13	Practical Geometry	<ol style="list-style-type: none">1. Draw a square of side 5cm without using protractor.2. Construct 15° with compass.
14	Understanding 3D & 2D Shapes	<ol style="list-style-type: none">1. Take a circle. Rotate the circle along its diameter what do you observe.2. Take some 3D objects guess and draw their vertical, horizontal, cross sections. Prepare a list.

PROPOSED PROJECTS AND ASSIGNMENTS **FOR SCIENCE FOR CLASS-VI**

PROJECTS

CHAPTER – 1 OUR FOOD

1. Enquire your parents about the various methods of preserving food write a note on them.
2. Make a fruit or vegetable salad and exhibit at your school and mention the importance of fruit or vegetable.
3. Prepare sprouts of any pulses you like and write its nutritional value.
4. Taking fresh fruits and vegetables keep us healthy. In recent news it came to light the concept of artificial ripening of fruits. Collect the information regarding artificial ripening of fruits by using calcium carbide and write the ill effects.
5. Collect the wrappers of different food items like biscuits etc. And tabulate the list of ingredients manufacture date and expiry date.

CHAPTER – 2 PLAYING WITH MAGNETS

1. You have given an iron piece. By using it prepare a magnet of your own observe the characteristics and write a brief concept.
2. By using magnetic compass locate the direction of your school, your class room, principal's room, playground etc.

CHAPTER – 3 RAIN: WHERE DOES IT COME FROM

1. Explore the concepts, evaporation, condensation in the formation of water cycle.
2. Collect the information of fall of hail stone in different direction of A.P.
3. With the help of rain guage note down the quantity of rainfall in your village. Make a comparative statement and analyse the reasons for different readings.

CHAPTER – 4 WHAT DO ANIMALS EAT

1. Develop three food chains of different ecosystem with diagram.
2. Do a project on "connection between teeth and eating "of different animals. What are the differences, how have they adopted over time and how do you compare their teeth with human teeth.
3. Prepare a scrap book of animals and separate them into carnivores, omnivores and herbivores.
4. Observe the collections of food by different animals in your surroundings and show them in drawings.

CHAPTER – 5 MATERIALS AND THINGS

1. List out things which we can make by using different materials at your surroundings of home.
2. Trace out different designs by using transparent sheets.

CHAPTER – 6 HABITAT

1. Prepare a map that represents various habitats in your school and describe it.
2. “STREET DOGS KILLED 3 YEARS OLD BABY” these are the headlines in the News that we are seeing in daily in Newspapers. Write your suggestions to prevent these incidences.

CHAPTER – 7 SEPARATION OF SUBSTANCES

1. Write a number of examples in the separation of methods of mixture in day to day life situation of light and heavier frame.
2. Explore a “Single colour substance is a mixture of many colours”.

CHAPTER – 8 FIBRE TO FABRIC

1. Visit nearby weaver’s house, note down the process of making fabrics from fibre.
2. Make a scrap book containing different types of fabrics.

CHAPTER – 9 PLANTS: PARTS AND FUNCTIONS

1. Collect the food items of “modification in root and stem”.
2. Write an article on “Vanamahostavam”.

CHAPTER – 10 CHANGES AROUND US

1. Write a number of examples regarding temporary changes and permanent changes in day to day life.
2. Observe any food item and note the changes that took place in each at every ingredients in it.

CHAPTER – 11 WATER IN OUR LIFE

1. Make a poster showing that water is necessary for us/ make a poster to save water.
2. If people are suffering from severe floods, how can you rescue them.
3. In your village look at a well from where people get drinking water
 - A) Write the process of digging a well/ bore well.
 - B) Level of water in well throughout the year.
 - C) Draw a neat diagram of a well.
4. Collect some fruits and vegetables which contain more amount of water.
5. Prepare a report on preparation of salt in coastal area.

CHAPTER-12 SIMPLE ELECTRIC CIRCUITS

1. If bulb may not be discovered, imaginary our life. Write your suggestions.
2. Make a working model of torch light.
3. Differentiate the material into conductors and insulators in your home and write a brief note.
4. Write a report on the discovery of X – ray.

CHAPTER-13 LEARNING HOW TO MEASURE

1. Measure the lengths of different objects in your classroom.
2. Measure the heights of different children's in classroom and take the average height of the classroom children.

CHAPTER-14 MOVEMENTS IN ANIMALS

1. International yoga day is celebrated on June 21. How come people do yoga asana? Collect information about it by taking assistant of your P.E.T.
2. Collect objects among house hold materials which function like your joints and display in your school.

CHAPTER-15 LIGHT, SHADOW AND IMAGES

1. Based on shadow collect information regarding solar and lunar eclipses.
2. from the shadows of different objects by using your two hands and fingers. Draw the position of fingers and hands and shapes of objects obtained.
3. Find out/ write the history of puppets show.

CHAPTER-16 LIVING AND NON - LIVING

1. List out some of the responses to stimulus that you observe in your daily life.
2. Observe the characteristics of living and non-living organisms in your surroundings and differentiate the characteristics.

ASSIGNMENTS

OUR FOOD

1. Find out the ingredients of the given food items.
a) Pachchi pulusu b) coconut chatney c) jilebi
2. List out the names of some plants in your villages which parts of it used as food?

PLAYING WITH MAGNETS

1. Draw a bar magnet and locate the poles?
2. For which purposes do people use magnets in their daily life ask your family members and other elders and collect the information

RAIN: WHERE DOES IT COME FROM

1. When do clouds become cool?
2. Where do the rain come from?

WHAT DO ANIMALS EAT

1. What is food chain? Explain with diagram?
2. Compare the types of food habits of two animals selected by you?

MATERIALS AND THINGS

1. How many types of materials can be used for making chairs?
2. How can we classify materials?

HABITAT

1. Name some organisms in the pond that can stay in different regions in the same pond? What them stay in different region in the pond?

SEPARATION OF SUBSTANCES

1. Where do we use the chromatography method?
2. Why did mud particle settle at the bottom of the tumbler?

FIBRE TO FABRIC

1. Coconut is also a fibre. Name some things made of coconut fibre?
2. What will happen if a rain coat is made from cotton fabric? Why?

PLANTS: PARTS AND FUNCTIONS

1. What will happen if a plant does not have leaves?
2. What are the common parts that you observe in all the leaves?

CHANGES AROUND US

1. we use clay to make idols? Can we get back clay from the idol? What type of changes is it?
Give some examples for the above changes?
2. If a raw egg is boiled in water, what changes do you notice in it?

WATER IN OUR LIFE

1. How can you say water is necessary for us?
2. Why do people need protected drinking water?

SIMPLE ELECTRIC CIRCUIT

1. What is an electric? Explain with a diagram?
2. Draw the circuit so that the bulb glows?

LEARNING HOW TO MEASURE

1. Write the story of the scale?
2. What method will you adopt to measure the volume of a banana?

MOVEMENTS IN ANIMALS

1. Write about flexible bones of our body?
2. Which joints involved in plucking flowers, making garlands?
3. Why do infants have more bones than adults?

LIGHT, SHADOW AND IMAGES

1. Why we cannot see objects which are behind us?
2. Where do you find reflection of light in your daily life? Write few examples?

LIVING AND NON-LIVING

1. Why do cockroaches come out of their places when lights are put out?
2. How can you say that a tree is living even though it does not move?

CLASS - VI
PROJECTS - Social Studies
1. READING AND MAKING MAPS

- 1. Album** : Collect different kinds of 'Maps' and prepare an album. Discuss in your classroom.
- 2. Work experience** : Find out the distance from your Mandal H.Q. to your district Head Quarter by converting 'MAP' into actual distance.
- 3. Sketch** : Sketch your house and convert it into a 'MAP'.
- 4. Creativity** : Prepare the need of 'SYMBOLS' while preparing 'MAPS'
- 5. Creativity** : Prepare different symbols which are using in your daily life.
- 6. Map drawing** : DRAW a 'MAP' of the class-room and school which shows play ground, Kitchen, bathroom, school garden etc.,
- 7. Chart** : Prepare a chart which shows cordinal points.
- 8. Information Collection:** Collect the information about Key Words and draw the pictures.

2. GLOBE –A Model of the Earth

- 1. Map drawing** : Draw imaginary lines on the map and explain about latitudes and longitudes.
- 2. Information Collection:** Collect the information about 'EXPLORERS" (PHOTOGRAPES ALSO).
- 3. Model making** : DRAW: Draw the latitudes and longitudes on the surface of a 'BALL'.
- 4. Work experience** : Conduct a model activity with students for rotation and revolution of the earth.
- 5. Model making** : Prepare a model globe by using clay, cotton, sticks, etc., mark Oceans and continents with different colors.
- 6. Creativity** : Prepare a song on Continents and oceans.
- 7. Work experience** : Bring a globe to your classroom and identify the Oceans and Conti-nents, listout them and write.
- 8. Album** : Prepare an album which contains the pictures of Globe, Latitudes, longitudes, Grid, Oceans, Continents etc.,
- 9. Information Collection:** Collect the information about Key Words and draw the pictures.
- 10.Group Discussion** : Conduct a group discussion on earth rotation and revolution, tim-ings, day and night.

3) FROM GATHERING FOOD TO GROWING FOOD –The Earliest People

- 1. Group Discussion** : Conduct a Group Discussion on "The changes in the lives of early people after the discovering of fire."
- 2. Information Collection:** Prepare a list of domesticated animals and agricultural products of the earliest people.
- 3. Group discussion** : The style of the 'HUNTER-GATHERERS' in A.P.

4. **Field work** : FIND-OUT if there are any ROCK-painting sites near your place and visit them with your-class-write a 'REPORT' on it and exhibit in your class.
5. **Information Collection:** Collection of Information display and describes about "From gathering Food to growing food: - The earliest people.
6. **Group Discussion** : Conduct a Group Discussion on 'Drawing' recognition And Reading Of Map'.
7. **Album** : Collect of photos of various caves in the world. Make an album.
8. **Information Collection:** Collect the information about Key Words and draw the pictures.

4) LAND FORMS OF ANDHRA PRADESH PART A & B

1. **Group Discussion** : 1) Discussion among pupils about drawing
2. **Quiz** : Form two teams and let each team formulate twenty simple questions on the Information given in the chapter. Exchange the questions and Answer them to be corrected by the team, which set the questions.
3. **Information Collection:** Collect-Data about the different types of crops grown in PENAMAKURU.
4. **Group Discussion** : Hold a discussion on the living conditions of people in each land form and make a note, display in the class.
5. **Information Collection:** List out the changes are taking place in 'PENAMAKURU" Village.
6. **Map drawing** : Draw Andhra Pradesh physical map, which shows Plains, Plateaus, Mountains, rivers and Ocean with colors.
7. **Map drawing** : Draw India physical map, which shows Plains, Plateaus, Mountains, rivers and Ocean with colors.
8. **Information Collection:** Collect the information about "Prakasam Barrage". And prepare an album with information.
9. **Map drawing** : Draw your village/ town map (like page no. 34). Locate canals, houses, tank, agricultural fields, roads, etc.,
10. **Information Collection** : Collect the information about Floods and cyclones in India.
11. **Information Collection** : Collect the information about Key Words and draw the pictures.

5. SALAKAM CHERUVU A VOLLAGE ON THE PLATEAU

1. **Information collection** : Mention the Important food and Commercial Crops of Salakam-Cheruvu.
2. **Field Trip** : Visit a nearby tank and Find-Out-if it is used for irrigation and what crops are grown under them
3. **Information collection:** Collection of Information about SALAKAM CHERUVU.
4. **Group-Discussion** : Discuss how to use and protect 'TANKS' AND 'KUNTAS'.
5. **Group-Discussion** : Construction of Houses in SALAKAM CHERUVU.
6. **Seminar** : Conduct a seminar on economic activities in Salakam Cheruvu.
7. **Album** : Collect the pictures of plateaus. Comment on plateaus.
8. **Comparing** : Compare your village with Salakam Cheruvu in a tabular form.
9. **Information Collection** : Collect the information about Key Words and draw the pictures.

6. KUNAVARAM A TRIBAL VILLAGE IN THE HILLS

1. **Information Collection:** FIND-Out more about the “POLAVARAM PROJECT” and also how it will benefit and how it will submerge villages. (Group discussion)
2. **Make A Report** : It is important to preserve the lifestyle of The ‘TRIBALS’.
3. **Information Collection :** Collect any edible thing from the Forest, if so shown your experience with your classmates.
4. **Information Collection :** LIST-OUT-various means of living of these KONDA REDDY’s.
5. **Debate** : Cultural activities of the “TRIBAL PEOPLE’.
6. **Seminar** : Conduct a seminar on the living conditions of Tribal people and people on the plains.
7. **Map drawing** : Draw your district outline map.
8. **Field trip** : Visit a Tribal colony nearby your location. And take an interview of a Tribal person.
9. **Song** : Collect / prepare a song on tribal lifestyle.
10. **Album** : Prepare an album which shows the lifestyle of the Tribal population.
11. **Information Collection :** Collect the information about Key Words and draw the pictures.

7. AGRICULTURE IN OUR TIMES

1. **Group – Discussion** : 1) If there are any contact farmers in your Area-discuss their experiences.
2. **Debate** : “Small farmers can not borrow money easily from the BANKS”.
3. **Make A Report** : ‘The changes you have observed in the Agriculture of ANDHRA PRADESH”.
4. **Information Collection:** Collect ‘NEWS’ items on problems faced by small and marginal farmers.
5. **Debate-Topic** : “FARMER IS A BACK-BONE OF COUNTRY” mention your opinion on this statement.
6. **Interview** : Hold an interview with two people such as small farmers and agriculture labour with regard to farming make a report, display in the classroom.
7. **Field trip** : Visit any agricultural field and take an interview of a farmer. Collect the information about the crops of the farmer. Prepare a report. Present in your classroom.
8. **Model** : Develop a school garden, in that garden vegetables, leafy vegetables, etc., have to grow.
9. **Information Collection :** Collect the information about Key Words and draw the pictures.

8. TRADE IN AGRICULTURAL PRODUCE

- 1. Field trip** : Go to a near by RYTHU BAZAR and collect the Information of different farmers get just prices for their produce and disadvantages of these measures. After observing what happening there and how traders bid prices for paddy and other products.
- 2. Data-Collection** : Collect the details of PADDY/ wheat/ any crop. Who purchase them? How prices are fixed?
- 3. SKIT** : Write script for a small SKIT to explain the small farmers of Andhra Pradesh.
- 4. Discuss** : "Government can help vendors".
- 5. Debate** : "Farmers stand to benefit from "SELF-HELP"- Groups". "Self-help groups Vs Money lenders."
- 6. Information Collection** : Collect the information about Key Words and draw the pictures.
- 7. Interview** : Interview a vegetable street vendor about her/his life style, children education and economic status. Prepare a report with 'pie chart' and map like Case study of Gowri.
- 8. Field Trip** : Visit a Santha near by your village / town and collect information about marketing system.

9. "COMMUNITY DECISION MAKING IN A TRIBE"

- 1. Information Collection** : About the relationship between FURERHAIMENDORE and the TRIBAL SOCIETIES.
- 2. Group Discussion** : Discuss about the functioning of any "COMMUNITY PANCHAYET" in your area.
- 3. Information Collection** : What will happen if the members were not equal or if people from different communities lived together.
- 4. Information Collection** : Collect the several photos of tribal life styles and hold a discussion and make a report, present in the classroom.
- 5. Information Collection** : Collect the information about Key Words and draw the pictures.
- 6. SKIT** : Write a SKIT on 'PATLA" and 'GOND PANCHAYAT".
- 7. Information Collection** : Collect information about Hymondorf.

10. EMERGENCE OF KINGDOMS AND REPUBLICS

- 1. Information Collection** : Prepare a list of books which are source to the History of 16 – MAHAJANAPADAS.
- 2. Information Collection** : Prepare a list of the modern places corresponding to Mahajana-padas.
- 3. Information Collection** : Prepare a STORY of a Village/CITY which was affected by War.
- 4. SKIT** : Conduct a role play of a king of "ANGA"/ "MALLA"/ "GANA".

5. **Group Discussion** : Hold a group discussion over “ Only Magadha could won many wars and establised rule other empires.”
6. **Album** : Collect the historical photos Mahajanapadas make an album.
7. **Information Collection:** Collect the information about Key Words and draw the pictures.
8. **Map drawing** : Prepare a chart of Mahajanapadas.

11. FIRST EMPIRES

1. **Debate** : War Vs Pease / Kalinga war Vs Buddhism.
2. **Information Collection:** Collect the details about MAURYEN EMPIRE.
3. **Information Collection:** Collect more “INSCRIPTIONS” of ASHOKA – and display them in a local public place.
4. **Group Discussion** : Hold a discussions on why did Ashoka turned to Buddhism.
5. **Role Play** : Perform a roleplay on the ruling of Ashoka.
6. **Information Collection:** Collect the information about Key Words and draw the pictures.
7. **Map drawing** : Prepare of kingdom of Mouryas and Ashoka’s..
8. **Book Review** : Read the Book “Koutilya’s Arthasastram” and write review on the book.
9. **Album** : Prepare an album about inscriptions.
10. **Coins Collection** : Collect coins and currency and conduct a show with them.

12. DEMOCRATIC GOVERNMENT

1. **Information Collection:** LIST-OUT a few activities of the government that you have come a cross.
2. **Prepare A Report** : Find-out your parents about the problems they see in the ‘ELECTORAL SYSTEM’ and prepare a ‘REPORT” for your class.
3. **Group Discussion** : Discuss in your class what kind of solutions can be found for these problems.
4. **Information Collection:** Collect the pictures of your local M.P. M.L.A and C.M & C.M. from News Papers.
5. **Debate** : Monarchism Vs Democracy.
6. **Comparision** : Compare tribal Democracy with monarchy.
7. **Draw the outline map** : Draw the outline map of India, observing the map given in page No.110.
8. **Mock elections** : Conduct Mock elections for your class to elect a leader.
9. **Make a report** : Make a report over the process and display in the class.
10. **Information Collection :** Collect the information about Key Words and draw the pictures.
11. **Field trip** : Visit a post office near by your location and interview the Poas mas-ter to collect the work procedure of the post office.
12. **Album** : Prepare an album about latest / Present Who is who with pictures from Newspapers.

- 13. Map drawing** : Draw a map of India with 29 states and 7 union territories with capitals.
- 14. Map drawing** : Draw a map of Andhra Pradesh with districts and head quarters.

13. VILLAGE PANCHAYATS

- 1. Interview** : Invite the President of your village and take an interview of him/her about Panchayat System'.
- 2. Interview** : Inter Act with your ward –member/Sarpanch to understand their work. Prepare a Poster on some Important Works of the Panchayat and display it in the School.
- 3. Information Collection** : Identify the Public amenities available in your village.
- 4. Information Collection** : Collect and tabulate the particulars of 'Ward Members', 'Dy.Sarpanch', Sarpanch And Village Secretary of your 'Gram-Panchayat'.
- 5. Slogans** : Prepare some 'Slogans' asking people to participate in the Grama-sabha.
- 6. Field trip** : Go to your 'Panchayat' and find out when the last meeting took place and what was discussed in it. – make a report.
- 7. Mock Gram-Sabha** : Conduct a "Mock Gram-Sabha' meeting.
- 8. Information Collection** : Collect the information with regard to amenities provided in the village by the panchayats and hold a discussion make a report.
- 9. Information Collection** : Collect the information about Key Words and draw the pictures.
- 10. Draw** : Draw a map of your village.

14. LOCAL SELF GOVERNMENT IN URBAN AREAS

- 1. Field trip** : Visit any amenity provided by the nearby municipality like Bus-stand, Hospital School – Market Public – Toilets etc., and prepare a Report.
- 2. Poster** : Prepare a Poster On Them.
- 3. Information Collection** : Interview : Interview two municipal workers and prepare a 'Poster' on their daily schedule and the problems they face.
- 4. Information Collection** : Collect one week news 'Clippings' from news papers on the working of municipalities and prepare a summary of the 'Reports'.
- 5. Group-Discussion** : Some people think that the job of the municipality is to provide public amenities, while others think that the municipality should also provide dignified working conditions for those who-work for it.
- 6. Interview** : Invite a municipal commissioner of your nearby town, interview him/her regarding the formation and functions of municipality.
- 7. Information Collection** : Collect the information about Key Words and draw the pictures.
- 8. Draw** : Draw a map of a town near by your location.

9. **Field trip** : Go to Municipal Office and collect information, make a report.
10. **Requisition** : Prepare a requisition to your municipal officers about your street problems.
11. **Textbook projects to be considered.**

15. DIVERSITY IN OUR SOCIETY

1. **Information Collection:** PREPARE- a list of festivals that are celebrated in your locality.
2. **Collect pictures** : Collect pictures and contributions of freedom-fighters of different regions.
3. **Album** : Prepare a book containing freedom fighters – ‘BIOGRAPHIES’
4. **Design a ‘Pamphlet** : Design a ‘Pamphlet giving illustrations that Depict the Unique feature of India
5. **Cartoon** : Prepare a cartoon on ‘UNITY-IN-DIVERSITY’
6. **Information Collection:** List all the food items you eat, but your grandparents wouldn’t have known.
7. **Collect pictures & Album:** Collect pictures of different religions, customs, geographical locations and make an album conduct a discussion over unity in diversity which is special culture of India.
8. **Information Collection:** Collect the information about Key Words and draw the pictures.
9. **SKIT** : Prepare a skit on Suman and Vegetable Suman.
10. **Song** : Prepare / collect a song about ‘UNITY-IN-DIVERSITY’

16. TOWARDS GENDER EQUALITY

1. **Information Collection:** Make a list of Ten Employed Women, you know personally, Find out what work do they do and how much do they earn.
2. **Information Collection:** LIST-OUT the household work you, your brother or sister do.
3. **Field work** : Find-Out from your school records how many girls are enrolled in class 5, 8, 10. Does it support the view that more boys complete schooling than girls?
4. **Group Discussion** : Hold a group discussion on the role of woman in making a home and report may be prepared and exhibit in the class.
5. **Information Collection:** Collect the information about Key Words and draw the pictures.
6. **Information Collection:** Collect the information about famous women in India.

17. RELIGION AND SOCIETY IN EARLY TIMES

1. **Draw the pictures** : DRAW the pictures of different modes of worship and prepare a small booklet on it for your school – library.
2. **Field work** : Visit different places of worship in your area.
3. **Information Collection:** Prepare a list of different religious customs are practice in your area.
4. **Group Discussion** : What would happen after death? Discuss it in your class.
5. **Seminar** : Organize a seminar on “Religion – Humanity”.

6. **Group Discussion** : Organise a group discussion on “Religious Tolerance”.
7. **Information Collection:** Collect the information about Key Words and draw the pictures.
8. **Information Collection:** Collect information about Indus Valley Civilisation.
9. **Draw the pictures** : DRAW the map of India with information about Villages of Veda Period.

18. DEVOTION AND LOVE TOWARDS GOD

1. **Report** : Make a REPORT on the religious programme held recently in your Area.
2. **Flow-Chart** : Prepare a FLOW-CHART OF BUDDHISM PERIODS.
3. **List The Similarities** : Can you list the similarities and differences between the religious feelings?
4. **Debate** : Conduct a debate on “your opinion about the god”
5. **Information Collection** : Collect the information about Key Words and draw the pictures.
6. **Information Collection** : Collect devotional songs and sing in your classroom.
7. **Cartoon** : Prepare a cartoon on Religious Unity in India.

19. LANGUAGE, WRITING AND GREAT WORKS

1. **SKIT** : Prepare a skit on ‘ARYABHATA’ was the father of Astronomy.
2. **Information Collection:** Mention a few inventions in Mathematics.
3. **Flow-Chart** : Prepare a Flow-Chart on the Establishment of languages.
4. **Information Collection:** Look at a currency note and write down different scripts on them.
5. **Information Collection:** Collect the Fables - from generations and spell out in the class.
6. **Information Collection:** List out the various languages in India, which government considered state language and discuss over them.
7. **Information Collection:** Collect the information about Key Words and draw the pictures.
8. **Crete a language** : Crete your own language with script like “Kilikki” which is used in Bahubhali movie.

20. SCULPTURES AND BUILDINGS

1. **Map drawing** : Locate Buddhist and Jain Sites in A.P. Outline Map?
2. **Information Collection:** Collect information about Buddhist Monastery and Stupas in India.
3. **Map drawing** : Draw a Sketch of the structures of temples.
4. **Field Trip** : Visit a place of worship in your village a town and draw a sketch of the structure.
5. **Information Collection:** Prepare a report about the place of worship and conduct an Exhibition in your Class.
6. **Scrap Book** : Make a scrap book with collection of historical photos and write note for every picture.
7. **Information Collection:** Collect the information about Key Words and draw the pictures.

VI Class- Social Studies Assignments

(Kindly use these topics as activities, project works and assignments by altering question format.)

Theme (one and two) Diversity on Earth

Concepts covered under this theme:

1. Reading and Making maps
2. Globe- A Model of earth
3. From gathering Food to Growing food
4. Land forms of Andhrapradesh
5. Penamakuru A village in Krishna Dt
6. Salakam Cheruvu- a village on plateau
7. Kunavaram- A tribal village on the hills

With way of questioning all these activities can be given as projects /assignments)

Activity based learning activities:

1. Assembly activity: Students learn the directions by standing opposite to the sun and doing simple exercises with hands and clapping turning towards that direction.
2. Drawing the conventional symbols of a bridge, railway track, church, temple, water bodies, and mountains, multipurpose projects in district / state and Indian out line maps.
3. Drawing directions of the School building, class rooms and Students houses in groups
4. Drawing local village maps and locating imp places of the village
5. Drawing diagrams of latitudes and longitudes and differentiate through group discussions
6. Making tools used by PRIMITIVE MAN clay moulds
7. Comparing the wages given to people for different works

Learning by observation:

1. Watching the function of Google Maps in a cell
2. Observing the charts related to maps that are displayed in class room
3. Observing chart showing differences between microliths and neoliths
4. Observing charts related to land forms of Andhra Pradesh
5. Identify differences between direct marketing and marketing through brokers.

Collaborative and creative learning activities:

1. Coloring maps and understanding the colors to be used to represent different places
2. Conducting Rangoli competitions basing on maps . Collecting different types of soil and planting herbs to check the difference in growth.

3. Prepare handicrafts with the help of parents and sell them for school teachers and parents
4. Learning tribal dance and presenting it
5. Developing vegetable garden in our school
6. One day participating in farming work

Field trips

1. Visiting museums and identifying archeological excavations.
2. Field visit to observe different occupations in a village.
3. Visiting Prakasam barrage Krishna Dt
4. Visiting neighbor houses animal farms and discuss about animal rearing

Higher order learning activities

1. Drawing route maps to school from their houses.
2. Visiting nearby village by following MAP pointing
3. Identifying different irrigational facilities discussing about them in the class room
4. Designing low cost and no cost models for modern practices of irrigation by using sun light
5. Organizing small fair /santa in school.
6. Comparing present Multiplex shopping maals to that of old fairs.

Insightful learning activities

1. Preparing cross word puzzle by using text from the lessons.

Programmed learning activity

1. Watching early man's life through videos and on internet
2. Watching cyclones and floods on Internet in digital class room
3. Watching life of tribal's on net

Concepts for Theme III and IV

Community decision making in a tribe

Emergence of kingdoms and Republics

First empires

Democratic Government

Village Panchayats

Local self Government in Urban areas

Activity based learning activities

1. Collect news paper items related to tribal life and make collage on a chart.
2. Collect the pictures of inscriptions use them in display board
3. Mark Districts on State Map

4. Conducting role play/ skit on Rama Rajya
5. Writing important words and learning their meaning

Learning by observation

1. Observe the charts showing different kingdoms
2. Listing out the points about King Ashoka

Collaborative and creative learning activities

1. Enact a play related to kings and their darbar
2. Writing a letter to news paper regarding the Swatch bharat programs in your school.
3. Enlighten your villagers on the usage of toilets.
4. Taking up plantation work as done by king Ashoka .
5. At least plant one small plant and give names of famous kings

Field trips

1. Make a visit to movies like Jodha, akbar, Benhar, to identify the kings, kingdoms, their army and war scenes.
2. Visit village Post office and observe the work done by them and types of stamps they sell.
3. Visit nearby railway station and observe different people and their activities and make note of it.
4. Organize rallies on Swatch bharat at village level
5. Visiting nearby Municipality and identify the differences between gram Panchayat and Municipality in facilities . Make a note of it

Higher order learning activities

1. Invite your Gram Sarpanch and discuss the issues related to Village development.
2. Do role play by imitating railway announcer or Radio news reader.
3. Creating groups as Ramadandu in Chirala Perala movement and confining
4. Those students to one activity related to School

Insightful learning activities

1. Design Smart village concept of your own.
2. Design and develop the concept of Swatch Mann /Hruday
3. Analyzing the possibilities of using renewable resources for farming like sunlight.

Programmed learning activity

1. Watch different kingdoms and kings on Videos

Concepts for Theme IV

Social organization and in equities

Diversity in our society

Towards gender equality

Activity based learning activities

1. Learn the concept of diversity by collecting pictures of creatures of the world and make collage
2. Make a chart showing different forms of Government
3. Conducting Mock assembly and mock elections to understand democracy
4. Collecting songs that promote unity and patriotism and sing them in assembly
5. Conversation /speech on the importance of girl child by students in assembly
6. Prepare a list of values preached by different religions

Learning by observation

1. Observe the charts showing cultures
2. List out the festivals related to different states
3. Learn the concept of Preamble by observing chart
4. Learning greatness of women by reading books in the library.
5. Compare work of a employed women and women working in fields .
6. Write note on Gender bias by observing the rearing of children in their neighborhood at least four families.
7. Participating in regular activities(for boys)
 - a. Allowing girl children to enter in to class first
 - b. Allowing girls to enter in to bus first by not pushing them
 - c. Helping mothers in house hold works like bringing water
 - d. Leaving ladies seats by not sitting in the buses other places
 - e. Helping elder women and children

Collaborative and creative learning activities

1. Depict different traditional dresses in the form of fashion show.
2. Perform folk ores of different states.
3. Recite Preamble as you recite Pledge.
4. Colleting quote related to unity and write them on wall news paper.
5. Role play on historical characters that depict courageous women.
6. Group discussion on the role of educated women in society .
7. Play a skit showing how education brings change in the life of a girl child
8. Preparing Job chat of women and Men and identify the work load differences

9. Group discussions on Indian women leaders and their decision making abilities in nation building.
10. Celebrate girl child day on 24th January.

Field trips

1. Taking students to District level Independence day celebrations
2. Visiting places of historical importance.

Higher order learning activities

1. Do Poster making on the given theme is Unity in Diversity.
2. Organizing food fest.
3. Writing reviews by reading books.
4. Drawing pictures related to women by observing picture given in pg 142 of their social studies text book.
5. Making a poster on women's work in farming and small scale industries
6. Writing small incidents related to their sisters , mothers in the form of small poems and stories.
7. Collage on Fundamental rights and duties

Insightful learning activities

1. Wearing bangles that represent the colors of national flag
2. Wearing khadi dress on one day of a week to encourage our native weavers.
3. Celebrating 'Mom's day in the school and conducting different events to them
4. Wishing girl children (Good morning) specially by class boys after wishing class teacher
5. Display the policies of a government to promote women and girl child on board.
6. Identifying gender bias at home and discussing with parents .Making note of it.

Programmed learning activity

1. Self learning activity of preparing slide show (10 slides) on unity in diversity
2. Making a posture using different dance forms of INDIA by using News Publisher
3. Watching the inspirational stories of women belong to different professions including sports women

Concepts for Theme V : Religion and Society

Religion and society in early times

Love and devotion towards God

Activity based learning activities

1. Reciting any religious prayer in assembly
2. Reciting Purna vade maataram to praise mother of goddesses of education Saraswati.
3. Mono action by showing religious equality in the assembly.
4. Singing Janaganamana with great spirit regularly

Learning by observation

1. Preparing charts showing religious quotes
2. Preparing charts with fundamental concepts
3. Observing behavior of different religious people
4. Observing four types of Vedas on charts
5. Collecting sayings from upanishads .
6. Collage on astanga margas of Gowtama budhha **Collaborative** and creative

Learning activities

1. Celebrating different festivals of religious importance
2. Depicting different gestures of god's and goddesses
3. Highlighting morals in the form skits from Ramayana ,Maha bharats
4. Highlighting science behind our traditional acts like usage of turmeric
5. Reciting vedic hymns by local priests
6. Performing Harikathas
7. Performing Burrakathas

Field trips

1. Visiting nearby pilgrimage places
2. Participating in local festivals in group and observing rituals

Higher order learning activities

1. Learning Maslow's theory of hierarchical needs
2. Learning concept of Idealism

Insightful learning activities

1. Vinayaka chaturdhi as a celebration related to nature
2. Dasara festival is to highlight women's empowerment
3. Kaarthika vana bhojanaas on the concept 'protect nature to nurture life'
4. Christmas to disseminate concepts of love and peace among people
5. Pongal celebrations to highlight importance farmers and domestic animals like cows.

6. Understanding concept of Panch bhootas like AIR, WATER, AGNI, (Heat in different forms including Sunlight) EARTH and AKAASH
7. Moharam as dedication towards Sacrifice
8. Krishna ashtami to highlight karma by doing best things voluntarily

Programmed learning activity

1. Watching different dance forms depicting religious practices, traditions

Concepts for Theme V : Culture and Communication

Language: Writing and Great books

Sulptures and Buildings

Activity based learning activities

1. Playing Dumbsharads game to understand the importance of language
2. Reciting poems in three languages in assembly
3. Participating in conversation in assembly
4. Developing small comprehension paragraphs with questions
5. Telling small joke in English /telugu/*hindi
6. Read a book and prepare short review
7. Prepare chart that shows HINDU, Muslim, Bhuddhist, Christian and Jainists pilgrim places
8. Locating Buddhist stupas in Indian map

Learning by observation

1. Preparing charts with different scripts
2. Writing four to five dialogues
3. Preparing charts with Aksharamaala in three languages
4. Observing languages on a rupee note

Collaborative and creative learning activities

1. Imitating Radio, TV news readers regularly in the class
2. Narrating story with good modulation
3. Practicing sounds related to good manners, mannerisms
4. Organizing kavi sammelanas , Drama like Tribhuvana Vijayam

Field trips

1. Visiting nearby engineering college to observe language lab
2. Visiting near by temple and observe sculptures and inscriptions
3. Visit a museum and identify sculptures

Higher order learning activities

1. Translate paragraphs to other languages usually they learn
2. Prepare a small skit in which animals speak Hindi, Telugu and English languages.
3. Organize spell be competition with five letter words
4. Visit school library and list out the books on Mathematics, Astronomy

Insightful learning

1. Read a book of your own interest and narrate story and moral of it
2. Understanding and enjoying the concepts of Sleep English, eat English, play English so forth and so on.
3. Making sculptures by clay moulds

Programmed learning

1. Listening to different languages in digital class room
2. Analyze the architectural differences for temples, mosques, churches, viharas in digital classes

CLASS - VII

PROJECTS IN MATHEMATICS

PROJECT: Set of activities in which pupils discover experiment and collect information by themselves in a natural situation to understand a concept and arrive at a conclusion may be called a PROJECT.

Project work will develop the skills in academic standards such as problem solving, logical thinking, mathematical communication, representing data in various forms in daily life situations. This approach is to encourage the pupils to participate, discuss (articulation) and take active part in class room processes.

Project work essentially involves the students in a group work and submitting a report by the students on a given topic, after they worked on it, discussed it and analyzed it from various angles and perspectives.

ASSIGNING PROJECTS – TEACHER’S ROLE

1. Teachers must have a thorough awareness on projects to be assigned to the students.
2. Teachers must give specific and accurate instructions to the students.
3. Teachers must see that all the students must take part in the projects assigned.
4. Allot the projects individually on the basis of student’s capabilities and nature of the projects.
5. Teachers must see that children with different abilities are put in each group and give opportunity to select division of work according to their interesting task at the time of allotment of the project.
6. Teachers must analyze and encourage the pupil, while they work on the project.
7. Teachers should act as facilitators.
8. Proper arrangements must be made for the presentation and discussion of each student’s project, when the students must be told whom to meet to collect the information needed.
9. Allow the students to make use of the library, computer lab etc.
10. Give time and fix a date to present the project. Each project should be submitted within a week in the prescribed Proforma.
11. Each project can be allotted to more number of pupils just by changing the data available in and around the school.
12. The projects presented should be preserved for future reference and inspection.
13. Every mathematics teacher is more capable to prepare projects based on the Talent/Interest/ Capability of students.
14. Teacher also ideal to the students by adopting one difficult project from each class.
15. Procedure of the project should be expressed by the students using his own words.
16. Each student should submit 4 projects in an academic year.

Welcome your comments and suggestions.

PROFORMA

Preliminary Information

Class : 7

Subject : Mathematics

Name of the Lesson/Unit : TRIANGLES AND ITS PROPERTIES

No. of the Project : 1

Allotment of work :

(i) Preparation of models

- Master Sree Ram

(ii) Measuring of sides and angles

- Master Anji Kumar

(iii) Recording of measure & angles in a tabular form

- Master Prasanth

(iv) Classification of triangles

- Master Venkateswarlu

(v) Presentation of the project

- Master Kalyan Thanoj

DETAILED INFORMATION OF THE PROJECT

1. Title of the Project :

Classification of triangles based on sides and angles.

2. Objectives of the project :

Identification of types of triangles according to its sides and angles.

3. Materials used :

Charts, Geometry box, Card board, Scissors, sketch pens, etc.

4. Tools :

- (i) Collection of information – Preparation of different types of models of triangles.
- (ii) Observation – Comparing the sides and angles.
- (iii) Comparison & Classification – Classifying the triangles based on sides and angles.

5. Procedure :

1. Introduction : I want to classify the triangles based on its sides and angles by preparing all types of triangles.

2. Process : Prepare different types of triangle models by using card board.

3. Recording the data – based on sides

- (i) Measure and record each side of triangle and identify the name of the triangle.
- (ii) Record & classification of triangles based on sides.

S.No.	Side – 1	Side – 2	Side – 3	Type of the triangle
1	8 cm	8 cm	8 cm	Equilateral triangle
2	9 cm	10 cm	9 cm	Isosceles triangle
3	10 cm	7 cm	5 cm	Scalene triangle

Recording the data – based on angles

- (i) Measure and record all angles of triangles and identify the name of the triangle.
- (ii) Record & classification of triangles based on the angles.

S.No.	Angle – 1	Angle – 2	Angle – 3	Type of the triangle
1	50°	60°	70°	Acute angled triangle
2	90°	50°	40°	Right angled triangle
3	120°	35°	25°	Obtuse angled triangle

4. Analysis :

(i) I noticed that the triangles are 3 types based on sides, they are

S.No.	Type of triangle
1	Equilateral triangle
2	Isosceles triangle
3	Scalene triangle

(ii) I noticed that the triangles are 3 types based on angles, they are

S.No.	Type of triangle
1	Acute angled triangle
2	Right angled triangle
3	Obtuse angled triangle

5. Conclusion :

S.No.	Name of the triangle	Description
1	Equilateral triangle	All the 3 sides are equal
2	Isosceles triangle	Any 2 sides are equal
3	Scalene triangle	No sides are equal
S.No.	Name of the triangle	Description
1	Acute angled triangle	All the angles are Acute angles
2	Right angled triangle	Any one of the angle is Right angle
3	Obtuse angled triangle	Any one of the angle is Obtuse angle

6. Experiences of the students :

- (i) I prepared scalene triangle very easily.
- (ii) First, I tried to draw an Isosceles triangle but failed 2 times, then I used set squares to draw the isosceles triangle, and then I draw another isosceles triangle without set square.
- (iii) I collected some objects which are in the shape of triangles and I traced it on card board and then prepared models of triangles by cutting the card board to identify the types of triangles according to angles.
- (iv) While measuring the sides, I started from 1 instead of 0 for some times on the scale, it leads some wrong results.
- (v) While measuring the angles, I measured exterior angles instead of interior angles it leads some wrong results.

7. Doubts & Questions :

1. Is every acute angled triangle is an equilateral triangle and every equilateral triangle is an acute angled triangle?
2. Is any triangle has more than two acute angles?
3. Is any triangle has more than one right angle?
4. Is any triangle has more than on obtuse angle?

8. Acknowledgement :

1. Convey our sincere thanks to who are cooperate and putting their earnest efforts in completing the project.

9. Reference Books/Resources :

1. Class – VII Mathematics text book

10. Signature of the student(s) :

CLASS – VII : LESSON WISE PROJECTS

S. No.	Name of the Lesson	Title of the Project
1	INTEGERS	<ol style="list-style-type: none"> Representation of addition, subtraction and multiplication of integers on number line by preparing the tables. Check the properties of integers under addition and multiplication by using daily life situations.
2	FRACTIONS, DECIMALS AND RATIONAL NUMBERS	<ol style="list-style-type: none"> Represent multiplication and division of decimal fractions by using suitable figures. Write some rational numbers between 2 and -2 and find their values upto three decimal places.
3	SIMPLE EQUATIONS	<ol style="list-style-type: none"> Collect some simple equations in your daily life situations (about numbers, perimeters of , ages, lengths of objects, heights of students, marks of the students)
4	LINES AND ANGLES	<ol style="list-style-type: none"> Identify the locations that are parallel lines which are intersecting by a transversal in our daily life situations and list out all pairs of angles in tabular form.
5	TRIANGLE AND ITS PROPERTIES	<ol style="list-style-type: none"> Prepare different types of triangle models and classify them according to its sides and angles. Prepare models of triangles by selecting measurements of sides (check whether are they formed triangle or not) and find sum of all interior angles. Find the relation between interior and exterior angles.
6	RATIO - APPLICATION	<ol style="list-style-type: none"> Collect the information of students and consumption of rice in your school/hostel. If 40 more students joined, find the quantity of rice required. If 60 students are gone for picnic, find the quantity of rice required. Identify and solve the daily life situation which comes under direct and indirect proportion.
7	DATA HANDLING	<ol style="list-style-type: none"> Collect data of your class student's heights, weights and consumption of food items in hostel/school. Prepare a tabular form and find Mean, Median and Mode of the data. Collect the marks obtained by you in SA-1 and SA-2 examinations and record the data. Represent it in Double Bar Graph and Pie-diagram.
8	CONGRUENCY OF TRIANGLES	<ol style="list-style-type: none"> Prepare the models of triangles and check criterion for congruencies of triangles. (SSS, SAS, ASA, RHS)

S. No.	Name of the Lesson	Title of the Project
9	CONSTRUCTION OF TRIANGLES	1. Identify the possible situations that a triangle can be constructed and construct a triangle with the measurements of $AB=7$ cm, $A=60^\circ$ and $C=40^\circ$.
10	ALGEBRAIC EXPRESSIONS	1. Collect the expressions of one term, two unlike terms, three unlike terms, more than one unlike terms and write name of the variables and name of the expression, degree of each term and expression in a tabular form.
11	EXPONENTS	1. Find the product and ratio of income of any two families in simplest form.
12	QUADRILATERALS	1. Prepare the models of types of quadrilaterals and write the properties of each quadrilateral. Write your opinion about sum of interior angles of each quadrilateral.
13	AREA AND PERIMETER	1. Prepare some models of parallelograms and rhombuses; find the area of parallelogram by changing it as rectangle. Find the area of the triangle and rhombus. 2. Find the relationship between circumference and its diameter of a circle. 3. Identify the rectangular and square paths in your surroundings and find the areas of the paths by measuring the dimensions and write in tabular form.
14	UNDERSTANDING 3D AND 2D SHAPES	1. Prepare physical models of 3D shapes 2. Draw the figures of 3D shapes on 2D surfaces by using Isometric dot sheet.
15	SYMMETRY	1. Collect some alphabets, regular shapes and figures. Draw symmetrical lines and identify which contains rotational symmetry. Write them in a tabular form.

CLASS – VII : LESSON WISE ASSIGNMENTS

S. NO.	NAME OF THE LESSON	ASSIGNMENTS
1	INTEGERS	<p><u>Assignment-1</u></p> <p>1. Find the product using suitable properties (i) $625 \times (-35) + (-625) \times 65$ (ii) $7 \times (50 - 2)$ (iii) $15 \times (-35) \times (-7) \times (-12)$</p> <p>2. The temperature at 12 noon was 10°C above zero. If it decreases at the rate of 2°C per hour until midnight, at what time would the temperature be 8°C below zero? What would be the temperature at midnight?</p>
2	FRACTIONS, DECIMALS AND RATIONAL NUMBERS	<p><u>Assignment-1</u></p> <p>1. Narendra reads $\frac{1}{4}$, of a part novel in 1 hour. What part of the book will he have read in $2\frac{1}{2}$ hours?</p> <p>2. Write the following decimals in expanded form. i) 55.5 ii) 5.55 iii) 303.03 iv) 30.303 v) 1234.56</p> <p><u>Assignment-2</u></p> <p>1. Measure the dimensions of your black board and find the area.</p> <p>2. A truck covers a distance of 102.5 km in 2.5 hours. If the truck is travelling at the same speed throughout the journey what is the distance covered by it in 1 hour?</p> <p>3. What is the equivalent rational number for with (i) denominator 12 (ii) numerator -75</p>
3	SIMPLE EQUATIONS	<p>1. Sum of 5 consecutive integers is 60. Find the integers?</p> <p>2. Solve $9x + 15 = 13x - 17$</p> <p>3. Total number of the boys and girls in a class is 104. If the number of girls is 20 more than that of boys. Find the number of boys. Solve and check your result.</p> <p>4. A number is divided into two parts such that one part is 10 more than the other. If two parts are in the ratio 5:3, find the number and the two parts.</p> <p><i>Note: Teacher guides the students to prepare simple equations with their own knowledge and solve it and check their result.</i></p>
		<p><u>Assignment-1</u></p> <p>1. Two adjacent angles are 50° and 130° do they form a linear pair? Draw a picture and check it.</p> <p>2. Give some examples for vertically opposite angles in your surroundings.</p> <p><u>Assignment-2</u></p> <p>1. In a given figure, 'l' and 'm' are intersected by a transversal 'n', is $l \parallel m$? Find all remaining angles?</p>

5	TRIANGLE AND ITS PROPERTIES	<p>Assignment-1</p> <ol style="list-style-type: none"> Check whether the following measurements form a triangle. <ol style="list-style-type: none"> 4cm, 5cm and 6cm 7cm, 7cm and 7cm 5cm, 5cm and 10 cm 3cm, 5cm and 7cm In ABC $\angle A = 40^\circ, \angle B = 55^\circ$, Find $\angle C = ?$ The angles of triangle are in the ratio 2:3:4. Find the angles? <p>Assignment-2</p> <ol style="list-style-type: none"> One angle of triangle ABC is 20° and the two angles are equal. Find the measure of each equal angles? In a right-angled triangle, one acute angle is 30°. Find the other acute angle?
6	RATIO - APPLICATIONS	<p>Assignment-1</p> <ol style="list-style-type: none"> A jeep travels 120km in 3 hours at a constant speed. In how many hours will the jeep covers 180 km. A carpenter allows 15% discount on his goods. Find the marked price of a chair which is sold by him for Rs.680. <p>Assignment-2</p> <ol style="list-style-type: none"> A former sold 2 bullocks for Rs.24000 each. On one bullock he gained 25% and on the other he lost 20%. Find his total profit or loss percent? A dealer allows a discount of 10% and still gains by 10%. What should be the marked price if the cost price is Rs.900? A man sold two cycles for Rs.3000 each gaining 20% on one and losing 20% on the other. Find his gain or loss percentage on the whole transaction.
7	DATA HANDLING	<p>Assignment-1</p> <ol style="list-style-type: none"> The monthly salaries of 09 employees are Rs.15000, Rs.22000, Rs.9000, Rs.38000, Rs.63000, Rs.72000, Rs.105000, Rs.87000. Calculate median of the data. <p>Assignment-2</p> <ol style="list-style-type: none"> The following are the different person's monthly expenditure food and house rents. Present these date in the following table and draw bar- graph.

		<p>Assignment-1</p> <p>1. The monthly salaries of 09 employees are Rs.15000, Rs.22000, Rs.9000, Rs.38000, Rs.63000, Rs.72000, Rs.105000, Rs.87000. Calculate median of the data.</p> <p>Assignment-2</p> <p>2. The following are the different person's monthly expenditure food and house rents. Present these data in the following table and draw bar-graph.</p> <table border="1"> <thead> <tr> <th>S. No</th> <th>Name of the person</th> <th>Food expenditure</th> <th>House rent</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Ramesh</td> <td>15000</td> <td>6000</td> </tr> <tr> <td>2</td> <td>Ravi</td> <td>20000</td> <td>7000</td> </tr> <tr> <td>3</td> <td>Radha</td> <td>18000</td> <td>6000</td> </tr> <tr> <td>4</td> <td>Shekar</td> <td>22000</td> <td>8000</td> </tr> <tr> <td>5</td> <td>Seetha</td> <td>10000</td> <td>4000</td> </tr> <tr> <td>6</td> <td>Manish</td> <td>14000</td> <td>6000</td> </tr> <tr> <td>7</td> <td>Mounika</td> <td>25000</td> <td>12000</td> </tr> </tbody> </table> <p>2. Data collect rice consumed in your hostel for 10 consecutive days and find the average rice consumption and its mode.</p> <p>3. Collect the monthly electricity charges of your school from your office for the months from Jan-2015 to Sep-2015 and calculate the mean of the monthly electricity charges of your school.</p> <p>Assignment-3</p> <p>1. Collect the item wise expenditure of your family in a month and represent it as a Pie-diagram</p> <p>2. Collect the different data present in the form of bar-graph and Pie-charts in magazines, news papers.... Etc. and present them on your school bulletin board.</p>	S. No	Name of the person	Food expenditure	House rent	1	Ramesh	15000	6000	2	Ravi	20000	7000	3	Radha	18000	6000	4	Shekar	22000	8000	5	Seetha	10000	4000	6	Manish	14000	6000	7	Mounika	25000	12000
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7	Mounika	25000	12000																															
8	CONGRUENCY OF TRIANGLES	<p>Assignment-1</p> <p>1. Draw congruency figures in your surroundings.</p> <p>2. Explain criteria for congruency of triangles with examples.</p>																																
9	CONSTRUCTIONS OF TRIANGLES	<p>Assignment-1</p> <p>Construct $\triangle PQR$ in which $QR = 5.5\text{cm}$, $QP = 5.5\text{cm}$, and $\angle Q = 60^\circ$. Construct a right-angled $\triangle ABC$ such that $\angle B = 90^\circ$, $AB = 8\text{cm}$ and $AC = 10\text{cm}$</p>																																
10	ALGEBRAIC EXPRESSIONS	<p>Assignment-1</p> <p>1. Write the expression $5x^2 - 4 - 3x^2 + 6x + 8 + 5x - 13$ in simplified form. Find its value when $x = -2$.</p> <p>2. The relationship between speed(s), distance(d) and time(t) is given by $s = \frac{d}{t}$. Find the value of s if $d = 135\text{ m}$ and $t = 10\text{ seconds}$.</p> <p>Assignment-2</p> <p>3. What should be taken away from $3x^2 - 4y^2 + 5xy + 20$ to get $-x^2 - y^2 + 6xy + 20$.</p> <p>4. The sum of three expressions is $8 + 13a + 7a^2$. Two of them are $2a^2 + 3a + 2$ and $3a^2 - 4a + 1$. Find the third expression.</p>																																

11	EXPONENTS	<p>Assignment-1</p> <ol style="list-style-type: none"> $9^2 \times 9^{18} \times 9^{10}$ $(-6)^9 / (-6)^9$ If $5^6 \times 5^{2x} = 5^{10}$ then find x. $(-7)^7 \times (-7)^8$ Simplify $\left(\frac{x^a}{x^b}\right)^a \times \left(\frac{x^b}{x^a}\right)^a \times \left(\frac{x^a}{x^a}\right)^b$ <p>Assignment-2</p> <ol style="list-style-type: none"> Simplify $2^{3a+7} \times 2^{7a+3}$ Simplify $\left(\left(\frac{-5}{6}\right)^2\right)^5$.
12	QUADRILATERALS	<ol style="list-style-type: none"> Write the properties of all types of quadrilaterals?
13	AREA AND PERIMETER	<p>Assignment-1</p> <ol style="list-style-type: none"> Find the base of a triangle whose area is 220 cm^2, and height is 11cm. In a parallelogram the base and the height is in the ratio of 5:2. If the area of the Parallelograms is 360sq.cms. Find its base and height. The length of diagonal of a Rhombus whose area 216 sq.cm is 24cms. Then find the length of second diagonal. <p>Assignment-2</p> <ol style="list-style-type: none"> If the circumference of a circle is 33cm. Find its diameter? A verandah 2m wide is constructed all around a room of dimensions 8m x 5m. Find the area of the verandah?
14	UNDERSTANDING OF 3D AND 2D SHAPES	<p>Assignment-1</p> <ol style="list-style-type: none"> Identify the number of faces, edges and vertices of cube, cuboids and pyramid as in table form. Three cubes each with 2cm edge are placed side by side to form a Cuboid. Draw an oblique or isometric sketch of this cuboid.
15	SYMMETRY	<p>Assignment-1</p> <ol style="list-style-type: none"> Draw the line of symmetry in the alphabets from A to Z. Draw some rangoli's which have symmetry. Collect the some picture and draw the line of symmetry where applicable.

PROPOSED PROJECTS FOR GENERAL SCIENCES FOR CLASS-VII

Lesson 1 : Food Components

1. Collect some food material like Biscuits, chips, Chocolates, Ice Creams, Popcorn, Juice, etc; and find the food components present in the above food item.
2. Identify carbohydrates in your daily menu through test for starch and submit write up.
3. Make a list of food items eaten by you in a week during lunch/dinner. Try to mention the components in each food items.
4. Collect Pictures of Junk food and make a scrap book and write a report on its disadvantages.
5. Prepare a diet chart to provide balance diet to a 12 year old child. The diet chart should include food item which are not expensive and commonly available in your local area.
6. Make a book of Preparation of different food items (**Vantala Pusthakam**).
7. Prepare a power point presentation on balanced diet using internet comprising of all the items. (Net Based Project)

Lesson 2 : Acids and Bases

1. Collect different flowers and prepare Natural indicators by using them with the help of filter papers.
2. Identify and list out the fruits and vegetables, cool drinks and soft drinks with litmus paper as Acids and Bases.
3. Collect information from internet or magazines or News papers from Library about the occurrence of Acid rains and its effects.
4. Prepare a chart of superstitions in our society and give scientific reasons.

Lesson 3 : Animal Fiber

1. Collect different types of silk fabric and its histories, prepare a scrap book.
2. Prepare a chart showing the time durations of life cycles of silk worms with the help of diagrams and display it in class room.
3. Prepare a project with different places which is famous for silk, identify on Indian map with a report.
4. Observe the designs on silk sarees trace them in your note book and make your own designs.
5. Collect the pictures of different sheep, goats and Camels that give us wool in India.

Lesson 4 : Motion and Time

1. Collect information from internet or library about the history of Nicolas Copernicus.
2. Collect data about the Instruments used to measure time in olden days.

3. By using stop clock option in cell phone and stop watch or stop clock measure the durations of time taken to complete in different motions like; elephant, Buffalo, Man, Horse, Bicycle, scooter, Bus & auto Rickshaw and compare them in a Tabular form.

Lesson 5 : Temperature and its Measurements

1. Prepare a note on Anders Celsius from Library or Internet.
2. Take a thermometer and measure any ten students of body temperature in your class and tabulate it.
3. Collect the information about conversion of Mechanical, sound & Light energies into Heat energy.
4. Record the Maximum and Minimum temperatures, rain fall, wind and humidity of any three cities from news papers or watching TV news and tabulate it.

Lesson 6 : Weather and Climate

1. Ask the elders and collect the information from them about climate and weather of those days.
2. Measure the rainfall at the time of Rain in your school campus.
3. Collect the maximum and minimum temperatures of a town from daily news papers and plot a graph showing the variations in maximum and minimum temperatures during 15 days.
4. In Tsunami 2004, how the tribals of Andaman Nicobar Islands predicted it's danger? Write a report on it.

Lesson 7 : Electricity : current and it's Effect

1. Make your own cell by using injection bottles, copper wire, Zinc plate, rubber caps and sulphuric acid.
2. Find meter readings for three months in your school campus/10 families in your village, record observations and tabulate it.
3. Collect information of discovery of electric bulb and electricity and paste the pictures of inventors.
4. Collect the pictures of Electrical appliances and paste them, write the uses of appliances and their names and tabulate them.
5. List out the names of Electrical conductors and Insulators.

Lesson 8 : Air winds and cyclones

1. Collect the satellite Images of cyclones and also the images at the time of crossing and paste them in album.
2. Collect the pictures of cyclone from news papers, internet and journals and list them DO's and Don'ts at that time to the people.

Lesson 9 : Reflection of Light

1. Make your own Periscope by using Empty Agarbathi box, two Mirror strips, scale, pencil, Blade, match box, candle and gum.
2. Make your own Kaleidoscope.
3. Collect the information regarding the concept of reflection of Light in nature.

Lesson 10 : Nutrition in Plants

1. Collect the information about experiments of Joseph Priestly and Ingenhowz from internet and make a brief note on them.
2. "Plants get Nutrients dissolved in water" prove this and submit a write up.
3. Make a report on "saprophytes are cleaning agents in Environment". Imagine if saprophytes are not there, how this affects the food chain?
4. Collect the information and diagrams of Insectivorous plants from internet.
5. Collect leguminous plants fir symbioses.

Lesson 11 : Respiration in Organisms

1. Visit a Doctor and write a report on Artificial Respiration.
2. Submit a report showing the respiration in plants.
3. Write the methods and respiratory organs in different organisms in your location.
4. How long a person can hold his breath? Count the time taken among your friends and note it.

Lesson 12 : Reproduction in Plants

1. Collect the photographs of complete flower, incomplete flower from internet or news magazines and paste them.
2. Collect the information about vegetative propagation through leaves, stem and roots by visiting nearby nursery.
3. Observe/ collect different flowers from your surroundings and note down their characters like number of sepals, petals, stamens of Unisexual/ bisexual, their colors & odour, pollination type with the help of your teacher.
4. Dissect & display the flower parts of different plants in A4 sheets and label the parts.

Lesson 13 : Seed Dispersal

1. Prepare a picture album of different agents of the seed dispersal collecting from internet.
2. Collect the pictures of wild plants (Road side) and domestic plants. Collect information of their adaptations.
3. Collect the pictures of the dispersal of seeds take place by bursting of fruits that through the seed out.

Lesson 14 : Water : Too little to Waste

1. Make a report on water conservation in your school.
2. List out some situations that we waste the water in our daily life. Collect and analyse the information of water wastage.
3. Write a detailed report of waste water treatment plants.
4. Motivate the people of your surroundings to conserve water, maintain sanitation & utilising Toilets.

Lesson 15 : Soil- Our Life

1. Draw a Cartoon between seed and soil and perform a small play using your own script.
2. Collect different types of soils from your school/ village and list out its characteristics.
3. Visit different kinds of soils and make a report that what kind of crops grow in different types of soils?
4. Prepare a chart showing different "Horizons of soil".
5. If you have a chance to talk with a soil scientist. What questions would you like to ask him about soil?
6. Prepare a seminar report about soil conservation.

Lesson 16 : Forest-our Life

1. Collect the photographs of different Flora and fauna for A.P. forests from internet and paste them in scrap book.
2. Prepare a pomplate showing "save a Tree".
3. Collect medicinal plants and make a report on distribution of these in the forests of A.P. state map.
4. Collect the information of disappearing/ Extinct of animals, Birds with pictures. Write the causes for these disappearance/Extinct.
5. Collect information about different Tribes and display it in your Class room.
6. Draw and Collect pictures of forest, discuss with your friends and write about the fate of forests in your state and what steps would you take to conserve them

Lesson: 17 : Changes Around Us

1. Collect information about artificial ripening of fruits-harm effects & measures to preventions by precautions from News papers.
2. List out the changes in your surroundings about plants & animals in colour, state, shape & size in a tabular form.
3. Collect the images/ pictures of different chemical changes as many as possible from internet.

PROPOSED ASSIGNMENTS FOR GENERAL SCIENCES **FOR CLASS-VII**

Lesson 1 : Food Components

1. What are the sources of roughages and uses that you eat regularly?
2. Write what good habits you follow to be healthy?
3. Prepare a balanced diet chart with the help of your group and exhibit in class room.
4. Mention the sources of water required for body through diagram.
5. Write a note on the process of making Kichidi or Upma.

Lesson 2 : Acids and Bases

1. Identify some acids and bases in kitchen room and separate them in a tabular form.
2. How can you inverse soil fertility without using chemical fertilisers?
3. How do you identify the basic nature?
4. Are all neutral solutions salts? Explain and Give examples.
5. What are the effects of acid rains?

Lesson 3 : Animal Fiber

1. What are the uses of different fibers?
2. In what way knitting is different from weaving?
3. Make a flow chart showing various stages of production of woollen fabric.
4. How do you appreciate the scarifying life of silk worms? Write it in your own words.
5. How Tasar silk is produced?
6. Write the differences between wool and silk manufacturing.

Lesson 4 : Motion and Time

1. Write about different motions shown by our body parts in a tabular form.
2. How can you decide an object is moving faster or slower?
3. Explain the terms uniform and non uniform motions and define them.
4. When do you say an object is in rotatory motion?
5. Prepare a list of different types of motions in daily life and display it.

Lesson 5 : Temperature and its Measurements

1. What type of clothes do we wear in different seasons?
2. During winter mornings why do people stand in the sun? Explain.
3. Record the changes in temperature of water by mixing different substances like Glucose, surf, Bleaching Powder, etc.

4. Why do we use mercury or alcohol in thermometers as liquids?
5. Explain different types of thermometers and their advantages.
6. Draw the diagrams of Celsius & Clinical thermometers and label the parts.

Lesson 6 : Weather and Climate

1. Every year we have floods in the rainy season. Why?
2. Are weather conditions cyclic during the years? Explain.
3. Observe your surroundings immediately after rain. Write your feelings in a note.
4. How do farmers celebrate the first showers? Collect the information and display it on your school wall magazine.
5. Collect the weather reports produced by IMD from News papers and try to explain them.

Lesson 7 : Electricity : current and it's Effect

1. Write the differences between series and parallel connections.
2. What precautions to be taken to prevent electric shocks.
3. How can you know the current consumption in your house? Explain.
4. Draw a neat diagram of a dry cell and label its parts.
5. What is a circuit diagram? Explain it in appreciating the simplification.

Lesson 8 : Air winds and cyclones

1. How will you help your neighbours in case of cyclones approaches your village/town?
2. While constructing a house where do we construct ventilators? Why?
3. Explain why holes are made in banners and hoardings hanging in the open?
4. How winds are useful in our life?
5. Hot air is lighter than cold air? Explain it.

Lesson 9 : Reflection of Light

1. Where do you find irregular reflection in daily life? Give some examples.
2. How the image of a candle is seen in a mirror? Draw a diagram to explain.
3. Where do you use reflection of light in your daily life? Explain.
4. What are the differences between convex and Concave Mirrors?

Lesson 10 : Nutrition in Plants

1. What happens if leaves of green plants are coated with oil?
2. Explain the relation between plants and Humans in your own words.
3. Do plants produce only starch? If not, what are the other compounds it could produce? Explain.
4. Explain symbiotic relationship in lichens.

Lesson 11 : Respiration in Organisms

1. Frogs breathe through their skin as well as their lungs. How do you justify your answer?
2. If you want to know about “Action of Gases in Lungs”, what questions would you like to ask.
3. Write a brief history of Oxygen.
4. Do Earth worms respire? Explain.

Lesson 12 : Reproduction in Plants

1. Differentiate between sexual and asexual reproductions.
2. Draw the diagram of Datura Flower and label its parts.
3. What is fertilisation? What happens after fertilisation?
4. Do all Plants reproduce in the same way? Explain with examples.
5. Do all flowers have same parts? Give examples of some flowers and explain.
6. Draw a flow chart for reproduction in plants.
7. Write a note appreciating Alexander Fleming’s efforts in inventing Penicillin.

Lesson 13 : Seed Dispersal

1. Describe how does the dispersal of seeds takes place by bursting of fruits that throw the seed out.
2. Explain how birds are also responsible for the dispersal of seeds.
3. Imagine what would happen if all the mustard seeds are germinated.
4. Why do most of the coconut trees grow along the sea shore?
5. Some seeds like soap nuts have very hard shell? Why is it so?
6. What happens if seeds are disappeared in the nature?

Lesson 14 : Water : Too little to Waste

1. Explain the relationship between sanitation and disease?
2. Write the steps involved in getting clarified water from waste water.
3. What would you do to motivate people in your street to utilize toilets?
4. What is decade of water conservation? On which day is the world water day declared? Prepare a note after conducting a seminar.
5. What measures do you take to save water for future generation?
6. Visit a nearby water filtering unit and record the data and make a note on it.

Lesson 15 : Soil - Our Life

1. Give reasons for low percolation of clay soil as compared to sandy soil.
2. Prepare a speech on “Save a Tree-Save other lives too”.
3. Why some insects and Animals live in the soil?

4. Draw the line Diagram to identify the different types of soils.
5. How can you say soil is precious resources? Give reasons.

Lesson 16 : Forest-our Life

1. What is Deforestation? How can it be stopped?
2. Why do you think forests are called lungs of the whole earth?
3. How can you say forest is a good habitat for people?
4. Prepare a list if Tribes in different areas of our state.
5. List the things that we use in our daily life which are made from wood.

Lesson 17 : Changes Around Us

1. Prepare a chart which shows different changes during different actions in our daily life.
2. Give some examples for physical changes and chemical changes in our daily life.

PERFORMA FOR PROJECT REPORT

i. PRELIMINARY INFORMATION:

Class	:	VII
Subject	:	General science
Name of the lesson	:	Reproduction in plants
Date of submission	:	19-01-16
Role of team	:	1) collection of samples [Rajesh] roll no 5 2) Preparation of notes [Ravi] roll no 16 3) Preparation of herbarium, miniature /photos 4) Documentation [Mounica] roll no. 8 5) making record [Ramya] roll no. 12

ii. DETAILS OF PROJECT :

Title of project	:	a detailed study on vegetative propagation in plants through leaves, stem & roots.
Objectives	:	1) to visit nearby nursery to study vegetative propagation 2) to collect twigs of different plants to study 3) to preserve different collections of leaves, roots, stem 4) to draw conclusions about vegetative propagation
Hypothesis	:	Did all plants reproduce only seeds Did all flowering plants produce gametes Can all parts of the plant propagate.
Tools	:	Observation Survey Interview
Materials	:	Polythene covers, soil, water, blade, scissors, note books
Procedure	:	
Introduction	:	The most interesting thing in plants is saplings can grow even without formation of seeds that is without reproduction. So to study such processes we visited a nearby nursery to know about vegetative propagation in a method of asexual reproduction.
Procedure	:	a) We have observed Bryophyllum leaf which contains a marginal buds on the leaf the bud when fall on the soil it propagate into new plants. b) We observed chrysanthemum plants, the roots having suck where new plants are produced c) We observed a lily/table rose plant which is a ornamental plant having bulbs & produced a new lily plant. Stems are modified into bulbs to propagate a new plant.

Tabular form :

Plant	Part of the plant
1) Bryophyllum Chrysanthemum	new plants grow from buds on the leaf stems creeps along the ground and suckers
are formed at the nodes of the root 2) Lily	new plants grow from bulbs which are modified stem

Analysis : formation of new plants without sexual reproduction is asexual reproduction production of new plants from vegetative parts of a plant i.e, root stem, leaf is known as vegetative reproduction. Some plants reproduce by vegetative parts of the plant

Conclusion : all plants do not reproduce by seeds some plants by asexual reproduction
Some plants reproduce by vegetative propagation

Experiences : we feel very difficult to collect information from the inchange of nursery, firstly they didn't allow after requesting they allowed us & gave information

Questions : how it is possible to plants to reproduce other than flower vegetative reproduction is possible even in animals too?

Acknowledgement : Thanks to guide teachers
Thanks to head master
Thanks to management of nursery

References: Refer to 7th class text book,
Nursery
Magazines
Library

VII Class Social Studies Project Works DIVERSITY ON THE EARTH

1. Reading Maps of Different kinds

1. **Information collection** : How are the different types of maps helpful to people.
2. **Draw the symbols**: Draw the symbols of the following: Broadguage, Meterguage, River, Well, Tank, Temple, Church, Mosque, Pakka Road, etc.
3. **Information collection**: Collect information of the heights of District Headquarters in our State
4. **Map Drawing**: Draw the Nimpur Village and your Village - Compare them
5. **Information collection**: Differences between the life style of people living on high altitudes and low altitudes.
6. **Map Drawing**: Write the directions of different states from A.P. and show them on a map.
7. **Map Drawing**: Draw your village/town physical map. Use colors like Green for Plains, Brown for plateaus and Blue for water bodies.
8. **Map Drawing**: measure the deistances of the capitals of each state from New Delhi by using the scale given in the Map – I in pate No. 3.

2. Rain and Rivers

1. **Picture Drawing**: Draw a diagram to explain how the water vapour is transformed into clouds and rainfall
2. **Model**: Make a rain guage and explain how it works. Use the Rain Guage in your school premises, collect the rain information for one year. Prepare a report discuss in the classroom.
3. **Picture Drawing**: Draw a diagram of water cycle and explain.
4. **Information collection**: Collect data about river bank areas, how floods affect to nearby areas.
5. **Chart** : Make a chart of the names of the rivers and their tributaries which are flowing through our State and in which sea do they join?
6. **Tabular information**: There may be streams and rivers flowing near your village or town and find them and make a table
7. **Information collection**: Collect the information and paper clippings about recent Hudud Cyclone and the devastation it caused in our State?
8. **Album**: Collect the pictures regarding Pattiseema Project and prepare an album.
9. **Collect song**: Collect a "Folk Song" on rains / rivers and sing in the classroom.
10. **Prepare some slovans**: Prepare some slogans to save water or the wasting of water by the students near drinking water taps.
11. **Song**: Prepare a song on water saving.
12. **Model**: construct a water harvesting pit in your school and house and prepare your experience.
13. **Field Trip**: Observe your village/location where water is being wasted furnish the details in a table, discuss the reasons, suggest the ways how water can be saved.

S.No.	The place where water is being wasted	Reason	Way to prevent	Remarks
1				
2				

3. Tanks and Ground Water

- Information collection:** make slogans on "Protect ground-water"
- Album:** Collect the pictures of persons affected from fluoride.
- Sketch Map :** Prepare a sketch map of the tanks in your location.
- Information collection:** Write about the water resources in your village and surrounding areas.
- Information collection:** Prepare a report with the following details about the tanks in your village or town: Area, Source, Stream, Mountain, Year, Previous History, Photos, Crops, Management Committee.
- Picture drawing:** Draw a picture of rocks and water below the ground level.
- Role Play:** Prepare a role Play on tank water management in villages.
- Slogans:** prepare slogans on "Save ground water".
- Debate:** conduct a debate on Water using household Vs Scientists.
- Cartoon:** Draw a cartoon on "over extracting ground water".
- Poster :** Prepare a poster on "Save water"
- Collect information:** collect information about tanks and fill the table.

S.No.	Name of the tank	Ayacut (in Acres)		Other uses of tanks	Reasons for not repair	Benefit if repair
		Previously	At present			

4. Oceans and Fishing

- Information collection:** Collect the information about the fisher-men? Fishing techniques, using tools, facing problems, living conditions.
- Album:** Make an Album that reflects the life of the fisher-men.
- Give suggesons:** Write some suggesons on chart for the development of fisher-men's life style?
- Information collection:** Collect information the oceans are useful to the mankind.
- How can the people prepare to face the natural disasters - Give some suggestions.
- Information collection:** Collect the pictures of natural calamities like cyclones, floods, earthquakes,
- Information collection:** Can you explain the causes of the floods - How can they be faced?
- Information collection:** The similarities that you find between the surface of the earth and the bottom of the sea – collect information with pictures.

9. **Song:** Collect a song on “fisher man life”.
10. **Review:** Watch the movie “Gangaputrulu” and discuss in the classroom.
11. **Role Play:** Prepare a role play on “fisher man”
12. **Write a letter:** Write a letter to the collector indicating the problems facing by the fisher men and give suggestions to enlight their lives.
13. **Cartoon:** Imagene you are a Fish and Draw a cartoon. In that cartoon you have to say your life problems.
14. **Interview:** Conduct an interview with a fish seller.

5. Europe

1. **Map :** Locate the oceans, seas, rivers, bays, trenches, islands and peninsulas in Europe Map.
2. **Map :** Make a chart to show important rivers in Europe and name the seas they enter into.
3. **Information collection:** Collect the pictures of missions and innovators.
4. **Information collection:** Collect the information and pictures of Vasco-de-Gama and Colom-bus.
5. **Information collection:** Collect the pictures of climatic zones.
6. **Tabular information:** List out the names of the Seas, Oceans, Rivers, Bays, Islands, Peninsulas and Mountains in Europe? Make a table.
7. **Draw map:** Draw a colorful Europe Political map.
8. **Song:** Prepare a song on Europe continent. Mention countries, rivers, mountains etc.,

6. France - A European Country

1. **Seminar :** Conduct a seminar on the availability of sources of energy in France.
2. **Information collection:** Compare the agriculture in France and your Region.
3. **Information collection:** Collect the information and pictures about the seven wonders of the World.
4. **Model:** Prepare Eifil Tower by using clay, sticks, and cotton and collect the information about Effil Tower.

7. Africa

1. **Quiz :** Conducting quiz on the African countries that got freedom from their rulers?
2. **Prepare a chart :** Prepare a chart on Africa climate, Cape of Good Hope etc.
3. **Prepare a chart :** Prepare a chart of African Rivers.
4. **Prepare a chart :** Prepare a chart about heavy rainfall regions and scanty rainfall regions on the world map?
5. **Information collection:** Name the countries and their capitals in Africa. Prepare a table.
6. **Prepare a chart :** Prepare a chart of the Names of the Rivers, Lakes, Mountains and Deserts.
7. **Information photos:** Collect the photos of African forests and Animals.
8. **Map :** Draw the outline map of Africa and point out Countries, Rivers and their boundaries.

9. **Map** : Locate the latitudes which passes through African Continent and write climate conditions.
10. **Album**: Collect the pictures of people, animals, climate and plants in deserts.
11. **Map** : Locate the climatic zones on the Africa Map, colour it and lable it.
12. **Prepare a chart** : Prepare a list of African Rivers on chart and where they ended.
13. **Prepare a chart** : Prepare a chart about Imports and Exports of Africa

8. Nigeria - An African Country

1. **Seminor** : Seminor on uses of foreign exchange money.
2. **Album** : Collect the pictures of Mangrane forest and Agriculture in Nigeria.
3. **Album** : Collect the pictures of different trees in Equatorial forests.
4. **Information collection**: Collect some information about Nigerian people from Internet.
5. **Prepare a chart** : Make a chart of natural vegetation of Nigeria.
6. **Information collection**: How are the Equatorial forests useful to the people of Nigeria.
7. **Information collection**: Compare the differences between Nigerian forests and in your surrounding forests.
8. **Information collection**: Collect the information about different types of forests in your surroundings?
9. **Prepare a chart** : Prepare charts about physical features of Nigeria.
10. **Information collection**: Collect the information about mangrove trees.
11. **Information collection**: List out the important crops and natural resources in Nigeria.

9. Handicrafts and Handlooms

1. **Debate** : Debate on different types of castes and their occupations in your locality?
2. **Prepare a chart** : Prepare a chart of various handicrafts with location in A.P.
3. **Group discussion**: Problems of the Basket makers and solutions.
4. **Album**: List out the Handloom Industries and collect the pictures in Andhra Pradesh.
5. **Give suggestions** : Give suggestions on chart as to what steps can be taken by Government to improve the lives of crafts - Persons in our State.
6. **Field Trip** : Arange field trip to visit the local handicraft and handloom places.
7. **Album**: Collect the news clippings/photos of Dharmavaram, Pochampadu, Kanchi Sarees.
8. **Interview**: Consult the Basket makers and gather some information about Basket making.
9. **Information collection**: Collect information about impact of powerloom on weavers.
10. **Model**: Prepare or collect pictures of a small items using the clay.
11. **Album**: Prepare an Album of Handloom Products.
12. **Album**: Collect the pictures of Kondapalli Bommalu.
13. **Album**: Collect the pictures of saree making of Tie and Dye and printing process from internet.

10. Industrial Revolution

1. **Seminar** : Conduct seminar on Results of Industrial Revolution.
2. **Album**: Collect the pictures regarding I.R.
3. **Album**: Collect the images of Factory system of Production.
4. **Information collection**: Write a note on How the I.R. lead to increase in urban slums, towns and badly affected the lives of the people.
5. **Field trip** : Visit any one of the factories in your locality? Write a note on facilities provided by management to workers.
6. **Information collection**: Collect some information from Internet about child workers in factories.
7. **Collect information** : In your village or town you may come across children who are working in some households, factories, hotels, shops, construction works on daily wages. Collect the information about one child. Make a brief profile of a child you have met and present it in the Class.
8. **Map** : Draw a World Map showing colonies of European countries in 1800 A.D.
9. **Tabular information**: Make a table about the kinds of Industries and their Productions.
10. **Album**: Collect the pictures of modern machineries and old tools.
11. **Field trip** : Visit a factory, observe the process of production and write a Report.
12. **Collect information** : Collect the data of Industrial development before 1750 and after 1750.
13. **Report**: Collect some factory workers report in Magazines and News Papers.
14. **Debate**: conduct a debate on the effects of Industrial Revolution.
15. **Flow Chart**: Prepare a flow chart about the inventions of Industrial Revolution.

11. Production in a Factory - A Paper Mill

1. **Tabular information**: Prepare a Table about the following items, Name of the factory, Production and Raw Material.
2. **Group discussion**: Reasons for pollution of the surroundings from a factory or a Mill.
3. **Collect information** : Write about the process or stages to produce paper in Paper Mill.
4. **Slogans** : Write some slogans on "Pollution Control".
5. **Flow chart** : Prepare a flow chart on Raw Materials used in Paper Mill.
6. **Discussion** : Imagine - that in your locality one of the factories are causing pollution, write a letter to the editor of local news paper and Discuss.
7. **Collect information** : Collect the information about the wages of workers in a paper mill.
8. **Collect information** : Collect the images of processes to make paper in Paper Mill.
9. **Own Sentences** : Paper is very important in human life. Write some uses in your own sentences.
10. **Field experience**: Visit a factory - observe the process of production and write a Report. Observe the factory working hours and facilities of workers in a factory.
11. **Draw a picture** : Draw a picture of the factory you visited and using your imagination. Describe what happens inside a factory.

12. **Collect information** : Why are most of the people in India suffering from T.B., Cancer, Astama, Lung diseases etc. Collect information from a Government Doctor.
13. **Debate**: Conduct a debate on Industrialists Vs Environmentalists.

12. Importance of Transport System

1. **Album**: Collect the images or pictures of different types of carry vehicle and prepare an album.
2. **Group Discussion** :Discuss the basic rules and regulations in using roads and how to take safety measures to travel on roads.
3. **Group Discussion** :Working in transport is very dangerous aspect. Discuss.
4. **Interview**: Invite a traffic police and discuss about the traffic system. And interview him.
5. **Interaction**: Interact with drivers working in transport and obtain some information of his job.
6. **Prepare a chart** : Prepare a chart about Names of Air Ports and Sea Ports in Andhra Pradesh.
7. **Prepare a chart** : Prepare a chart of Traffic Slogans and Traffic Rules.
8. **Give suggestions** : How is the Transport System very important to build modern society? Give suggestions.
9. **Map** : Locate the important Sea Ports and Air Ports in India Map.
10. **Album**: Collect the pictures of different ways of transportation from Internet.
11. **Album**: Collect the olden days transport system images. And compare the olden days' transport system with that of Now-a-day's transport system.
12. **Collect the information** : Collect the information or data about the APSRTC. No. of Buses, No. of Workers, No. of Bus-Stations, No. of Passengers and Service etc.
13. **Poster**: Collect posters and pamphlets published by Government or Transport Department about Road Safety Rules.
14. **Models** : Collect some models like Train, Bus, Auto, Bike, Car, Aeroplane, Boat, Cart, Lorry etc.
15. **Slogans**: prepare slogans about "Road Safety".
16. **Rhyme**: Prepare aRhyme on the service of the bus.
17. **Cartoon**: Prepare a cartoon on over crowding train.
18. **Poster**: Prepare a poster on Transport Service.

13. New Kings and Kingdoms

1. **Map** : Locate the New Kingdoms on Indian Map.
2. **Chart** : Make a chart about New Kings and Kingdoms.
3. **Collect images** : Collect the images of New Kings.
4. **Collect images** : Collect the pictures of temples and historical forts.
5. **Collect the information** : Ask your elders and get information about any old historical temple or fort or palace in your village or nearby village.
6. **Album**: Collect the images of famous temples and inscriptions in India, prepare an album.
7. **Suggest reasons** : Suggest some reasons, why the rulers wanted to control villages and towns in Ganga Valley.

8. **Group Discussion** : Find out the difference between tax collection in olden days and Now a days.
9. **Group Discussion** : Find out whether there were any kingdoms in Andhra Pradesh. Discuss.
10. **Group Discussion** : Compare the construction of olden temples and modern temples.
11. **Group Discussion** : Identify the present day states over Gurjarat, Pratihara, Rashtrakuta, Pala, Chola and Chahamana Kingdoms.
12. **Album**: Collect the images of warfare in olden days and modern days.
13. **Draw Map**: Draw a colorful India Map with details of major kingdoms.
14. **Field Trip**: Visit any historical place near by your village/town and prepare a report.

14. The Kakatiyas - Emergence of a Regional Kingdom

1. **Field Trip**: Visit an old temple in your area and find out who built the temple, when etc., and look for any inscriptions in it. Write a note on Agriculture and temples in the time of Kakatiya rulers.
2. **Collect images** : Collect the images of Kakatiya rulers and get brief information about them.
3. **Time Line Chart** : Prepare a time line chart of Kakatiya rulers.
4. **Collect information** : List out some important brave women rulers in the History of India.
5. **Story writing**: Describe the Orugallu fort in your own words.
6. **Album**: Collect Warangal Fort and thousand pillar temple pictures.
7. **Collect information** : Collect information about the importance of Kakatiya rulers.
8. **Role Play**: Perform a role about Rudrama Devi and collect pictures.
9. **Story Writing**: Write about Nayankara System.
10. **Album**: Collect any one of the stories about the "Palnati Veerula Katha" written by Srinatha.
11. **Presentation** : Prepare a short presentation of any of the three stories in the form of a play.
12. **Role Play**: Prepare a role play about Rudrama Devi.
13. **Song**: Write a song / Poem / Kavitha about the Kakathiyas.

15. The Kings of Vijayanagara

1. **Chart** : Prepare a chart of some important kings of Vijayanagara Empire.
2. **Story Writing**: Write about the greatness of Sri Krishna Deva Raya.
3. Compare the Amaranayakas and old chiefs in Kakatiyas where do they differ and what are the similarities.
4. **Chart** : Prepare a chart or collect images of arms and weapons used by them.
5. **Collect photos** : Collect the photos of Stone Chariot of Hazara Rama Temple. Can you write a story based on the images?
6. **Map** : Locate Vijayanagara Kingdom and important places, Rivers on Indian Map.
7. **Collect information** : Collect the information about the "Astadiggajas".
8. **Group Discussion** : Why do you think the Portugese travellers were interested to know about the Forts and Armies of Vijayanagar.
9. **Album**: Collect the pictures from Internet of important constructions (like Forts and temples) of Vijayanagara rulers.

10. **Song:** Collect songs of Srikrishna Devaraya.
11. **Flow Chart:** Prepare a flow chart of Vijayanagara Kingdom.
12. **Time line chart:** Prepare a timeline chart of Vijayanagara Kingdom.
13. **Role Play:** Prepare a role play of Bhuvanavijayam.
14. **Monoaction:** Prepare a monoaction of King Srikrishna Devaraya.

16. Mughal Empire

1. **Map :** Show the Mughal empire in Indian Map?
2. **Collect pictures :** Collect the pictures of Mughal architecture.
3. **Char:** Prepare a chart showing Mughal Kings and their period.
4. **Album :** Prepare an Album of Mughal Constructions collected from Internet.
5. **Time line chart:** Prepare Important Mughal emperors major campaigns and events.
6. **Story Writing:** Describe the Sulh-I-Kul.
7. **Story Writing:** Write about the importance of Akbar as mughal ruler.
8. **Album :** Collect the information about the Taj Mahal. How is it one of the wonders of the world?
9. **Model :** Prepare a Model or sketch of Taj Mahal.
10. **Role Play:** Prepare a role play of Akbar.
11. **Collect information:** collect information and pictures of the great buildings of Moghals.
12. **Collect information:** Collect information about moghal emperors and prepare a table.

17. Establishment of British Empire in India

1. **Map :** Map showing expansion of the British territorial power in India.
2. **Story Writing:** Write about the reasons for the revolt of 1857.
3. **Collect information:** Collect the information and pictures of the revolt of 1857 from Internet.
4. **Map :** Locate the British Trade Centers in India on Indian Map.
5. **Map :** Locate the Sea Route of Vasko-De-Gama from Portugal to India in World Map.
6. **Review:** Watch the movie Mangal Pandey and discuss in your class room.
7. **Album:** Prepare an album with pictures of Indian freedom fighters.
8. **Mono-action:** Perform monoactions of Indian freedom fighters in your school functions.
9. **Song:** Sing a song which encourages the patriotism.
10. **Song:** Collect songs about 1857 revolt.
11. **Elocution:** Conduct elocution competition, painting competition and essay writing competitions in the school.

18. Making of Laws in the State Assembly

1. **Mock Assembly :** Conduct mock Assembly or Elections.
2. **Chart :** Prepare a chart about the list of C.Ms. in our State.
3. **Collect pictures :** Collect the pictures / Images of different State Assemblies in our Country from Internet.

4. **Role Play:** If you are an M.L.A., how do you respond to the drinking water problem in your Constituency.
5. **Short Film :** Show the short film on voting procedure and get information.
6. **Chart :** Display the State Ministers on chart.
7. **Chart :** Display the main functions of Governor, C.M. and Speaker on chart.
8. **Collect information:** Collect the information from News Papers during the time of Assembly season and how the Ruling and Opposition M.L.As. are responding on issues.
9. Write about the responsibilities of Cabinet.
10. **Collect information:** Collect / Make a list of M.L.As. and their constituencies from your district in present Assembly.
11. **Collect information:** Collect the information from your elders about the elections in your village.
12. **Debate:** conduct a debate on “Ballot paper method Vs EVM method.”
13. **Map :** Locate the Assembly constituencies in A.P. Map.
14. **Chart :** Make a chart about the political parties and their symbols in our State.
15. **Collect the information :** Collect the information about the Election Commission from Internet.
16. **Chart :** Make a chart showing polling stations with the help of your Teacher.
17. **Interview:** invite your LA to your school and interview hem about making laws.
18. **Mock elections:** Conduct mock elections to elect your SPL/CPL in your school,
19. **Mock Assembly:** conduct mock assembly.
20. **Model:** Prepare a model voter ID card.
21. **List:** listout the people representatives of your locality and exhibit in wall magazine.
22. **Cartoon:** Draw a cartoon which represents “ Present Assembly Debates”.

19. Implementation of Laws in the District

1. **Write a letter:** Write to the Collector's Office (or) MRO's Office and get the information about how to implement law in the district or in the mandal.
2. **Chart :** You may have heard of many kinds of Government functionaries. List them on a chart.
3. **Map :** Make a map of your District and point out the mandals (or) Assembly Constituencies in it.
4. **Interview:** Ask any one of Government Servants in your surroundings and get information about following questions: How was he appointed? When was he reported? Who is the transferring authority? Who is the drawing officer of his salary? Where have we to complain if there is any problem? What are the functions of your job? How to approach the people etc.
5. **Collect the information :** Collect the information about RTE Act in internet.
6. **Chart :** List out the Government Departments in the district and make a chart.
7. **Chart :** Prepare a chart reflecting Mandal Level Administration.
8. **Group Discussion :** The duties or functions of District Level Officer like Collector, DEO, DMHO, SP.
9. **Group Discussion :** Government Schemes in your village. These benefits of the schemes.

10. **Album:** Collect the News paper clipping about the Swacha Bharat Programme in your district.
11. **Group Discussion :** What has been their experience in implementing the New Rules / Programmes like ensuring Enrolment of Children, Mid-Day Meals, or any other programmes. Make a presentation.
12. **Letter:** Write a letter to MRO on the cleanliness of your street.
13. **Discussion:** Organise a problem of “Students interaction with revenue officials” about implementation of laws.

20. Caste Discrimination and the Struggle for Equalities

1. **Album:** Collect the Images or photos of Social Reformers.
2. **Story writing:** Prepare a story on Dr.B.R. Ambedkar.
3. **Chart :** Prepare a chart and display in your class, about the social evils. Who were the sufferers?
4. **Collect the information :** Collect the information from your parents about the caste system functioned in your younger day and now a days.
5. **Album:** Collect the information Gather information from News Papers on caste related issues.
6. **Album:** Collect the pictures and information about leaders who struggled against caste system - inequalities.
7. **Discussion:** The caste system works in the society and what are the steps to be taken by the Government to eradicate it.
8. **Field Trip:** Visit any ST colony and interview the headman about his social life.
9. **Story writing:** Prepare the life story of BR. Ambedkar.
10. **Song:** Write a song which reflects the equality in the society.
11. **Role Play:** perform a roleplay of Om Prakash Valmiki.

21. Livelihood and Struggles of Urban Workers

1. **Chart :** Prepare a chart about the types of works people are doing for their livelihood.
2. **Slogans:** Write some Rights / Securities to the workers and discuss in your class.
3. **Collect information :** Collect information from construction workers and what are the problems they are facing to their work.
4. **Make a list :** Make a list of jobs(works) done by casual and self-employed workers in your areas.
5. **Collect information :** Collect information about some Workers' Associations (Trade Unions) and their functions.
6. **Discussion:** Do you think it is correct to pay less wages/salaries for the same kind of work to women workers than men workers and educated worker and illeterate worker.
7. **Album :** Prepare an Album collecting pictures working in different kinds of factories from Internet.
8. **Interview:** Interview a construction worker and software Engineer and compare their livelihood.

9. **Song:** Prepare a song about daily labours.
10. **Cartoon:** create a cartoon on the life style of a Urban worker.

22. Folk – Religion

1. **Collect information:** Prepare a list of popular folk dieties worshipped by the people in A.P. and Telangana states.
2. **Collect information:** Collect information from your parents why we are celebrating Jataras in our villages.
3. **Prepare A Report :** Do you know, why we pay more respect to saints, priests, peirs and babas. Ask your grand parents and prepare a Report.
4. **Album :** Make an Album collecting information and pictures of the different kinds of dieties from Internet/Paper clipping, religious people, way of worshipping and their costumes and tradition in our country.
5. **Collect stories :** Collect stories about any of the folk dieties in your area.
6. **Folk Songs :** Collect some varieties of folk songs and prepare a booklet.
7. **Collect information:** Do you know, why the religious people visit temples, churches, dargas, saints, babas, jalwas, gangamma, maisamma, yellamma at the time of sickness or facing problems.
8. **Story Writing:** Write a brief story of your local celebration which you participated.
9. **Song:** collect a song about Jatara and sing in the class.
10. **Slogans:** Prepare slogans to “Save our culture”.

23. Devotional Paths to the Divine

1. **Field Trip:** Find out whether in your neighbourhood there are any darghas, Gurudwaras or temples associated with saints of the bhakti tradition. Visit any one of these and discribe what you see and hear.
2. **Collect information:** Collect the C.D's about devotional songs like Thallapaka Annamayya, Kabir, Meerabai, Guru Nanak, Ramadasu etc. and collect the pictures and give a information about it.
3. **Story Writing:** Write a story about Kancherla Gopanna.
4. **Collect information:** Collect the pictures of Dargas, Gurudwaras and get information from Internet and make an Album.
5. **Collect information:** Get information about other works of the saint-poets maintained in this chapter. Find out whether they are sung, how they are sung, and what did the poets write?
6. **Role Play:** Perform a role play about any Saint/Yogi.
7. **Song:** Sing Annymacharya keerthana in the classroom.
8. **Field Trip:** Visit any Darga/Temple/Church associated with saints of the Bhakthi Tradition and describe what your saw the heard about them.
9. **Collect information:** Get information about other works of the Saint-Poets mentioned in this chapter. Sing those songs in your school programmes.

24. Rulers and Buildings

1. **Collect information:** Collect the pictures or images and information of Great Rulers and their constructions (Forts, Temples and Buildings) in India from Internet and make an Album.
2. **Collect information:** Collect the pictures maintained in this chapter, find out where it is located? Who built it? Why are they built and make a table.
3. **Collect information:** Collect information from Internet, Write a note on Taj Mahal.
4. **Collect information:** Collect the pictures and information about the temples, old buildings and Forts in your area.
5. **Collect information:** What are the similarities and differences between olden days constructions and now-a-days constructions.
6. **Field Trip :** Visit and describe any park or garden in your area. In what way is it similar to or different from the garden of the Mughals.
7. **Map :** Find out important temple places, Fort places and construction places located in these places in Indian Map.
8. **Design:** Design an arch to your school entrance and show it to your Head Master.
9. **Field Trip:** Visit any fort near by your location and prepare a report with your experience.

VII Class Social Studies Assignments

Unit Lesson Nos.	Name of the Lesson		Assignments
I	DIVERSITY ON THE EARTH		
1	Reading Maps of Different kinds	1	How are the maps helpful to people?
		2	How can we represent the heights of land on flat paper?
		3	How is the sea level measured?
		4	Write the different kinds of maps?
		5	Draw our School sketch map.
		6	Prepare a chart about different symbols.
		7	Write the difference between map & picture.
		8	What are the symbols used to locate the mountains, rivers, plateaus in a map.
		9	Why should we study the different kinds of maps?
		10	What is meant by contour line?
		11	What differences do you find between the life-style of people living on high altitudes and low altitudes.
		12	Why are the levels of all the seas equal in the world.
2	Rain and Rivers	1	Why do you think it is necessary for the clouds to raise in order to cause rains?
		2	In which season do you have more foggy days?
		3	What are important rivers in our State?
		4	Write some causes to the floods.
		5	How do the clouds reach deep in land?
		6	What is meant by humidity?
		7	The Godavari flows from West to East? Why?
		8	Write about the North-East Monsoon season.
		9	How to prepare the people during the floods.
		10	Explain the water cycle.
		11	How can the people prepared to face the disasters.
		12	What are the relationship between evaporation, precipitation and humidity.
3	Tanks and Ground Water	1	How are the tanks build?
		2	What are the uses of tanks?
		3	Mention the differences between pervious rocks and impervious rocks.
		4	Can you think of a ways in which the ground water can be used less without wastage?
		5	What steps can we take to increase the ground water?
		6	It is necessary to save the ground water for future generation. Why?
		7	Can you think at a ways in which the ground-water can be used less with wastage?

4	Oceans and Fishing	1	What does the tool-kit of the fisher-men contain?
		2	What solutions that you show to the fishermen for not depending on middlemen money?
		3	Identify the water bodies in the World Map?
		4	Explain about the salinity and drinking water in the villages.
		5	Why the middlemen earn much more money than the fisher-men?
		6	What is an Ocean?
		7	How many types of ocean movements?
		8	What are the uses of the tides?
		9	It is necessary to save the ground-water for future generation, Why?
5	Europe	1	Write the boundaries of the Europe?
		2	Mention the important rivers of Europe?
		3	What are the trade winds?
		4	What is Bay?
		5	What are the important seas surrounded by Europe Continent?
		6	Can you guess the impact of westerlies on Europe?
		7	What is Peninsula?
		8	What is Gulf?
		9	What are the factors the limit European agriculture?
6	France - A European Country	1	Mention two differences between the climate of France and the climate of your State.
		2	Why do you think fruits that grow in France also grow in the Himalayas?
		3	What problems do you think France will face in using Solare energy on a large scale?
		4	Is the problem of cool in France applicable to your Country.
		5	Give two examples that show the relations between crops and climate.
		6	In what way do you think France would benefit from them?
		7	What type of industries are located in Northern France? Give reasons.
		8	Write the boundaries of the France?
		9	What are important crops in the France?
		10	Name the seasons of the France?
7	Africa	1	State three differences that Europeans faced to reach the interior part of the Africa.
		2	How many physical features in Africa.
		3	Name the important deserts in Africa.

8	Nigeria - An African Country	1	How are equilateral forests useful to the people of Nigeria.
		2	What are commercial crops of Nigeria?
		3	Which part of Nigeria gets maximum rain-fall and gets less rain-fall?
		4	Can you name the four major natural regions of Nigeria?
		5	Which river in India has a very large delta?
		6	How Mineral Oil is the most important natural resource of Nigeria.
		7	List out the reasons growing cotton and groundnut in Nigeria.
		8	Name the two important platoos in Nigeria.
		9	Do you appreciate design on the traditional clothes of the Nigerians? Why?
II	PRODUCTION EX-CHANGE AND LIVELIHOODS		
9	Handicrafts and Hand-looms	1	Name the raw materials to make silk sarees?
		2	What are the stages to weaving the saree?
		3	What are the tools used by the basket makers?
		4	What do you understand about the raw materials in the context of basket making?
		5	What do you meant by work and weft?
		6	Do you think people have enough earnings from work like basket making and weaving?
		7	Why do you think patenting Pochampalli Ikkat Saree weaving would help weavers in Pchampalli?
		8	Compare the differences between basket making and Ikkat Saree.
		9	In what way Co-operative Societies are helping to the weavers?
		10	Write about the weavers problems.

10	Industrial Revolution	1	When did the factory system of production emerged? How?
		2	Industrial Revolution lead to increase of urban slums in towns? Explain it.
		3	Why it is necessary to Government to enact laws to improve the working conditions in a factory?
		4	Who invented the steam engine?
		5	What is Revolution?
		6	How did the need for self-driven machines emerge in England?
		7	Who were employed to work on machines?
		8	How the energy is needed to run machines in a factory?
		9	How will increases in the wages of workers affect industrial production?
		10	Why did factory owners pay low wages and force workers to work for longer powers?
		11	Why do you think the working conditions in factories should be improved?
		12	Why should children not be employed in factories?
		13	How the transport system help the industries?
11	Production in a Factory - A Paper Mill	1	Explain the process of paper making.
		2	How many paper mills in Andhra Pradesh?
		3	What are the raw materials required for the paper mill?
		4	What are the stages of process of paper making?
		5	Why is it necessary to put the lable, batch No. on the paper rolls.
		6	Why is there a Security Guard at a Gate?
		7	Why do you think people from far away places came to work in the paper mill in Andhra Pradesh?
		8	Imagine a World without paper what alternate will you use instead of paper.
		9	What are the benefits and income received by a regular employee of a paper mill?
		10	How to reduce the pollution of the paper mills?

12	Importance of Transport System	1	Write a few slogans on prevention of accidents.
		2	Why is it important to provide transport facilities to villages.
		3	What are the transport facilities.
		4	How many types of transport systems?
		5	What is National Highway?
		6	How the transport system essential for producing agricultural goods?
		7	How is the use of buses different from trains?
		8	Why do you think water ways are important for a country?
		9	How does the transport system become a means for livelihood?
		10	Write some transport slogans.
		11	Write some safety measures on roads.
III	POLITICAL SYSTEM AND GOVERNANCE		
13	New Kings and Kingdoms	1	Why do you think Kakatiyas did not appoint powerful chiefs as Nayaka?
		2	What is meant by Hiranyagarbha?
		3	Do you think being born as Kakatiya was important in order to become a ruler during this period?
		4	Write about Nagabhata?
		5	In what ways was this form of administration different from the present day system?
		6	Who built Tanjavur?
		7	In what way the Cholas administration is the model of modern administration?
		8	What is meant by Shalabhoga?
		9	Who were the parties involved in the "tripartite struggle"?
		10	What were the qualifications necessary to become a member of a committee of the <i>sabha</i> in the Chola empire.
		11	What were the two major cities under the control of the Chahamanas?
		12	How did the Rashtrakutas become powerful?
		13	What were the activities associated with Chola temples?

14	The Kakatiyas - Emergence of a Regional Kingdom	1	Which is the court language in the time of Kakatiyas?
		2	Who were the important rulers in Kakatiya?
		3	What are the main differences you find between modern towns and cities of the past like Orugallu?
		4	Who shifted the capital from Hanmakonda to Orugallu?
		5	Write about the greatness of Rudrama Devi?
		6	Who visited Kakatiya Kingdom in the time of Rudrama Devi?
		7	Write the names of the important travellers who visited Kakatiya Kingdom?
		8	Write about the Nayankara System?
		9	Write about the opinion of Marko Polo about Kakatiyas.
		10	How do the kings treat the traders earlier?
		11	How do you think the Kakatiyas were able to gain control over the chiefs?
		12	Why do you think the Kakatiyas did not appoint powerful chiefs as Nayakas?
		13	Why was it difficult for women to rule in those days? Is it different today? How?
15	The Kings of Vijayanagara	1	What were the steps taken for the enhancement of agriculture, production in Vijayanagara Kingdom.
		2	Vijayanagara means?
		3	Who was the founder of the Vijayanagar kingdom? When?
		4	Write some important rulers of Vijayanagara?
		5	How many families ruled over the Vijayanagara Kingdom?
		6	Name the travellers visited Vijayanagara kingdom? When?
		7	Why were the vegetables, fruits and horses sold in the evening?
		8	Write about similarities and differences between the Vijayanagara and Warangal cities?
		9	Why do you think modern cities do not built fort walls of this kind?
		10	What kind of arms and weapons so modern armies use?
		11	Why was Krishnadevaraya the most feared king?
		12	Who controlled the towns and villages of Vijayanagara Empire?
		13	Did the king depend only on the troops send by the Captains?
		14	Write the names of the Ashtadiggajas?
		15	Who wrote the Amukthamalyada?
		16	Why do you think the Portugese travellers were interested in knowing about the forts and armies of Vijayanagara kings?
		17	Why were the amaranayakas very powerful?
		18	Compare the amaranayakas and the old chiefs you had read about in the lesson on Kakatiyas. Were they different or similar - in what way?

16	Mughal Empire	1	Describe the religious policy of Akbar.
		2	Describe the Munsabadari system.
		3	Who were the Mughals?
		4	Who is the founder of Mughal Empire? When?
		5	Write the important Mughal Emperors?
		6	What was the differences between Munsabdars and
		7	Why was the policy of Sulh-i-kul important for the Mughals to controll their vaste empire.
		8	What was the relationship between Munsabadars and his Jagirs?
		9	Whate was the role of the Jamindars in Mughal Administra-tion?
		10	Why do you think the Mughals allowed earlier rulers to con-tinue in their old kingdoms as before?
17	Establishment of Brit-ish Empire in India	1	Who discovered the sea route of India?
		2	What were the reasons for the failure of revolt of 1857?
		3	Write a short note on the battle of plassey?
		4	Express your dissatisfaction towards the rule of Britishers.
		5	What are the reasons for revolt of 1857?
		6	List three sources of money that helped the English to buy goods in India?
		7	What advantages did the Indian rulers get from the English?
		8	Who were the important British Governor Generals?
		9	Why did the European Trading Companies maintain armies in India?
		10	In 1857 which soldiers felt their religious faith was being violated? Why?
		11	What is meant by Royal Charter?
		12	What is mean by Colonies?
18	Making of Laws in the State Assembly	1	What is the difference between the role of a Ruling Party and an Opposition Party?
		2	Expand MLA and MP?
		3	Who make the laws?
		4	How are the laws made?
		5	What is Bill?
		6	How many states in India?
		7	How many Assembly seats in Andhra Pradesh?
		8	Who elected our Representatives?
		9	What are the role of Cabinet?
		10	Who conduct the Elections?
		11	Why do you think voting has to kept as secret?
		12	Who issue the voter identity card?
		13	What is the role of Opposition Party?
		14	Suppose you are a member of a A.P. Legislative Assembly, which issues do you rise for the making of laws? Why?
		15	How would a coalition Government be different from One Party Government.

19	Implementation of Laws in the District	1	What are the duties of the District Collector?
		2	How many districts in Andhra Pradesh?
		3	Which department construct the buildings, dams and canals?
		4	How many mandals in your district?
		5	Why do you think land records are kept in village and mandal level?
		6	Expand the VRA, VRO, MRO, MDO?
IV	SOCIAL ORGANISATION AND INEQUITIES		
20	Caste Discrimination and the Struggle for Equalities	1	How can your school help in ending caste based inequality?
		2	What are the social evils?
		3	Write about benefits of the mid-day-meal programme.
		4	What are the evils of the caste discrimination?
		5	In what way do you think the caste system promotes in-equality among the people.
		6	How did the people at the station discriminate against Dr.Ambedkar and his brothers?
		7	Have you ever experienced, witnessed an incident of discrimination.
		8	Name the social reformers fought against the discriminations.
		9	Write about the Jyothi Rao Phule?
		10	Who says one caste, one religion, one God for all men?
		11	What is the mid-day-meal programme? Can you say three benefits of the programme?
		12	Why do you think people want to marry with their caste?

21	Livelihood and Struggles of Urban Workers	1	Make a list of jobs done by casual and self-employed workers in your area.
		2	Write a short note on the differences in rural and urban context of employment conditions.
		3	Compare the worker in a brick kiln and worker in a factory.
		4	What are the functions of the Trade Unions?
		5	What are the benefits of the permanent workers in a factory?
		6	Why do you think there were more women in the contract worker category rather than in the category of permanent workers?
		7	Do you think it is correct to pay women workers less for the same kind of work than men?
		8	Do you think it would have been different if the workers had been educated and illiterates?
		9	What are the difficulties faced by the construction labours?
		10	Why there are no trade union in brick kilns?
		11	In what way can the Government help brick kiln workers to improve their working conditions?
		12	Make a list of informal works in towns?
		13	What is the role of Self Employed Womens' Association (SEWA)
		14	What are the seven securities and rights to the workers?
V	RELIGION AND SOCIETY		
22	Folk - Religion	1	Do you think why the people worship in village folk dieties.
		2	Who were the folk gods and goddess in your Village?
		3	What is Jatara?
		4	How the people are celebrating Jataras in your surrounding areas?
		5	Write about the Bonalu?
		6	Write a story on Sammakka, Sarakka Jatara?
		7	What elements do you think are common in the worshipping most of the village dieties?
		8	Why do you think people use different languages while worshipping different kinds of dieties?
		9	Do you think the Why people worship the village dieties is changing now?

23	Devotional Paths to the Divine	1	What were the major ideas expressed by Kabeer?
		2	What were the major teachings of Guru Nanak?
		3	What were the major ideas expressed by Basavanna?
		4	Why do you think Tukaram consider the friends of the poor and suffering as the real devotees of God?
		5	How do people show respect to the Pir and what do they pray for there?
		6	Have you listened to any old bhajanas? Write the meanings?
		7	What were the major beliefs and practices of the Sufis?
		8	Why do you think ordinary people preserved the memory of the Meera Bai?
		9	Write some important Bhakthi Centres in our State?
VI	CULTURE AND COMMUNICATION		
24	Rulers and Buildings	1	How are the Sultans described as the "Shadow of God"
		2	Do you think a new techniques could be used to built large halls and toll buildings.
		3	Who build the Taj Mahal?
		4	What is a Sikhara?
		5	How did a temple communicate the importance of a king?
		6	What are the elements of Mughal Chahar Bhoga garden?
		7	Describe the Kutub Minar?
		8	Who build the Charminar?
		9	List out the important temples, buildings, monuments, mosques in our Country?
		10	Write about the Golden Temple?

CLASS - VIII

PROJECTS IN MATHEMATICS

PROJECT: Set of activities in which pupils discover experiment and collect information by themselves in a natural situation to understand a concept and arrive at a conclusion may be called a PROJECT.

Project work will develop the skills in academic standards such as problem solving, logical thinking, mathematical communication, representing data in various forms in daily life situations. This approach is to encourage the pupils to participate, discuss (articulation) and take active part in class room processes.

Project work essentially involves the students in a group work and submitting a report by the students on a given topic, after they worked on it, discussed it and analyzed it from various angles and perspectives.

ASSIGNING PROJECTS – TEACHER’S ROLE

1. Teachers must have a thorough awareness on projects to be assigned to the students.
2. Teachers must give specific and accurate instructions to the students.
3. Teachers must see that all the students must take part in the projects assigned.
4. Allot the projects individually on the basis of student’s capabilities and nature of the projects.
5. Teachers must see that children with different abilities are put in each group and give opportunity to select division of work according to their interesting task at the time of allotment of the project.
6. Teachers must analyze and encourage the pupil, while they work on the project.
7. Teachers should act as facilitators.
8. Proper arrangements must be made for the presentation and discussion of each student’s project, when the students must be told whom to meet to collect the information needed.
9. Allow the students to make use of the library, computer lab etc.
10. Give time and fix a date to present the project. Each project should be submitted within a week in the prescribed Proforma.
11. Each project can be allotted to more number of pupils just by changing the data available in and around the school.
12. The projects presented should be preserved for future reference and inspection.
13. Every mathematics teacher is more capable to prepare projects based on the Talent/Interest/Capability of students.
14. Teacher also ideal to the students by adopting one difficult project from each class.
15. Procedure of the project should be expressed by the students using his own words.
16. Each student should submit 4 projects in an academic year.

Welcome your comments and suggestions.

CLASS – VIII : MODEL PROJECT
PROFORMA

Preliminary Information

Class : 8

Subject : Mathematics

Name of the Lesson/Unit : SURFACE AREAS AND VOLUME

No. of the Project : 1

Allotment of work :

- (i) Preparation/collection of models
- Master Manikanta Reddy & Prem kumar
- (ii) Measuring & recording of dimensions
- Master Venkatesh
- (iii) Preparation of tables
- Master Masthan
- (iv) Presentation of the project
- Master Chakravarthy

DETAILED INFORMATION OF THE PROJECT

1. Title of the Project :

Prepare the models of Cube, Cuboid and find the formula for LSA and TSA. Find LSA and TSA by measuring the dimensions of collected cube and cuboids from daily life situations.

2. Objectives of the project :

- (i) Identification of cube and cuboid shaped articles.
- (ii) Preparation of cube and cuboid.
- (iii) Find the formula for finding of LSA & TSA of cube and cuboid.
- (iv) Find the LSA and TSA by collecting different boxes which are in the shape of cube and cuboid.

3. a) Materials used :

Card board, Gum, White papers, Scale, Scissors, Sketch Pens, Books.

b) Materials collected :

Dice, chalk piece box, brick, duster

4. Tools :

- (i) Material Collected – Preparation of cube and cuboid and collection of some models of cube and cuboid.
- (ii) Identification – Identify all sides are equal in cube.
- (iii) Comparison – Identify the similar faces and their dimensions

5. Procedure :

- 1. Introduction :**
 - 1. I prepared the models of cube and cuboid.
 - 2. Denote l cm, b cm, h cm on cuboid and s cm on cube.
- 2. Process :** Identify the lateral surfaces and similar surfaces

S.No.	Cube	Cuboid
1	Area of each surface = s^2 Sq.cm	Area of opposite similar lateral surfaces = $lh + lh = 2lh$ Sq.cm \rightarrow (1) and $bh + bh = 2bh$ Sq.cm \rightarrow (2)
2	Area of 4 equal surfaces LSA = $4s^2$ Sq.cm	Sum of all lateral surface areas LSA = $2lh + 2bh = 2h(l+b)$ Sq.cm
3	Area of all (6) equal surfaces TSA = $6s^2$ Sq.cm	Area of remaining opposite surfaces = $lb + lb = 2lb$ Sq.cm Area of all surfaces TSA = $2lb + 2bh + 2hl = 2(lb+bh+hl)$ Sq.cm

3. Recording the data – Cube shapes

- (i) Measure and record each side of cube
- (ii) Record the lengths of all sides of cube in a tabular form.

S.No.	Name of the cube	Length of Side	LSA= $4s^2$	TSA = $6s^2$
1	Dice	S=2 cm		
2	Chalk piece box	S=12 cm		
3	Prepared model	S=14 cm		

Recording the data – Cuboid shapes

- (i) Measure and record each side of cuboid.
- (ii) Record the lengths of all sides of cuboid in a tabular form.

S.No.	Name of the cuboid	Length (l)	Breadth (b)	Width (w)	LSA= $2h(l+b)$	TSA = $2(lb+bh+lh)$
1	Brick	22cm	10cm	7 cm		
2	Duster	15cm	9.5cm	5 cm		
3	Prepared model	15cm	11cm	6.5 cm		

4. Analysis :

We can use the above formulae in daily life to find out total cost of painting/white wash/area of paper required for packing of gift boxes/ manufacturing the new boxes

5. Conclusion :

S.No.	Cube	Cuboid
1	LSA = $4s^2$ Sq.units	LSA = $2h(l+b)$ Sq.units
2	TSA = $6s^2$ Sq.units	TSA = $2(lb+bh+hl)$ Sq.units

6. Experiences of the students :

- (i) I observed a box by opening its sides and learn how to prepare the boxes of cube and cuboid shapes.
- (ii) I used cellophane tape to join the edges of sides instead of gum.
- (iii) I asked a person to give me one brick, but he refused to give. Then I requested him, that I want to use it for doing projects in mathematics. He accepted and give me a brick. I felt very happy that I convinced him to get that in a requested manner. It makes me satisfaction.

7. Doubts & Questions :

- 1. While preparing the top and bottom positions of cuboid, I confused to take the lengths.
- 2. I feel difficult to close the all sides.
- 3. How the big size boxes prepared to carry heavy heights?

8. Acknowledgement :

- 1. Convey my sincere thanks to who are cooperate and putting their earnest efforts in completing the project.

9. Reference Books/Resources :

- 1. Class–VIII Mathematics text book
- 2. Class – IX Mathematics text book

10. Signature of the student(s) :

CLASS - VIII : LESSON WISE PROJECTS

S. No.	Name of the Lesson	Title of the Project
1	Rational Numbers	<ol style="list-style-type: none"> 1. Collect some quotient numbers and verify the properties of quotient numbers by using a tabular form. 2. Collect some quotient numbers from our daily life situations and represent them on the number line.
2	Linear Equations in one Variable	<ol style="list-style-type: none"> 1. Develop any two verbal form linear equations having one variable on both sides from our daily life situations and solve. (some riddles may be prepared) 2. Develop any two linear equations which are reducible into linear form, from our daily life situations and solve by using cross multiplication.
3	Construction of Quadrilaterals	<ol style="list-style-type: none"> 1. Identify and write the properties of the figures formed by joining the midpoints of all types of quadrilaterals.
4	Exponents and Powers	<ol style="list-style-type: none"> 1. Collect some very large and very small numbers in different fields such as Astronomy, Geography, Number facts and Science text books from class-VI to lass-X and write these into exponential form. 2. Write laws of indices on a chart. Express the products which contain two or more identical quantities in exponential notation by taking 5 different illustrations from our daily life situations.
5	Comparing Quantities using Proportion	<ol style="list-style-type: none"> 1. Collect different types of pictures with respect to the Golden Ratio and paste on a chart. Verify the Golden Ratio in different parts of these pictures. 2. Identify the different types of situations in our day-to-day activities about compound ratio and compare the quantities. 3. Identify the different types of situations (like discount and partnership in various aspects such as shop keepers offer rebate to the customers) and find the percentage of profit or loss or discount. 4. Identify the different types of situations in our day-to-day activities relating to simple interest and compound interest, find total amount in each case and suggest which is preferable to the lender/borrower.

S. No.	Name of the Lesson	Title of the Project
6	Square roots and Cube roots	<p>1. Collect different patterns of numbers and Palindrome numbers, explain on these numbers by writing on a chart. For example</p> <p>(i) Product of two consecutive even or odd natural numbers</p> $11 \times 13 = (12 - 1)(12 + 1) = 12^2 - 1$ $13 \times 15 = (14 - 1)(14 + 1) = 14^2 - 1$ $29 \times 31 = (30 - 1)(30 + 1) = 30^2 - 1$ $44 \times 46 = (45 - 1)(45 + 1) = 45^2 - 1$ <p>So in general we can say that</p> $a \times (a + 2) = [(a + 1) - 1][(a + 1) + 1] = (a + 1)^2 - 1$ <p>(ii) Another Interesting pattern as follows:-</p> $7^2 = 49$ $67^2 = 4489$ $667^2 = 444889$ $6667^2 = 44448889$ $66667^2 = 4444488889$ $666667^2 = 444444888889$ <p>[The fun is being able to find out why this happens. May be it would be interesting for you to explore and think about such questions even if the answers come some years later.]</p> <p>(iii) Observe the square of numbers 1, 11, 111, 1111, 11111, etc., They give a beautiful pattern as follows:-</p> $1^2 = 1$ $11^2 = 121$ $111^2 = 12321$ $1111^2 = 1234321$ $11111^2 = 123454321$ $111111^2 = 12345654321$ $1111111^2 = 1234567654321$ $11111111^2 = 123456787654321$ <p>[These Numbers are called Palindrome Numbers or Numerical Palindrome]</p> <p>2. Find the square root of the number by subtraction of successive odd natural numbers, factorization and long division method by taking any 4-digit numbers or by taking daily life examples.</p> <p>3. Take any two numbers (3-digit or 4-digit) and estimate the cube root of a number by the method of subtraction, method of unit digit and factorization method.</p> <p>4. Find the Pythagorean Triplets by using the eternal triangle.</p>

S. No.	Name of the Lesson	Title of the Project																																																																																																
		<p><u>Useful information:</u></p> <p>About 2500 years ago, the famous mathematician Pythagoras found an amazing fact about triangles. Such as “The area of the square on the hypotenuse of a right - angled triangle is equal to the sum of the areas of the squares on the other two sides”.</p> <p>The Pythagorean Property relates the lengths a and b, of the two legs of a right triangle with the length c of the of the hypotenuse by the equation $a^2 + b^2 = c^2$.</p> <p>Suppose one leg $a = m^2 - n^2$, second leg $b = 2mn$ and hypotenuse $c = m^2 + n^2$, when the numbers m and n are integers which may be arbitrarily selections.</p> <p>Using the above data, fill the following table. This table gives Pythagorean Triplets.</p> <table border="1"> <thead> <tr> <th>m</th> <th>n</th> <th>b = 2mn</th> <th>a = m² - n²</th> <th>c = m² + n²</th> <th>Pythagorean Triplets</th> </tr> </thead> <tbody> <tr><td>2</td><td>1</td><td>4</td><td>3</td><td>5</td><td>(3, 4, 5)</td></tr> <tr><td>3</td><td>1</td><td>6</td><td>8</td><td>10</td><td>(6, 8, 10)</td></tr> <tr><td>3</td><td>2</td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td>1</td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td>2</td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td>3</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td>1</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td>2</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td>3</td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td>4</td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td>5</td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td>6</td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td>4</td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td>8</td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td>7</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	m	n	b = 2mn	a = m² - n²	c = m² + n²	Pythagorean Triplets	2	1	4	3	5	(3, 4, 5)	3	1	6	8	10	(6, 8, 10)	3	2					4	1					4	2					4	3					5	1					5	2					5	3					5	4					6	5					7	6					8	4					9	8					10	7				
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S. No.	Name of the Lesson	Title of the Project
7	Frequency Distribution Tables and Graphs	<ol style="list-style-type: none"> 1. Collect different kinds of data (heights of students, marks of students etc.,) and prepare a grouped frequency distribution table and find greater than cumulative frequency and less than cumulative frequency. 2. Collect the information (like marks/runs scored in a cricket game/ weights etc.,) and write it in the form of grouped data and draw frequency polygon, frequency curve, less than cumulative frequency curve and greater than cumulative frequency curve. (Teacher may allot this project by splitting)
8	Exploring Geometrical Figures	<ol style="list-style-type: none"> 1. Collect different types of geometrical figures and draw all possible lines of symmetry. Observe the point symmetry for these figures and write all the symmetries in a tabular form. 2. Draw different types of geometrical figures on graph sheets and then draw its dilations. 3. Collect some congruent figures/mirror images and prepare tessellations.
9	Area of Plane Figures	<ol style="list-style-type: none"> 1. Identify the field which is in the shape of Hexagon and measure the dimensions. Draw the picture of it on a chart and find the area of that field. 2. Find the formula for area of a circle in any one/two methods and find the area of any circular shaped field in your surroundings. 3. Collect different types of pictures contained shaded region and find the area of shaded region.
10	Direct and Inverse Proportions	<ol style="list-style-type: none"> 1. Collect some daily life situations and prepare some problems related to direct and inverse proportions (like no. of articles and its cost, no. of students and quantity of rice required to them, time and distance, men and work) and solve these if one item increased and decreased.
11	Algebraic Expressions	<ol style="list-style-type: none"> 1. Prove the identities by using models 2. Multiplication of algebraic expressions by taking some daily life situations (monomial/binomial/trinomial)
12	Factorization	<ol style="list-style-type: none"> 1. Collect some algebraic expressions of 2nd degree and factorize them by using different methods. 2. Verify the Gold Bach conjecture upto 100 numbers.
13	Visualizing 3D in 2D	<ol style="list-style-type: none"> 1. Collect some 3D figures and represent them on isometric dot sheet and verify Euler's formula ($V+F=E+2$) by using tabular form.
14	Surface Areas and Volumes	<ol style="list-style-type: none"> 1. Collect some cube and cuboid shaped boxes and find the formula for Lateral Surface Area and Total Surface Area. Find LSA and TSA by measuring the dimensions. 2. Collect some cube and cuboids shaped boxes and find the formula for its Volume and find volumes by measuring the dimensions.
15	Playing with Numbers	<ol style="list-style-type: none"> 1. Prepare a chart of divisibility rules with examples. 2. Collect different types of puzzles and number games and write on a chart.

LESSON WISE ASSIGNMENTS

UNIT – 1 : RATIONAL NUMBERS

ASSIGNMENT – 1

01. Name the Property involved in the following

$$(i) \quad \left(\frac{5}{8}\right) + 0 = \frac{5}{8} = 0 + \left(\frac{5}{8}\right)$$

$$(ii) \quad 4 \left[\left(\frac{5}{3}\right) + \left(\frac{2}{5}\right) \right] = 4 \left(\frac{5}{3}\right) + 4 \left(\frac{2}{5}\right)$$

$$(iii) \quad \left(\frac{7}{3}\right) \times 1 = \frac{7}{3} = 1 \times \left(\frac{7}{3}\right)$$

$$(iv) \quad \left(\frac{-5}{2}\right) \times 1 = \left(\frac{-5}{2}\right) = 1 \times \left(\frac{-5}{2}\right)$$

$$(v) \quad \left(\frac{5}{2}\right) + \left(\frac{3}{7}\right) = \left(\frac{3}{7}\right) + \left(\frac{5}{2}\right)$$

$$(vi) \quad \left(\frac{2}{5}\right) \times \left(\frac{7}{3}\right) = \frac{14}{15}$$

$$(vii) \quad 11a + (-11a) = 0$$

$$(viii) \quad b \times \left(\frac{1}{b}\right) = 1 \quad (b \neq 0)$$

$$(ix) \quad (7 \times c) + (7 \times 6) = 7 \times (c + 6)$$

02. Write 10 rational numbers between $\frac{-3}{4}$ and $\frac{5}{6}$

ASSIGNMENT – 2

01. Express the following on Number Line.

$$\frac{5}{7}; \frac{4}{3}; \frac{5}{7}; \frac{3}{5}; \frac{4}{3}; \frac{-7}{4}; \frac{3}{5}$$

02. Express the decimals $\frac{-7}{4}$ 0.6, 4.5, 1.42 and 1.732 on Number Line.

ASSIGNMENT – 3

01. Express each of the following in the rational form.

a) 0.5757.....

b) 0.72929.....

02. Find the area of rectangular park which is $18\frac{3}{5}$ m long and $8\frac{2}{3}$ m broad.

UNIT – 2 : LINEAR EQUATIONS IN ONE VARIABLE**ASSIGNMENT – 1**

1. A man left One-Fourth of his money to his wife, Two Fifth to his Son and donated balance amount of Rs. 2100 to a Charitable Fund. How much money did he have? How much money was received by his wife son separately?
2. Arjun is twice as old as Shriya. Five years ago his age was three times Shriya's age. Find their present age.

ASSIGNMENT -2

Solve the following equations:

$$(i) \frac{x-3}{5} + \frac{x-4}{7} = 6 - \frac{2x-1}{35}.$$

- (ii) If train runs at 40 km/ph it reaches its destination late by 11 minutes but if it runs at 50 km/ph it is late by 5 minutes only. Find the distance to be covered by the train?

UNIT – 3 : CONSTRUCTION OF QUADRILATERALS**ASSIGNMENT -1**

1. Construct a Parallelogram ABCD in which AB = 4cm, BC= 3cm, $\angle A = 60^\circ$.
2. Construct a Rhombus ABCD in which AC = 7cm, and BD = 5cm.

UNIT – 4 : EXPONENTS AND POWERS**ASSIGNMENT -1**

1. Express the number appearing in the following statements in standard form.
 - (i) Charge of Electron is 0.000,000,000,000,000,16 coulomb.
 - (ii) An ounce of gold contains approximately 865000000000000000000 atoms.
 - (iii) The unit measure of wave length is called the `Angstrom`, denoted by

$$A^c = \frac{1}{10000000000} \text{ metres.}$$

ASSIGNMENT - 2

1. Simplify the following

$$\frac{5}{6} \left[\left(\frac{9}{11} \right)^{-3} \times \left(\frac{9}{11} \right)^{-7} \right] \div \left(\frac{9}{11} \right)^{-3} \quad \left[\left\{ (-2/3)^{-3} \right\}^{-4} \right]^{-2}$$

2. Simplify:

(i) $(25 \times t^{-4}) / (5^{-3} \times 10 \times t^{-8})$

(ii) $(3^{-5} \times 10^{-5} \times 125) / (5^{-7} \times 6^{-5})$

UNIT – 5 : COMPARING QUANTITIES USING PROPORTION

ASSIGNMENT - 1

1. Find the ratio of number of vowels in the word 'MISSISSIPPI' to the number of consonants in the simplest form.
2. A farmer obtained a yielding of 1720 bags of cotton last year. This year she expects her crop to be 20% more. How many bags of cotton does she expect this year?

ASSIGNMENT - 2

1. A table was sold for Rs. 2142 at a gain of 5%. At what price should it be sold to gain 10%?
2. In a laboratory the count of bacteria in a certain experiment was increasing at the rate of 2.5% per hour. Find the bacteria at the end of 2 hours if the count was initially 5,06,000.

UNIT – 6 : SQUARE ROOTS AND CUBE ROOTS

ASSIGNMENT - 1

1. Estimate the value of the following numbers to the nearest whole number.

(i) $\sqrt{250}$

(ii) $\sqrt{780}$

2. A gardener wishes to plant 8289 plants in the form of a square and found that there were 8 plants left. How many plants were planted in each row.

ASSIGNMENT - 2

1. Find the cube root of the following.
 - (i) 2197
 - (ii) 5832
2. Ravi made a cuboid of plastic of dimensions 12 cm, 8 cm and 3 cm. How many minimum numbers of such cuboids will be needed to form a cube?

UNIT – 7 : FREQUENCY DISTRIBUTION TABLES AND GRAPHS**ASSIGNMENT-1**

1. 100 plants each were planted in 100 schools during Vana mahotsav. After one month, the number of plants that survived recorded as:

95 67 28 32 65 65 69 33 98 96
 76 42 32 38 42 40 40 69 95 92
 75 83 76 83 85 62 37 65 63 42
 89 65 73 81 49 52 64 76 83 92
 93 68 52 79 81 83 59 82 75 82
 86 90 44 62 31 36 38 42 39 83
 87 56 58 23 35 76 83 85 30 68
 69 83 86 43 45 39 83 75 66 83
 92 75 89 66 91 27 88 89 93 42
 53 69 90 55 66 49 52 83 34 36

Construction a frequency distribution table for the above data by using inclusive class intervals and find Greater than Cumulative Frequency and Less than Cumulative Frequency.

ASSIGNMENT-2

1. A random survey of the number of children of various age group playing in a park was found as follows.

Section - A		Section - B	
Marks	Frequency	Marks	Frequency
0 – 10	3	0 – 10	5
10 – 20	9	10 – 20	19
20 – 30	17	20 – 30	15
30 – 40	12	30 – 40	10
40 – 50	9	40 – 50	1

Draw a Histogram to represent the data above. And draw the frequency polygon by using the Histograms.

2. The following table gives the distribution of students of two sections according to the marks obtained by them:

Age (in years)	Number of children
1 - 2	5
2 - 3	3
3 - 5	6
5 - 7	12
7 -10	9
10 -15	10
15 -17	4

Represent the marks of the students of both the sections on the same graph by two Ogives. From these two ogives, compare the performance of the two sections.

UNIT – 8 : EXPLORING GEOMETRICAL FIGURES

ASSIGNMENT-1

1. Draw a polygon on a square dot sheet. Also draw congruent figures in different directions and mirror image of it.
2. Draw a Quadrilateral of any measurement. Construct a dilation of scale factor 3. Measure their corresponding sides and verify whether they are similar?

ASSIGNMENT-2

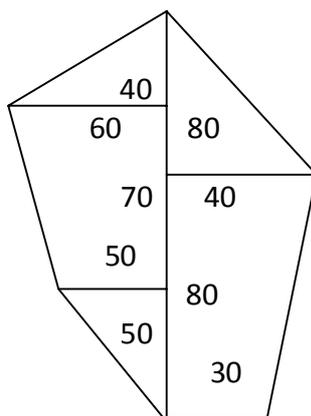
1. Draw three tessellations and name the basic shapes used on your tessellation.

UNIT – 9 : AREA OF PLANE FIGURES

ASSIGNMENT-1

1. The floor of a building consists of around 3000 Tiles which are Rhombus Shaped and each of its diagonal s are 45 cm and 30 cm in length. Find the total cost of the flooring if each tile costs Rs. 20 per m².

2. Find the area of the following field.



- Four equal circles each of radius 'a' touch one another. Find the area between them.
- A horse is placed for grazing inside a rectangular field 70 m by 52 m and is tethered to one corner by a rope 21 m long. How much area can it graze?

UNIT – 10 : DIRECT AND INVERSE PROPORTIONS

ASSIGNMENT-1

- 5 pumps are required to fill a tank in $1\frac{1}{2}$ hours. How many pumps of the same type are used to fill the tank in half an hour?
- 24 men working at 8 hours per day can do a piece of work in 15 days. In how many days 20 men working at 9 hours per day do the same work.

UNIT – 11 : ALGEBRAIC EXPRESSIONS

ASSIGNMENT-1

- Find the values of the following by using identities.
(i) 505^2 (ii) 397^2 (iii) $588^2 - 12^2$ (iv) 502×508

UNIT – 12 : FACTORISATION

ASSIGNMENT-1

- Factorise the algebraic expression. $15y^2z^3 - 20y^3z^4 + 35y^2z^2$
- Find the values of m for which $x^2 + 3xy + x + my - m$ as two linear factors in x and y with integer coefficients.
- Factorise the expression and divide them as directed.
(i) $15ab(a^2 - 7a + 10) \div 3b(a - 2)$
(ii) $15lm(2p^2 - 2q^2) \div 3l(p + q)$

ASSIGNMENT-2**UNIT – 13 : VISUALIZING 3 - D IN 2 - D**

1. Complete the following table and verify 'Euler's Relation'.
2. Draw any 3-D Shape in our daily life on a Isometric Dot Sheet

UNIT – 14 : SURFACE AREAS AND VOLUME (CUBE AND CUBOID)**ASSIGNMENT-1**

1. Find the cost of painting of a cuboid with dimensions 20 cm x 15 cm x 12 cm at the rate of Rs.5 per square meter.
2. How many cubes of edge 4 cm, each can be cut out from cuboid whose length, breadth and height are 20 cm, 18 cm and 16 cm respectively.

UNIT – 15 : PLAYING WITH NUMBERS**ASSIGNMENT-1**

1. Is $1^{11} + 2^{11} + 3^{11} + 4^{11}$ divisible by 5? Explain?
2. If 21358AB is divisible by 99, find the values of A and B.
3. Find the sum of integers from 1 to 100 which are divisible by 2 or 3.

Name of the Object	Number Faces (F)	Number of Vertices (V)	Number of Edges (E)	F + V	E + 2
Cube					
Cuboid					
Pentagonal Prism					
Tetrahedron					
Pentagonal Pyramid					
Octahedron					
Dodecahedron					



MODEL PROJECTS FOR
PHYSICAL SCIENCE
CLASS - VIII

Science projects –(Physical science) **Steps in project Method**

1. Title of the project : Think of something creatively and catchy
2. Purpose of the project : explain why you are doing investigation in 1,2 lines
3. Hypothesis : if ,so that,
4. Materials : Name the all materials which u using in this project
5. Procedure: Explain your experiment step by step.
6. Precautions: While doing some projects for safety & accurate result teachers and pupils will take require precautions.
7. Interpretation of the student: after completion of the project pupils interpret about project observations.
8. Conclusion: after completion of the project pupils come to one conclusion on given hypotheses, phenomena about the project.
9. Project Report format

Detailed information of the project report

1. Title of the project:
2. Objectives of the project:
3. Tools : Observations /experimentation /Interview check lists / Questionnaire/ survey, Etc...
4. Material/sources required:
5. Procedure:
 - a) Interdiction
 - b) Process
 - c) Data/tables /Graphical representation /mini nature Model/diagrams
 - d) Analysis
 - e) Conclusion /Result
6. Experiences of the students:
7. Doubts/questions:
8. Acknowledgements:
9. References books/Websites/other Sources:
(Used by the students)
10. Signature of the students:

MODEL PROJECT-1

Title of the project: Photo collection and exhibition on earth Quake.

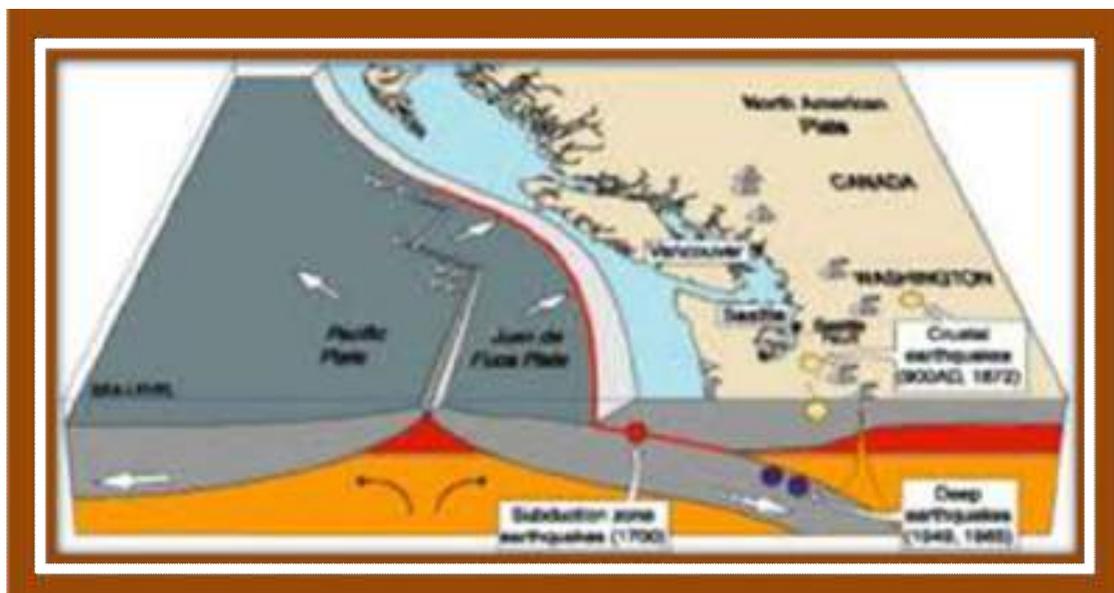
Purpose of the project :

The main objectives are to educate & aware the public about earthquakes and volcanic activities and their impact on humans.

Source Require for this project: - Internet, News papers, and science magazine, Photo galleries boards, pointer, stipples.

Details of procedure followed: we collected photos of earth quake, tsunami, and landslides with relevant information.

Earthquakes:



The outermost layer of the earth is not in one pie cue. It is fragmented. Each fragment is called a plate. These plates are in continual motion. When they brush past one another, or a plate goes under another due to collision, they cause disturbance in the earth's crust. It is this disturbance that shows up as an earthquake on the surface of the earth.

Measuring and locating earthquakes

Earthquakes can be recorded by seismometers up to great distances, because seismic waves travel through the whole Earth's interior. The absolute magnitude of a quake is conventionally reported by numbers on the moment magnitude scale (formerly Richter scale, magnitude 7 causing serious damage over large areas), whereas the felt magnitude is reported using the modified Marcella intensity scale.



Every tremor produces different types of seismic waves, which travel through rock with different velocities:

- Longitudinal P-waves (shock- or pressure waves)
- Transverse S-waves (both body waves)
- L-waves — (Rayleigh and Love waves)

Propagation velocity of the seismic waves ranges from approx. 3 km/s up to 13 km/s, depending on the density and elasticity of the medium. In the Earth's interior the shock- or P waves travel much faster than the S waves (approx. relation 1.7: 1). The differences in travel time from the epicenter to the observatory are a measure of the distance and can be used to image both sources of quakes and structures within the Earth. Also the depth of the hypocenter can be computed roughly.

In solid rock P-waves travel at about 6 to 7 km per second; the velocity increases within the deep mantle to ~13 km/s. The velocity of S-waves ranges from 2–3 km/s in light sediments and 4–5 km/s in the Earth's crust up to 7 km/s in the deep mantle. As a consequence, the first waves of a distant earthquake arrive at an observatory via the Earth's mantle.

On average, the kilometer distance to the earthquake is the number of seconds between the P and S wave times 8. Slight deviations are caused by inhomogeneities of subsurface structure. By such analyses of seismograms the Earth's core was located in 1913 by Beno Gutenberg.

Earthquakes are not only categorized by their magnitude but also by the place where they occur. The world is divided into 754 Flinn–Engdahl regions (F-E regions), which are based on political and geographical boundaries as well as seismic activity. More active zones are divided into smaller F-E regions whereas less active zones belong to larger F-E regions.

Standard reporting of earthquakes includes its magnitude, date and time of occurrence, geographic coordinates of its epicenter, depth of the epicenter, geographical region, distances to population centers, location uncertainty, a number of parameters that are included in USGS earthquake reports (number of stations reporting, number of observations, etc.), and a unique event ID.

Effects of earthquakes

The effects of earthquakes include, but are not limited to, the following:

1. Shaking and ground rupture



Shaking and ground rupture are the main effects created by earthquakes, principally resulting in more or less severe damage to buildings and other rigid structures. The severity of the local effects depends on the complex combination of the earthquake magnitude, the distance from the epicenter, and the local geological and geomorphologic conditions, which may amplify or reduce wave propagation. The ground-shaking is measured by ground acceleration.

Specific local geological, geomorphologic and geo structural features can induce high levels of shaking on the ground surface even from low-intensity earthquakes. This effect is called site or local amplification. It is principally due to the transfer of the seismic motion from hard deep soils to soft superficial soils and to effects of seismic energy focalization owing to typical geometrical setting of the deposits.

Ground rupture is a visible breaking and displacement of the Earth's surface along the trace of the fault, which may be of the order of several meters in the case of major earthquakes. Ground rupture is a major risk for large engineering structures such as dams, bridges and nuclear power stations and requires careful mapping of existing faults to identify any which are likely to break the ground surface within the life of the structure.

Landslides and avalanches



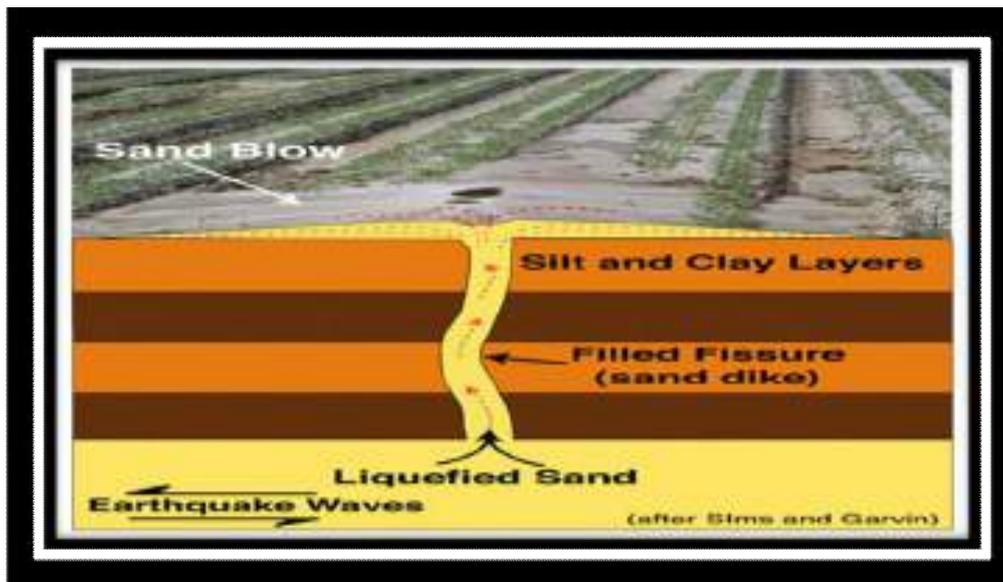
Earthquakes, along with severe storms, volcanic activity, and coastal wave attack, and wildfires, can produce slope instability leading to landslides, a major geological hazard. Landslide danger may persist while emergency personnel are attempting rescue.

3. Fires



Earthquakes can cause fires by damaging electrical power or gas lines. In the event of water mains rupturing and a loss of pressure, it may also become difficult to stop the spread of a fire once it has started. For example, more deaths in the earthquake were caused by fire than by the earthquake itself.

4. Soil liquefaction



Soil liquefaction occurs when, because of the shaking, water-saturated granular material (such as sand) temporarily loses its strength and transforms from a solid to a liquid. Soil liquefaction may cause rigid structures, like buildings and bridges, to tilt or sink into the liquefied deposits. For example, in the 1964 Alaska earthquake, soil liquefaction caused many buildings to sink into the ground, eventually collapsing upon them.

5. Tsunami



Tsunamis are long-wavelength, long-period sea waves produced by the sudden or abrupt movement of large volumes of water. In the open ocean the distance between wave crests can surpass 100 kilo meters (62 mi), and the wave periods can vary from five minutes to one hour. Such tsunamis travel 600-800 kilo meters per hour (373–497 miles per hour), depending on water depth. Large waves produced by an earthquake or a submarine landslide can overrun nearby coastal areas in a matter of minutes. Tsunamis can also travel thousands of kilo meters across Open Ocean and wreak destruction on far shores hours after the earthquake that generated them. Ordinarily, earthquakes under magnitude 7.5 on the Richter scale do not cause tsunamis, although some instances of this have been recorded. Most destructive tsunamis are caused by earthquakes of magnitude 7.5 or more.

Floods



A flood is an overflow of any amount of water that reaches land.[Floods occur usually when the volume of water within a body of water, such as a river or lake, exceeds the total capacity of the formation, and as a result some of the water flows or sits outside of the normal perimeter of the body. However, floods may be secondary effects of earthquakes, if dams are damaged. Earthquakes may cause landslips to dam rivers, which collapse and cause floods. The terrain below the Suarez Lake in Tajikistan is in danger of catastrophic flood if the landslide dam formed by the earthquake, known as the Usoi Dam, were to fail during a future earthquake. Impact projections suggest the flood could affect roughly 5 million people.

Human impacts



An earthquake may cause injury and loss of life, road and bridge damage, general property damage, and collapse or destabilization (potentially leading to future collapse) of buildings. The aftermath may bring disease, lack of basic necessities, mental consequences such as panic attacks, depression to survivors, and higher insurance premiums.

Photo Gallery







Precautions



Scientific precautions:

1. Many methods have been developed for predicting the time and place in which earthquakes will occur. Despite considerable research efforts by seismologists, scientifically reproducible predictions cannot yet be made to a specific day or month. However, for well-understood faults the probability that a segment may rupture during the next few decades can be estimated.
2. Earthquake warning systems have been developed that can provide regional notification of an earthquake in progress, but before the ground surface has begun to move, potentially allowing people within the system's range to seek shelter before the earthquake's impact is felt.
3. Construct buildings by the qualified structural engineers. Material used like mud or timbre is better than heavy constructed material.

**** Above steps decrease the damage of the natural calamity like earthquake**

General precautions:

1. Take shelter under a table and stay there till shaking stops.
2. Stay away from tall and heavy objects that may fall on you.

3. Find a clear spot, away from buildings, trees and over head power lines. Drop to the ground.
4. Be care full where you hang wall clocks, photo – frames, water heaters etc., so that in the event of an earthquake, they do not fall on people.

Conclusion:

1. After completion of the project we may know how to save our lives from earth quakes.
2. We may cautious about seismic alerts, it may prevent more damages.
3. Behavior of the animal's also one precautionary indicator of earthquake / tsunami alert.
4. We may choose right place at the time of earthquake.

Project Report

Title of the project: Some natural phenomena.

Class: VIII

Subject: Physical science

Time frame: 10 days

Materials/sources used tools: internet, news papers viii -class Physical science text book

Details of procedure followed: we collected the data from metrological stations, internet, news papers and various sources and consolidating the data & analysing and made report with photo exhibition

Findings Observations:-we knew Richter magnitudes and effects of the earthquake in that magnitude.

We noticed the problems of earth quake victims like water, food and medical help and shelter and transportation.

After analysing the data we were aware about precautionary actions at the time of earth quake.

Experiences faced:-like many other scales in science Richter scale is not linear. The power of an earth quake is expressed In terms of magnitude on a scale Students may know consequence of the earth quake and measures to protect from earth quakes.

Project Outcome: We share our experiences with teachers, class mates and parents. We get the ability of problem solving and research nature in our daily life. Our project team submitted the project to the school.

Name of the group members and work allotment:-

SL. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D (Team Leader)	
5.	E	

Date of Submission :

Signature :

MODEL PROJECT-2

Title of the project: Friction is both a friend and an evil in our daily life.

Purpose of the project: Explore the How can friction be both a positive and negative aspects in our everyday lives and different technological fields with power point presentation..

Hypothesis: Friction can be show different effects both negative and positive effects in different fields.

Source Require for this project: Computer with net facility, Academy books, News papers and Magazines etc.,

Details of procedure followed: We are collected information from different sources about positive and negative effects of friction in different technology fields and daily life from different source. And according to gathered information they will prepare a power point presentation with the guidance of faculty.

Advantages of friction:

1. Friction enables us to walk without slipping

- ▣ It is because of the friction between the sole of the shoe and ground prevents us from slipping.
- ▣ While walking , we push the ground backwards and the force of friction acts in the opposite direction (i.e. in the forward direction) and prevents us from slipping. By making the balance.

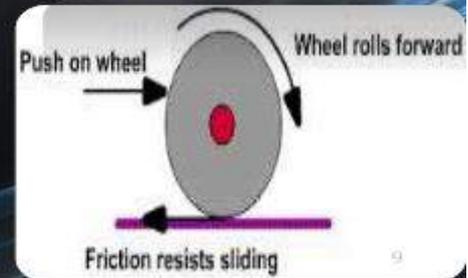
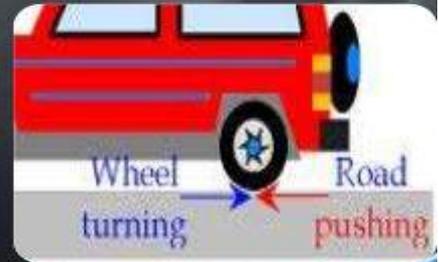
20/02/2014

Advantages and Disadvantages of Friction



2. Friction enables a car to move on road without skidding

- It is because of the friction between the tyres of car and the road which enables car to move forward without skidding.
- If there were no friction, car would stay where it was.

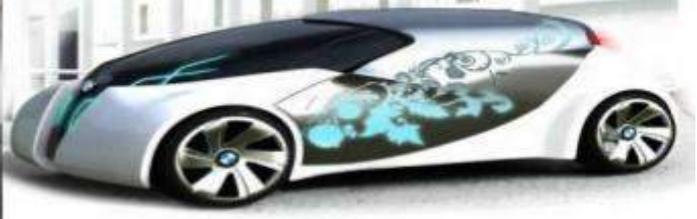


20/02/2014

Advantages and Disadvantages of Friction

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Car move due to the friction



20/02/2014

Advantages and Disadvantages of Friction

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2. Friction enables a car to move on road without skidding

- ▣ It becomes sometimes difficult to drive and control car on wet road.
- ▣ This is because of water present on road reduces friction.



20/02/2014

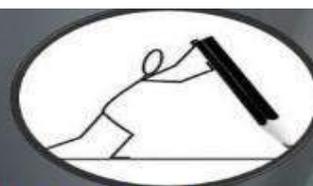


Advantages and Disadvantages of Friction



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3. Friction Enables Us to Write and Draw on Paper



- ▣ It is because of the friction between the tip of the pencil (or pen) and paper.
- ▣ Carbon particles from the pencil lead rubs off from it, due to the friction, which appears as black marks on the paper.



20/02/2014

Advantages and Disadvantages of Friction



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4. Friction Enables Us to Pick Up and Hold Things in Our Hands



- ▣ We can hold a glass tumbler in our hands because of friction between the tumbler and our hands.
- ▣ Similarly, we can pick up the books laying on the desk by our hands.



5. Friction Enables us to Light a Matchstick



- ▣ Friction also produces heat.
- ▣ We rub matchstick against the rough side of a matchbox, then friction between both of them produces heat and this heat burns chemicals present at the head of matchstick and it lights up.



Above all examples with neat diagrams with the help of internet and magazines indicates the friction is necessary evil.

Disadvantages of friction

1. Friction Wears Away the soles of Our Shoes

- ▣ When we walk on the road, tiny surfaces of the shoe keep on breaking off slowly due to which the soles of our shoes wear out slowly
- ▣ Due to which shoes get damaged and becomes unfit to wear.



Effect to Tyres Due to Friction

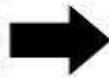


3. Friction wears Out the Brake Pads of Vehicles Gradually



- ▣ Brake pad is made of rubber
- ▣ When the brakes of the vehicles are applied a lot of friction is produced
- ▣ Friction wears out the brake pads gradually

Before -



After



20/02/2014

Advantages and Disadvantages of Friction

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4. Friction wears Out Steps Of Staircases in Building and Foot Over-Bridges



- ▣ The friction between the soles of the shoes and wear away hard stone steps slowly.
- ▣ Such type of staircase are usually seen at :
 - Railway station
 - Offices
 - Old Buildings



20/02/2014

Advantages and Disadvantages of Friction

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5. Friction Slows Down Motion

- ▣ Friction reduces the motion of moving parts of a machine . In fact all the moving things such as (cars , buses, airplanes, boats, ships ,etc.) are slowed down by friction.

Project Report

Name of the project: Friction is both a friend and an evil in our daily life. (PPT)

Class: VIII

Subject: - Physical science

Time frame:-2 days

Materials/sources used: VIII-class P. science text book, Internet, Computer lab, storage devise like pen drive /CD, projector

Details of procedure followed:

1. We collected information about friction
2. We collected pictures from internet
3. We consolidated & analysed data and make PPT.

Findings& Observations:-

1. We explored about friction uses and drawbacks with pictures.
2. We noticed the scientific use of friction in day to day life.
3. We understood the utilization of friction in daily life.
4. We understood to reducing friction to the lowest possible level in machine tools solves the problem of energy crisis and save biodiversity.

Experiences faced: We thrilled about usage of friction in daily life.

Project Outcome: We share our experiences with teachers, class mates and parents. We get the ability of problem solving and research nature in our daily life. Our project team submitted the project report along with the project base developed science PPT to the school.

Name of the group members and work allotment:-

SL .No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

MODEL PROJECT-3

Title of the project: Grade Thermo plastics and thermosetting plastics.

Purpose of the project: To Discriminate the Thermo plastics and thermosetting plastics according to their physical properties.

Hypothesis: Which will soften when heated and harden when cooled a thermoplastic, and thermosetting plastics are when molded in to a shape and allow cooling down will remain in molded form and will not change the shape when heat again.

Materials Require for this project:- Sprit lamp, pair of tongs, Samples of plastic Tooth brush handle, comb, pieces of bucket, handle of utensil, electric switch, meals plate, coffee mug.

Details of procedure followed: We are collected different types of plastic peaces in their regular life usages to check the differences according to the physical properties pupil will be set as a two groups, and they start the experiment as fallow.

Take a sprit lamp and light it, clamp one piece of plastic with tongs and place it on sprit lamp flam and observe the changes during the burning of sample. Note the observation like whether sample is being softened or burnt with smell or become hard etc. Repeat the procedure with other samples and record your observations sample wise and frame it as table. According to the observations pupil will divide the samples according to their physical properties which is Thermo plastics and which is thermosetting plastics.

SL. No	Name of the Plastic Sample	Softened/burnet with burning sample and become hard	Thermoplastic/thermosetting plastic.
1	Tooth brush handle		
2	Comb		
3	Piece of bucket		
4	Handle of utensil		
5	Electric switch		
6	Meals plate		
7	Coffee mug		

Note:- Some of the samples which pupils collected were not even plastics that time they were might be in confusion.

Precaution:- while doing this activity if needed cover your nose and mouth with a mask to avoid breathing fumes

Conclusion:-According to this observations pupil identify the different plastics.

Project Report

Name of the project: Grade Thermo plastics and thermosetting plastics

Class: VIII

Subject: - Physical science

Time frame:-7 days

Materials/sources used: VIII-class P. science text book, Internet, Computer lab,

Details of procedure followed:

1. We collected some plastic pieces
2. We grade those plastic pieces as two parts according to characteristics Thermo plastics and thermosetting plastics
3. We tested all pieces on lamp and prepare a result report.

Findings& Observations:-

1. We knew about difference between Thermo plastics and thermosetting plastics.
2. We noticed the use of Thermo plastics, thermosetting plastic in day to day life.

Experiences faced:

We easily differentiate plastics.

Project Outcome: We share our experiences and uses of Thermo plastics and thermosetting plastics with teachers, class mates and parents. We got the ability of problem solving and research nature in our daily life. Our project team submitted the project report.

Name of the group members and work allotment:-

SL. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

MODEL PROJECT-4

Poster making on plastic pollution

Title of the project: - : Collect the information regarding disadvantages of plastics & poster making conduct exhibition

Purpose of the project:- Making poster to campaign against plastic usage

Source Materials require for this project: - Different articles, big chart gum some clip art regarding to plastic usage.

Hypothesis:- Plastic waste accumulated in landfills causes a lot of soil pollution over the years since them are Non-bio degradable.

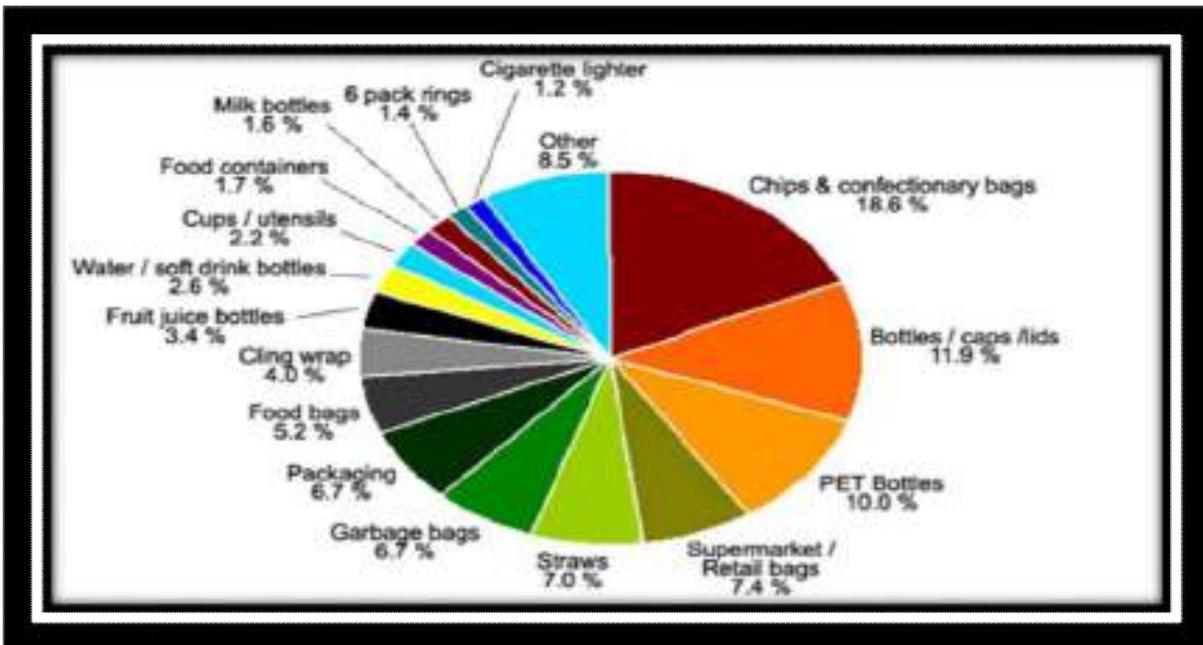
Details of procedure followed:: Pupil will collect some clip art .and make them arrange in a proper way and collect some information and pictures about plastic pollution and paste them on a display Board and they make one slogan and write down bottom of the display board, and they start campaign against plastic usage.

Here are a few points that you can consider while designing your poster:

- Plastic once manufactured cannot be destroyed in any way. Because of this plastic has affected our live-in many ways. To list a few,
- Plastic waste accumulated in landfills causes a lot of soil pollution over the years since they are non-biodegradable.
- When plastic is burnt, the harmful fumes enter into the atmosphere and have direct effect upon someone who breathes it. And so, NO! We cannot eliminate plastic by burning it.
- Plastic also finds its way into drains and sewage pipes, clogging them; more often than not, this may lead to water pollution directly and/or indirectly.
- Animals sometimes, feed on plastic and die painfully as plastic chokes their digestive and respiratory tracts. This is a very serious concern in many countries worldwide.
- There have also been incidents of little children suffocating while playing with plastic bags and toys. The 'facts' mentioned above are only a few examples of what plastic can do. It's time that we wake up and stop this menace. Since it is obvious that plastic cannot be eliminated completely, we must at least try and reduce our dependency on it. A little good deed to keep our planet clean and safe isn't too much of us asking, is it? We can take several measures to minimize the use of plastic. Let us try and practice them whenever possible.
- Avoid accepting plastic bags when you finish shopping. Instead, carry a paper or a jute bag with you when you go shopping.
- Avoid disposing of plastic along with organic wastes. Do not throw waste food in plastic bags or containers. You might just save a life.
- Avoid using plastic chairs or tables; you could use wood/metal instead. Plastic is made from crude oil. So lesser usage of plastic also means lesser demand for crude oil products.
- Do not dispose plastic which can be recycled. That's another means to reduce production of more plastic.
- You can use plastic bottles to store buttons, nails, coins and several such items.







Percentage of Plastic pollution in graphical representation

THINK WHAT WILL HAPPEN IF WE CONTINUE USING PLASTIC?



Interpretation of the pupil: In the time of display of the project in class room, Pupil will interpret on above shown images.

Conclusion: Above project helps to the public, impact of plastics on nature and human beings.

Project Report

Name of the project: Collect the information regarding disadvantages of plastics & poster making conduct exhibition

Class: VIII

Subject:- Physical science

Time frame:-2 days

Materials/sources used: VIII-class P. science text book, Internet, Computer lab, news papers, big chart, glue

Details of procedure followed:

1. We collected some pictures about plastic pollution in different areas.
2. We past them on a charts and we made some slogans against plastic pollution
3. We conduct a exhibition at school to aware students and people.

Findings& Observations:-

1. We understood about plastic pollution.
2. We noticed its impact on animals and nature.
3. We noticed the danger of plastic usage.

Experiences faced: while collecting data we get detailed information about plastic pollution

Project Outcome: We share our experiences with teachers, class mates and parents while presenting photo posters and slogans. We got the ability of problem solving and research nature in our daily life. These posters were aware students and people. Our project team submitted the project report.

Name of the group members and work allotment:-

SL. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
5.	E (Team leader)	

Date of submission:

Signatures

MODEL PROJECT-5

Title of the project: Classification of metals and non-metals by electric conductivity.

Purpose of the project: identify metals and non metals.

Hypothesis: All metals will not be equal electric conductivity.

Materials Require for this project:- 1.5 Volt D.C bulb ,Battery cells -2 No's (1.5V), Wires, different substances (Copper, Iron, Aluminum, Sulphur, rubber thread , carbon, Iodine and mercury etc.,)

Procedure: Arrange an electric circuit with a battery and bulb. Close the circuit using an iron nail, as shown in figure. And perform the same experiment using with different materials and Observe whether the bulb glows or not and record your observation in below table.

SL. No	Name of the Sample	Does the bulb glow (yes/No)
1	Iron	Yes
2	aluminum	Yes
3	Copper	Yes
4	Sulphur	NO
5	Carbon	No
6	Iodine	No
7	rubber	No
8	Mercury	yes



Conclusion: - In the time of display of the project in the class room , Pupil will interpret on above shown images . According to the observations pupil identify which are metals and non metals.

Project Report

Name of the project: Classification of metals and non-metals by electric conductivity

Class: VIII

Subject: - Physical science

Time frame:-2 days

Materials/sources used: 1.5 Volt D.C bulbs, Battery cells -2 No's (1.5V), Wires, different substances (Copper, Iron, aluminium, sulphur, rubber thread, carbon, Iodine and mercury etc.)

Details of procedure followed: We arrange an electric circuit with a battery and bulb. Close the circuit using an iron nail, as shown in figure. And perform the same experiment using with different materials and Observe whether the bulb glows or not record your observation in table.

Findings& Observations:-

1. We knew all metals will not be equal electric conductivity.
2. We noticed that Sulphur, Carbon, Iodine, rubber non conductors.
3. We noticed that Iron, aluminium Copper Mercury were conductors.

Experiences faced: while conducting this experiment we enjoyed a lot.

Project Outcome: We share our experiences with teachers, class mates and parents. We got the ability of problem solving and research nature in our daily life. We conducted experiment and we recorded the result. And our project team submitted the project report.

Name of the group members and work allotment:-

Sl. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D (Team leader)	
5.	E	

Date of submission:

Signatures

MODEL PROJECT-5

Title of the project: poster making on Factors influence the Sound pollution

Purpose of the project: Explore the different situations of sound pollution with photographs. And making display board.

Materials Require and source of this project:- Internet, News paper, Magazines, Academy Text books and field investigation etc.,

Details of procedure followed :

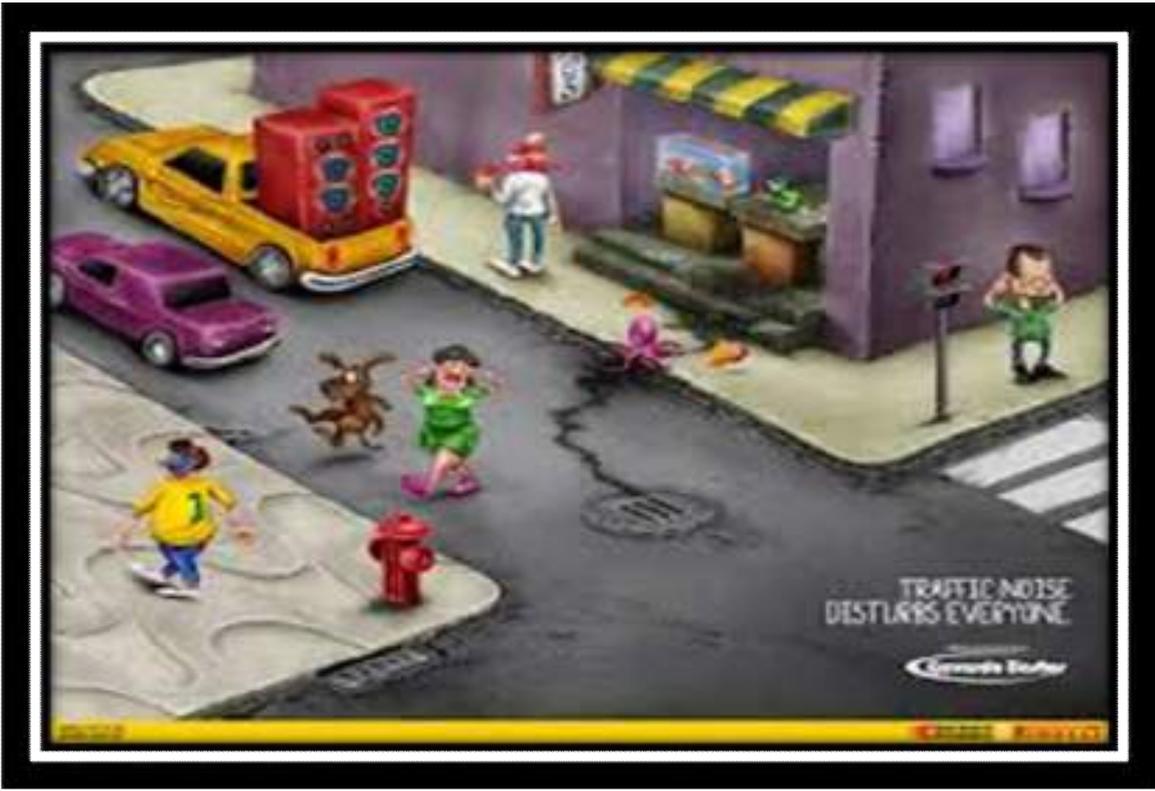
Pupil will collect the different photographs from internet and old news papers and they prepare a photo album and write their own interpretation on those visuals.

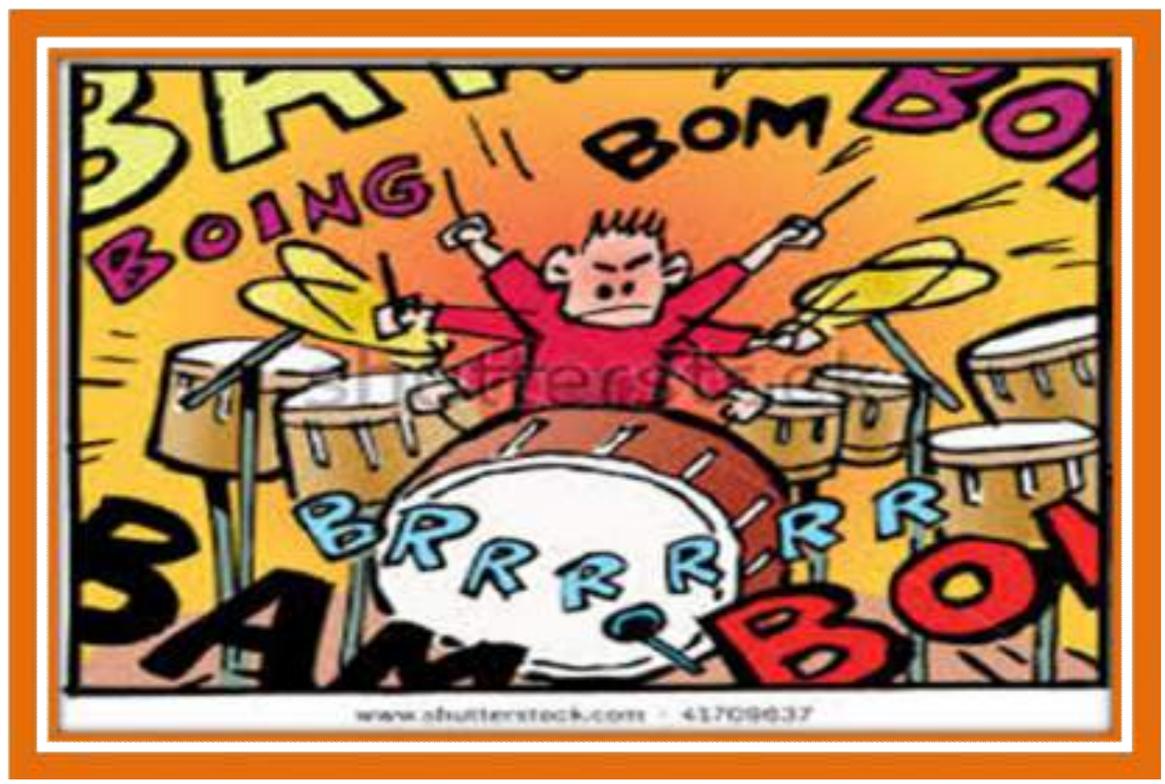
Sound pollution Pictures













Conclusion:- In the time of display of the project in class room , Pupil will interpret and Pupil understands various sound pollution sources and they try how to reduce the sound pollution their own participation.

Project Report

Name of the project: Factors influence the Sound pollution and poster making.

Class: VIII

Subject: Physical science

Time frame: 2 days

Materials/sources used: VIII-class P. science text book, Internet, Computer lab, news papers, big chart, glue.

Details of procedure followed:

1. We collected some pictures
2. We past them on charts and we made some slogans against sound pollution
3. We conduct an exhibition at school to aware students and people towards sound pollution.

Findings& Observations:

1. We knew about factors of sound pollution.
2. We noticed impact of sound pollution on human beings.

Experiences faced:-

We noticed that plants can reduced noise pollution

Project Outcome: We share our experiences with teachers, class mates and parents. We got the ability of problem solving and research nature in our daily life. We conduct a poster exhibition at school to aware students and people our project team submitted the project report.

Name of the group members and work allotment:-

SL. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D (Team leader)	
5.	E	

Date of submission:

Signatures

MODEL PROJECT-6

Comparative study of fuels

Title of the project: Data collection & Comparative study of pollutants in different fuels.

Purpose of the project: Compare a CNG run vehicle with that of a diesel run vehicle. What difference do you notice in both cases with respect to pollutants released, level of pollution and cost of fuel? Prepare a report on your findings. You can talk help from a driver to make a report on your observation.

Source and Materials Require for this project:- Internet ,News paper, PCB office/website ,petrol bunks, pollution testing centers

Procedure:- Pupil will collect the data from internet and old news papers and local mechanics and petrol bunks in investigative method and they note down the data in specific table form as mentioned below.

Name of the fuel	Quantity of fuel	Cost of the fuel	% Pollutants liberated		
			Carbon	Nitrogen	Sulphur
Petrol					
Diesel					
CNG					
Coal					
kerosene					

Interpretation of pupil:-According to above collected data pupil interpret.

Conclusion: When we presenting the comparative study of data in the class room. The pupil comes to one conclusion which is the best fuel.

Project Report

Name of the project: Data collection & Comparative study of pollutants in different fuels.

Class: VIII

Subject: Physical science

Time frame: 2 days

Materials/sources used: Internet, News paper, local mechanics, petrol bunks, Drivers.

Details of procedure followed: We Compare a CNG run vehicle with that of a diesel run vehicle. And we noticed difference in both cases with respect to pollutants released, level of pollution and cost of fuel? And we prepare a report on our findings.

Project Outcome:

Name of the fuel	Quantity of fuel	Cost of the fuel	% Pollutants liberated		
			Carbon	Nitrogen	Sulphur
Petrol					
Diesel					
CNG					
Coal					
kerosene					

We share our experiences with teachers and class mates, parents. We got the ability of problem solving and research nature in our daily life. Our project team submitted the project report.

Findings& Observations:- We choose which is best pollution free fuel

Experiences faced: While collecting information we faced little bit difficult to get information from petrol bunks and pollution testing centres.

Name of the group members and work allotment :-

SL.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D (Team leader)	
5.	E	

Date of submission:

Signatures

MODEL PROJECT-7

Graphical method

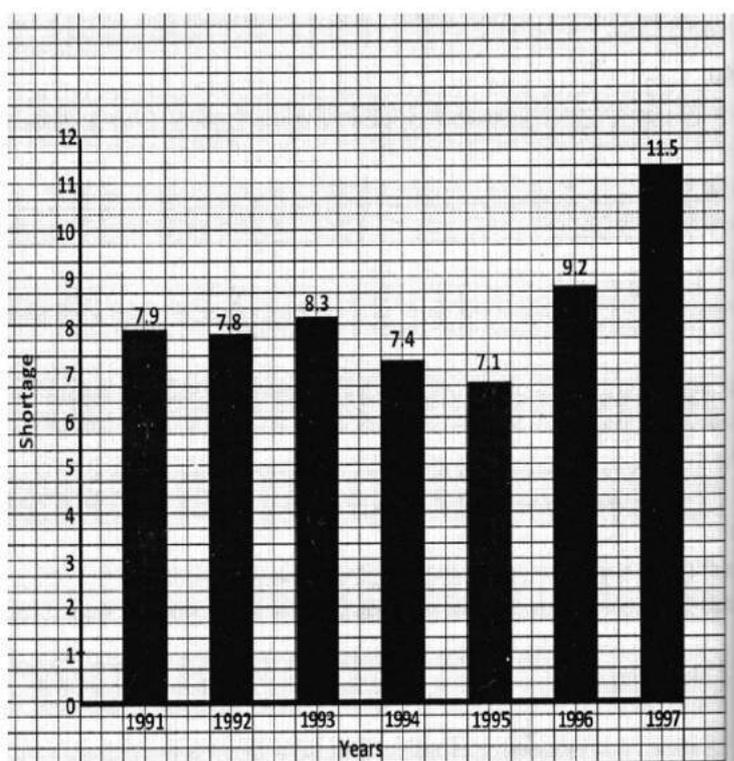
Title of the project: Investigative study on power shortage (graph method).

Purpose of the project: collect the data of total power shortage percentage in India from 1991-1997. Show the data in the form of a bar graph taking shortage percentage for the years on the Y-axis and the years on the X-axis.

Materials Require for this project:- Text book for data collection, graph paper, pencil, pen

Procedure:- We are collected the data from text book and old news papers and investigative method and they note down the data in specific table form as we mentioned below and prepare bar graph.

Sl. No	Year	Shortage (%)
1	1991	7.9
2	1992	7.8
3	1993	8.3
4	1994	7.4
5	1995	7.1
6	1996	9.2
7	1997	11.5



After that they study the graph they will answer the following questions.

- A) Is the shortage percentage of power increasing or decreasing?
- B) If shortage percentage of power increases year by year, how will it affect on human life? Explain.

Conclusion:-

After studying the above graph pupil will answer above questions successfully.

- A) Is the shortage percentage of power increasing or decreasing?

Answer:- The power shortage is not followed a regular trend. It decreased from 1991 to 1992 and then increased in 1993 and then decreased up to 1995 and then increased up to 1997 from the table given.

B) If shortage percentage of power increases year by year, how will it affect on human life? Explain.

Answer:- The effect of shortage percentage of power on human life as fallow

Agriculture: - Agriculture mainly depends on electric power for water supply. If there is no sufficient power is available then the yield of food material decreases.

Industry:- Industries mainly run with electric power. If electric power is not sufficient then it is major drawback for their production.

Economy:- Economy drastically affected by shortage of power which will also affects the economic status of people.

Project Report

Name of the Project: Investigative study on power shortage (graph method).

Class: VIII

Subject:- Physical science

Time frame:- Week days

Materials/sources used: Text book for data collection, graph paper, pencil

Details of procedure followed: We collect the data from text book and we prepare a table according to our need a we draw bar graph with using graph paper. After we studying the graph we answer the given questions.

Findings& Observations:-

We find the power shortage is not followed a regular trend. It decreased from 1991 to 1992 and then increased in 1993 and then decreased up to 1995 and then increased up to 1997 from the table given.

We observe the effect of shortage percentage of power on human life as fallow

Agriculture: Agriculture mainly depends on electric power for water for water supply. If there is no sufficient power is available then the yield of food material decreases.

Industry: Industries mainly run with electric power. If electric power is not sufficient then it is major drawback for their production.

Economy: Economy drastically affected by shortage of power which will also effects the economic status of people.

Experiences faced: we understood, comment and analyze the data by graphically in daily life. we draw the graphs by computers with help of our computer faculty was a good experience

Project Outcome: : We share our experiences with teachers, class mates and parents and we got the ability of problem solving and research nature in our daily life. And we submitted our project report along with our findings In Investigative study on power shortage percentage in India from 1991-1997.

Name of the group members and work allotment:-

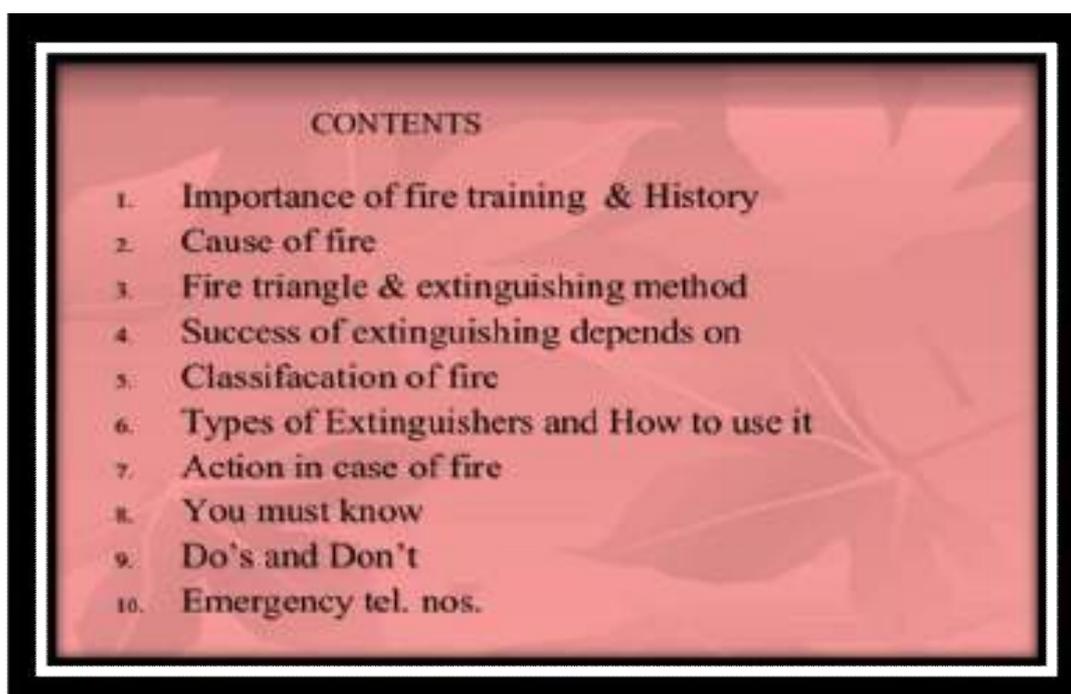
SL.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D (Team leader)	
5.	E	

Date of submission:

Signatures

MODEL PROJECT-8

1. **Title of the project:** Fire is good servant and bad master.
2. **Purpose of the project:** the ways adopted by fire fighters to combat fires (this project presented in the form of Power point presentation)
3. **Hypothesis:** Fire is a very good servant, but, a very bad master. As long as fire is under our control, it serves a lot of useful purposes for us, but, once it goes out of our control, it can create a lot of destruction. However, despite the presence of fire safety measures, the occurrence of accidents is oftentimes inevitable.
4. **Source of data collection:** - Net, local fire office, some fire and safety agencies.
5. **Photos: Clip art.**
6. **Procedure:** Pupil will collect information about fire fighting techniques from different source and they note down the information in specific table as follow.



Fire Triangle



- Fire is caused according to the principle of triangle .
 1. Heat (temperature reaching ignition point)
 2. Combusting material(fuel)
 3. Air

Extinguishing Method

1. Heat by Cooling i.e. putting water
2. Air by Smothering / Blanketing i.e. covering
3. Fuel by Starving (Remove burning material)

Human brain without oxygen survive only 4 min.
Fire extinguishes if oxygen supply stop for 2 Sec.

CAUSES OF FIRE:-

- **Housekeeping** :- Poor house keeping is a poor fire hazard . Cotton , cloths, papers ,etc are the sources of ignition. They should be kept away from combusting material like petrol, oil ,etc.
- **Smoking**:- Careless smoking in non smoking areas should be stopped . Smoking shall be permitted in smoking zone only.
- **Welding / gas cutting** :- While doing gas welding or oxy-acetylene cutting produces flying sparks which falls on inflammable material and fire takes place.

- **Ignorance about fire hazards**:- Lack of knowledge about the safe methods of storage of inflammable liquids, materials. Correct use of electrical equipments etc.
- **Negligent habit** :- Our negligent or careless habits are responsible for fire out break. A lighted match stick, cigarette end carelessly thrown on any combusting material .
- **Kitchen**:- Most sensible area to get fire in hotel. Kitchen staff should take extra care while preparing food. In kitchen because of carelessness oil fire and gas fire can take place.
- **Electrical Panel Room**: No material to be stored in electrical panel room. Small short circuit will be converted into big fire.

The success of fire fighting depends on

- Fire fighting equipments in working condition
- Fire warning system and quantity of extinguishers
- Fire training (knowledge)
- It is essential for everybody to know type of fire and then extinguish it with correct extinguisher in quick and effective manner.

Classification of fire

1. A class(Solid,wood,paper,etc)
2. B class (oil,paint,etc)
3. C class,(Gas,carbonmonoxide)
4. D class (Metal,zinc,copper,etc)
5. Electrical fire.

Types of Extinguishers



Co2



AFFF



DCP ABC
Store
Pressure
Type

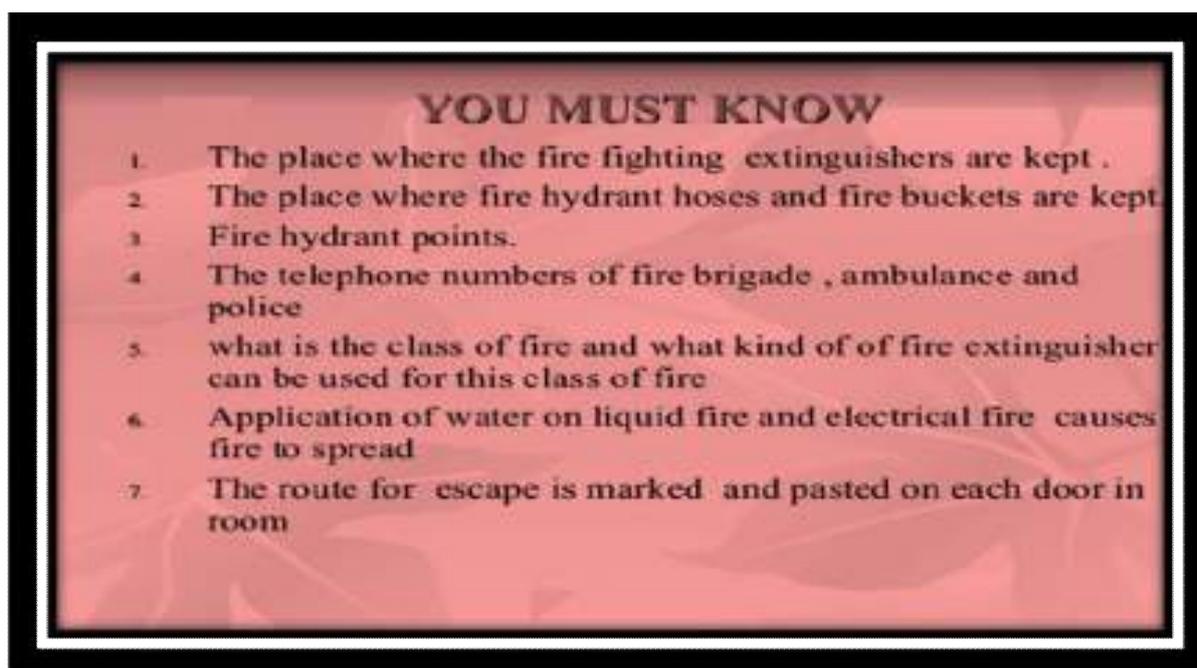
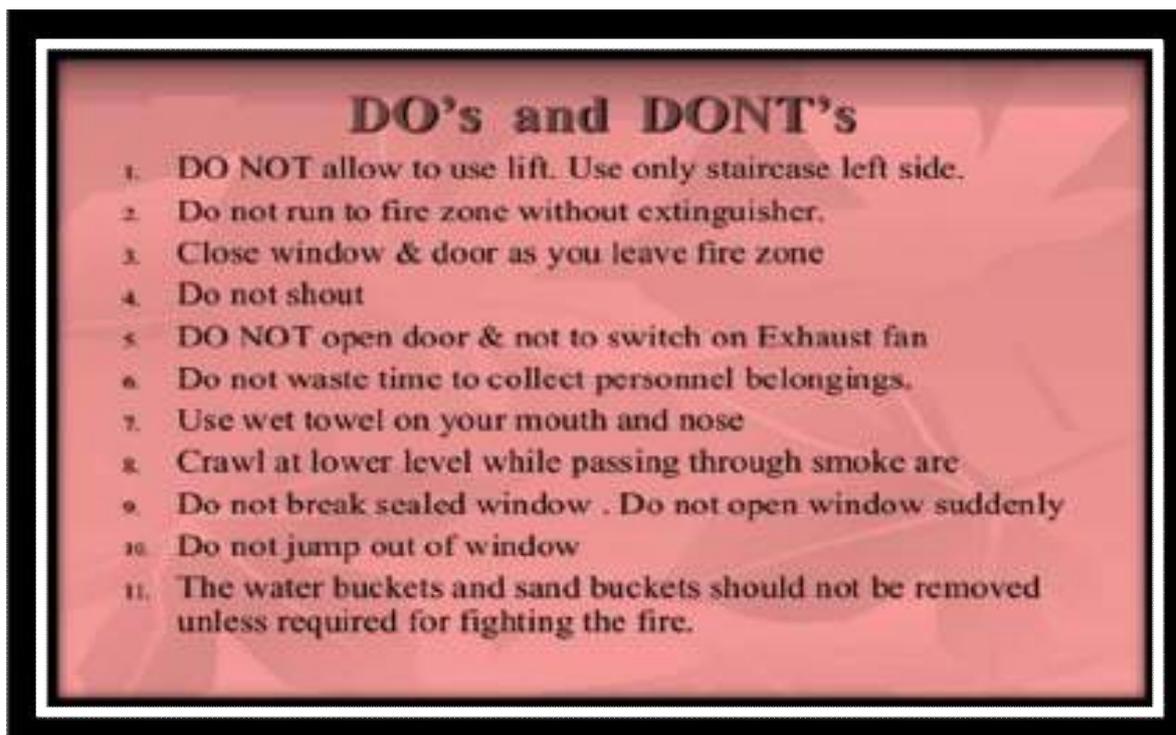


DCP BC
Cartridge
Type

Action in case of fire

1. Action should be quick so that small fire can be extinguish immediately. The delay in action cause fire to grow and may become difficult to be controlled later
2. During break out of fire do not panic , don't confuse. Don't be nervous
3. Inform Reception and security by dialing 9 by nearest Tel. and by breaking nearest MCP which is near the lift on each floor.
4. Give the your name, exact location and size of fire
5. Reception will inform Security, maintenance , housekeepnig about the location of fire
6. If it is major fire Reception will inform Fire brigade by dialing 101.and ambulance by dialing 102

7. If it is major fire Reception will inform all the guests to evacuate the hotel using nearest fire exit /staircase and assemble at main porch .Follow the nearest route for escape which is pasted on door in room. Close all doors/windows if safe to do so before evacuating. Do not waste your time trying to collect your personal belongings.
8. Security , maintenance and house keeping will extinguise the fire with the help of fire extinguishers, Fire hydrant . Other departments will help guest to evacuate safely and remove any hotel equipment from gangways that might hamper the firm fighting efforts
9. Staff assembly point is at lower parking
10. Stay on the fire area if safe to do so. Don't panic .Try to extinguish the fire with extinguishers/fire hydrant hose.



Interpretation of the student:

After completion of the data collection pupils interpret about project Result and they will come to one conclusion.

Conclusion:

Pupil will perform this project as PPT on fire and safety and create the awareness in people

Project Report

Name of the project: Fire is good servant and bad master. (PPT)

Class: VIII

Subject:- Physical science

Time frame:-4 days

Materials/sources used: VIII-class P. science text book, , local fire office, some fire and safety agencies. Internet, Computer lab, Empty DVD, projector

Details of procedure followed:

1. We collected information about fire applications and its demerits from different sources
2. We collected related pictures to fire and safety and fire applications from internet.
3. We consolidated & analysed data and make PPT.

Findings& Observations:-

1. We knew about fire uses and drawbacks with pictures.
2. We noticed that different fire fighting extinguish day to day life.
3. We understood the utilization of different fire extinguish for different types of fire.

Experiences faced: while preparing the PPT we faced difficulty in finding the related data soft copy. After that we worked on different sources like Internet and local fire office for pictures and data.

Project Outcome: We share our experiences with teachers, class mates and parents and we will get the ability of problem solving and research nature in our daily life. Our project team submitted the project report along with the project base developed science PPT to the school.

Name of the group members and work allotment:-

S L. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

MODEL PROJECT-9

Title of the project Electrical conductivity of liquids

Purpose of the project:- By using of electro plating, students will make costly metal foils on the surfaces of different cheap metals.

Materials Require for this project:

1.5-volt D battery with battery holder

Two alligator clip leads or insulated wire

Beaker / glass, copper sulphate / silver nitrate/ auric chloride as electrolytes.

Copper, aluminum, zinc like cheap metals as electrodes

Gloves

Hypothesis: electrolytic dissociation of electrolyte through passage of electricity through it called electrolysis, electroplating is possible through electrolysis

Procedure:

Prepare the key for copper-plating by cleaning it with toothpaste or soap and water. Dry it off on a paper towel.

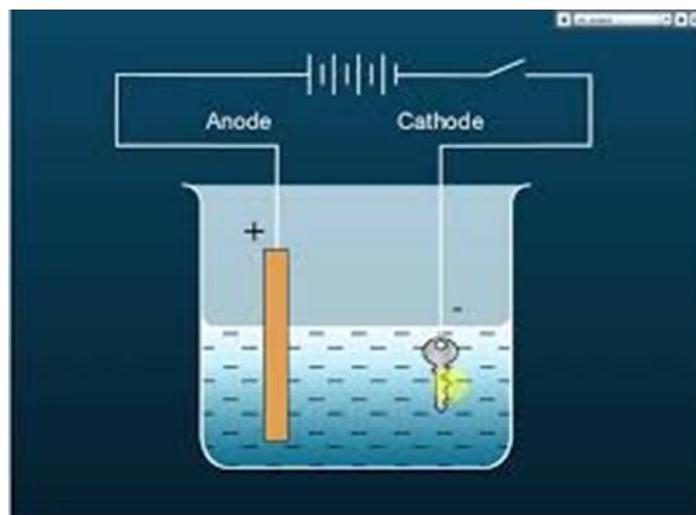
Stir copper sulphate into some hot water in a beaker until no more will dissolve. Your solution should be dark blue. Let it cool.

Use one alligator clip to attach the copper electrode to the positive terminal of the battery (this is now the anode) and the other to attach the key to the negative terminal (now called the cathode).

Partially suspend the key in the solution by wrapping the wire lead loosely around a pencil and placing the pencil across the mouth of the beaker. The alligator clip should not touch the solution.

Place the copper strip into the solution, making sure it doesn't touch the key and the solution level is below the alligator clip. An electrical circuit has now formed and current is flowing.

Leave the circuit running for 20-30 minutes, or until you are happy with the amount of copper on the key.



Observations:-

The copper sulphate solution is an electrolyte that conducts electricity from one electrode to the other. When the current is flowing, oxidation (loss of electrons) happens at the copper anode, adding copper ions to the solution. Those ions travel on the electric current to the cathode, where reduction (gain of electrons) happens, plating the copper ions onto the key. There were already copper ions present in the copper sulphate solution before you started, but the oxidation reaction at the anode kept replacing them in the solution as they were plated onto the key, keeping the reaction going.

Precautions:-

1. This project has many variables, including the cleanness and smoothness of the key,
2. The strength of the copper sulphate solution and the strength of the current. If a black soot-like substance starts forming on the key, your solution is not strong enough for the current. Take the electrodes out and add more copper sulphate. When you put them back in, make sure the anode and cathode are as far apart as possible.

Conclusion: Student will get practical knowledge on electroplating and they come to know about industrial usages of electro plating.

Note: Do the above experiment with different solutions like and make a project report.

Project Report

Name of the project: Electrical conductivity of liquids.

Class: VIII

Subject: Physical science

Time frame: 4 days

Materials Require for this project:

1.5-volt D battery with battery holder

Two alligator clip leads or insulated wire

Beaker /glass, copper sulphate / silver nitrate/ auric chloride as electrolytes.

Copper, aluminum, zinc like cheap metals as electrodes, Gloves

Details of procedure followed:

Prepare the key for copper-plating by cleaning it with toothpaste or soap and water. Dry it off on a paper towel. Stir copper sulphate into some hot water in a beaker until no more will dissolve. Your solution should be dark blue. Let it cool. Use one alligator clip to attach the copper electrode to the positive terminal of the battery (this is now the anode) and the other to attach the key to the negative terminal (now called the cathode). Partially suspend the key in the solution by wrapping the wire lead loosely around a pencil and placing the pencil across the mouth of the beaker. The alligator clip should not touch the solution. Place the copper strip into the solution, making sure it doesn't touch the key and the solution level is below the alligator clip. An electrical circuit has now formed and current is flowing. Leave the circuit running for 20-30 minutes, or until you are happy with the amount of copper on the key.

Findings& Observations:-

The copper sulphate solution is an electrolyte that conducts electricity from one electrode to the other. When the current is flowing, oxidation (loss of electrons) happens at the copper anode, adding copper ions to the solution. Those ions travel on the electric current to the cathode, where reduction (gain of electrons) happens, plating the copper ions onto the key. There were already copper ions present in the copper sulphate solution before you started, but the oxidation reaction at the anode kept replacing them in the solution as they were plated onto the key, keeping the reaction going.

Experiences faced. We enjoyed the experiment and electro plating method.

Project Outcome: We share our experiences with teachers, class mates and parents while doing this experiment, and we get practical knowledge on electroplating and they come to know about industrial usages of electro plating electrolysis. Our project team submitted the detailed project report.

Name of the group members and work allotment:-

SL.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

MODEL PROJECT-10

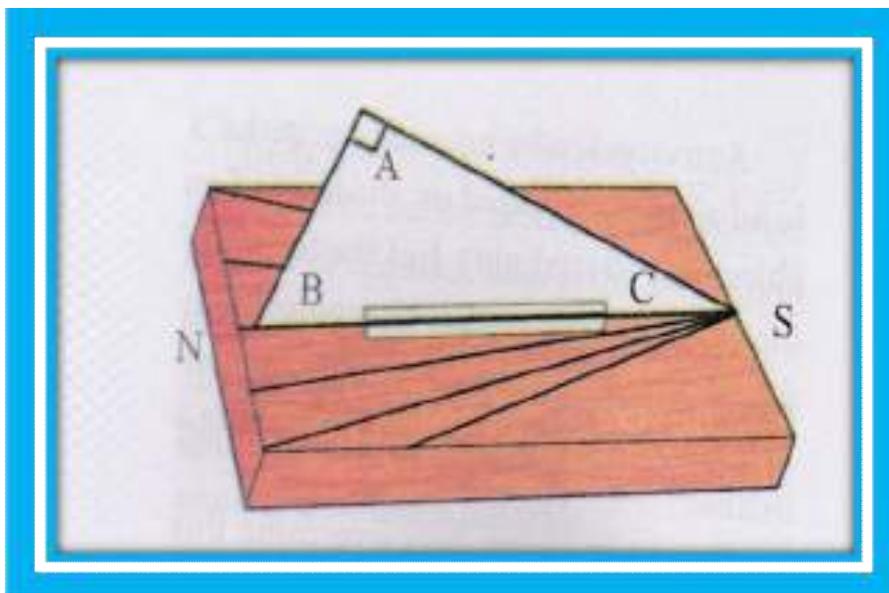
Title of the project: Making working model of sundial.

Purpose of the project: To make our own sundial

Materials Require for this project: A sheet of cardboard, A Rectangular wooden board, Glue, Strips of Paper.

Procedure:

1. Cut a Right angled triangle ABC from a sheet of cardboard. Angle C , of the triangle should be equal to latitude of our city in Krishna as 16° and A be 90° as shown in fig.
2. Fix your card board triangle vertically in the middle of the rectangular wooden board. Glue paper strips along the side BC.
3. Place your board with the triangle on ground level in an open space which gets sunlight throughout the day.
4. Base BC should be placed in north-south direction with B pointing towards the north.
5. At 9:00 AM in morning, draw a line along AC on the wooden board and write the time.
6. Draw lines of shadow of AC at one hour intervals through the day till sun set and mark the time for each line.



Observations:-

The shadow of AC changes continuously.

The time shown by the shadow is same as the time in a watch.

Result:-

1. Now you can tell the time by looking at shadow on the line
2. Now sundial is ready.

Conclusion: - pupil will understand the working of sundial and they appreciate ancient scientist in this regard.

Extra information about sundial:-

1. Located at Annavaram temple, East Godavari District, AP...
2. Located at opposite university press, Andhra University, Visakhapatnam. AP...

Project Report

Name of the project : Making working modal of sundial.

Class: VIII

Subject : Physical science

Time frame : 2 days

Materials/sources used : A sheet of cardboard, A Rectangular wooden board, Glue, Strips of Paper.

Details of procedure followed :

We Cut a Right angled triangle ABC from a sheet of cardboard. Angle $\angle C$, of the triangle should be equal to latitude of our city in Krishna as 16° and $\angle A$ be 90° as shown in fig. After that Fix cardboard triangle vertically in the middle of the rectangular wooden board. Glue paper strips along the side BC. Placed the board with the triangle on ground level in an open space which gets sunlight throughout the day. Base BC placed in north-south direction with B pointing towards the north. At 9:00 AM in morning, draw a line along AC on the wooden board and write the time.

After that we Draw lines of shadow of AC at one hour intervals through the day till sun set and marked the time for each line.

Findings & Observations :

1. We observed about The shadow of AC changes continuously.
2. The time shown by the shadow is same as the time in a watch.

Experiences faced: while preparing the sundial we faced difficulty to arrange proper way.

Project Outcome: We share our experiences with teachers and class mates and parents and we will get the ability of problem solving and research nature in our daily life. Our project team submitted the project report understands the working of sundial and we appreciate ancient scientist in this regard.

Name of the group members and work allotment :-

Sl.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures



VIII-Class Physical Science
Some suggested
List of Projects

Unit-I (FORCE)

1. Collect pictures from various sources like internet, magazines, news papers, etc, to illustrate contact forces, forces and prepare a scrap book.
2. Investigate, design and verify experimentally to test few ways how friction may be reduced.

Unit-II (FRICTION)

3. Investigate and list out the illustrations from your daily life situations where friction is responsible for energy wastages. Identify the methods in reducing energy wastage by friction.
4. List out Ten situations in a Project report which were affected by the sudden vanish of Friction.
5. Visit a shop which sells sports shoes. Observe the soles of shoes meant for various sports. Submit your observations in the form of a project report.
6. Collect information either from internet or from books in library about various new techniques being adapted by human beings to reduce energy losses due to friction, conduct a seminar.

Unit-III (SYNTHETIC FIBRES AND PLASTICS)

7. Prepare a tabular of various synthetic fibers which are used to make household articles from them.
8. Investigate and identify various plastic articles with recycle codes and submit a project report.
9. Investigate and identify various bio-degradable and non-biodegradable substances and submit your project report.

Unit-IV (METAL AND NON-METALS)

10. Prepare a project report on wide range utility of Aluminum right from utensils to space.

Unit-V (SOUND)

11. Collect the photographs of local famous musicians and exhibit them in your class.
12. Submit a project report containing a list of famous Indian Musicians and the instruments they play.
13. Investigate, design and experimentally with a model toy telephone using empty match boxes. Submit your experiences in the form of a project report.
14. Make different musical instruments using locally available materials and exhibit them in your class.

Unit-VI (COAL AND PETROLEUM)

15. Choose five families of yours neighborhood, collect the information about the measures that they adopt to conserve energy resources in transport and cooking.

16. Submit a project report on how fuel resources are being misused in our daily life while doing various activities like a) Transportation b) Cooking c) Industrial use.
17. Choose five families of your neighborhood, collect the information about the measures that they adopt to conserve energy resources in transport and cooking.
18. Compare a CNG run vehicle with that of a Diesel run vehicle. Note the differences with respect to pollutants released, level of pollution and cost of fuel. Submit a project report on your investigation. (Take the help of a driver to make a report on your observations)

Unit-VII (COMBUSTION, FUELS AND FLAMES)

19. Investigate and collect information available on different fuels to find out the cost per Kg and compare the cost with Calorific value. Submit a project report.
20. Investigate and submit a project report with different illustrations on "Fuels have become a part of human life".
21. Collect the information about annual fuel consumption in different parts of the world how many remaining years the fossil fuels last? Make a poster with this information and issue and appeal to save fuel.

Unit-IX (SOME NATURAL PHENOMENA)

22. Collect the information and photographs from the e-sources on the recent Earthquake in the country which is frequently affected by Earthquakes.
23. Take up a field trip to find out an organization in your area which provides relief to those suffering from natural disaster. Enquire about the type of help they render to the victims of earthquakes. Prepare a brief report on the problems of the Earthquake victims.
24. Investigate Identify and Color seismic zones in Indian outline map and submit a detailed report.
25. Identify the areas which are mostly affected by Earthquake in the world map?
26. Prepare and exhibit a model of seismograph?

Unit No-X (STARS AND THE SOLAR SYSTEM)

27. If possible, visit a planetarium there are planetariums in many cities. In a planetarium you can see the motion of the stars, constellations and planets on a large dome.
28. On moonless night observe the sky for a few hours. Look out for a meteor, which appears as a streak of light. September-November is a good time for observing meteors.
29. Learn to identify the planets visible to the naked eye and some prominent constellations such as Great Bear (Saptharshi) and Orion. Also try to locate the Pole Star and the Star Sirius.
30. Collect information about cosmic dust from news papers, Internet and make a poster on your school science bulletin board about the consequences of cosmic dust.



PHYSICAL SCIENCE
SUGGESTED ASSIGNMENTS
Class VIII

1. FORCE

- What is force? What changes can be produced by a force? (Conceptual Understanding)
- If we push on a heavy box which is at rest, you must exert some force to start its motion. However once the box is sliding, you can apply a smaller force to maintain that motion. Why? (Making hypothesis)
- Design and conduct an experiment to test a few ways which helps to reduce the friction? (Experimental & field investigation)
- Objects change their state of motion due to the net force acting on them. Discuss?
- Give two examples each for a contact force and force at distance? (Information skills)
- How can you differentiate between a contact force and a field force? (Information skills)
- Suppose a man is standing still on a level floor. What force will act on him? Draw a free body diagram (FBD) to show all forces acting on him? (Diagrammatic representation & model making)
- How do you appreciate the role of the friction in our life, in helping us to do our activities? (Appreciation & Aesthetic)
- When you push a heavy object, it does not move? Explain the reason in terms of net force? (Application)
- Why do always rivers flow down to the sea? (Conceptual Understanding)

2. FRICTION

- Explain why sportsman use shoes with spikes? (Conceptual understanding)
- What ways do you know to reduce friction (Conceptual understanding)
- How does lubrication affect friction? (Conceptual understanding)
- Why the sliding friction is less than the static friction? (Conceptual understanding)
- You spill a bucket of soapy water on the marble floor accidentally. Would it be easier or more difficult for you to walk on the floor? Why? (Asking Questions & making hypothesis)
- Give the examples to show that friction is both good and evil. (Information skill & project)
- What kind of friction do you know? List them. (Information skill & project)
- Draw a free body diagram (FBD) to show various forces acting on a body which is sliding on an inclined plane (Diagrammatic representation & model making)
- How is friction responsible for energy wastage? Give suggestions to reduce energy wastage by the friction. (Asking questions)
- Experimentally prove that frictional force increases with increase in roughness of surface (experimentation and field investigation)
- Appreciate contribution of Newton in explaining the phenomenon of friction. (Appreciation and aesthetic sense and values)

3. SYNTHETIC FIBERS AND PLASTIC

- Give the reasons why plastic containers are used as storage device? (Conceptual understanding)
- Explain the following: - (Conceptual understanding)
A) Blending. B) Biped gradable. C) Recycling. D) De composition
- Nibha wants to buy clothes for parents for winter wear? What type of clothes will you suggest? Specify reasons (Asking Questions& making hypothesis)
- How can you say a bottle is a pet bottle? Explain. (Experimental& Field investigation)
- Prepare a table of synthetic fibers to explain types of synthetic fibers, source material and house hold articles made from it? (Information skill& project)
- Indiscriminate use of plastics is a serious threat t9o bio-Diversity. What are the efforts of the government and non government organization in this regard? (Application)
- What are the advantages of using nylon nets instead of using traditional nets? (Application)
- What is the differences between thermo plastics and thermo setting plastics?

4. METALS AND NON METALS

- Explain the physical properties of the metals with examples? (Conceptual understanding)
- Why are the bells made of metals instead of wood? (Conceptual understanding)
- You are given two samplers .How can you say which one is metal and which one is non metal? (Asking Questions& making hypothesis)
- Imagine human life without metals. Write briefly about the consequences? (Asking Questions & making hypothesis)
- Experimentally demonstrate the properties Lustier and sonority of metal? (Experimental & Field investigation)
- Explain an activity to prove that electric conductivity is a property of metal? (Experimental & Field investigation)
- How does oxygen react with metals and non metals? Explain Experiment? (Experimental& Field investigation)
- What are the differences between metals and non metals? (Information skill& project)
- How do you appreciate the wide range of utility of aluminum form kitchen utensils to space-craft?
- Why do cooking pans not have metal handles? (Application)
- Discuss the acidic and basic nature of the metals and non-metals with suitable experiments. (conceptual understanding)
- How is malleability of metals used in our life. (application)

5. SOUND

- Write any three musical instruments and explain how they produce sound? (Conceptual understanding)
- Write your suggestions to reduce sound pollutions? (Conceptual understanding)
- Why we are unable to hear explosions took place in the sun? Explain? (Questing and making Hypothesis)
- Vibration in a body is caused to sound. How do you pr9ove it? (Experimental& Field investigation)
- How will you differentiate the amplitude and frequency of different sound? Give two examples from your life? (Information skill& project)
- Write two slogans to reduce sound pollution .How does sound pollution affects bio diversity? (Application)
- Vibration produces sound. Sound produce vibration .Explain the statement with relevant Examples? (Application)
- Robert observed a musical instrument producing sound. But he did not find any vibrations at any part of that instrument. This observation raised many questions in his mind. Can you guess the questions in his mind? write them (Questing and making Hypothesis)
- Explain activity to prove that sound has energy? (Experimental& Field investigation)
- Appreciate the contribution of Bismillah khan and Chitti babu to Indian music. (Appreciation and aesthetic sense and values)

6. COAL AND PETROLEUM

- Explain the process of formation of petrol? (Conceptual understanding)
- Name the petroleum products used for surfacing the road? (Conceptual understanding)
- Why scientists looking towards alternatives source to fissile fuel? Name the petroleum products used for surfacing the road? (Conceptual understanding)
- If we use CNG and LPG as fuel for automobiles Pollution will be reduced. Do you agree with this statement? If yes explain? (Questing and making Hypothesis)
- Make a survey report and interpret on utilization and current rate particulars of different type fuels and which one is cause to more pollution in our daily life? (Field investigation)
- How vassal will be caused to Destroying Sea eco system. Explain with Proper examples? (Application & concern to bio diversity)
- Draw a flow chart showing exhaustible and in exhausted Resource and their use? (*Diagrammatic representation*)
- Harshitha said to his father. Daddy, we save fuel by using a bicycle instead of a bike to going to nearby places. Do you appreciate Harshitha comment Explain? (Appreciation and aesthetic Sense)

- Draw a flow chart showing exhaustible and inexhaustible resources and their use (communication through drawing)
- How do you appreciate the efforts of human being to discover alternative energies to coal and petroleum for their daily use?(appreciation and aesthetic sense and values)
- What will be our future energy resource?

7. COMBUSTION, FUELS AND FLAME

- Name the products formed when candle burns in air?(conceptual understanding)
- The oil fire should not be sprayed by water .why Explain? (Conceptual understanding)
- Discuss with your teacher the statement is combustion Possible without the supply of oxygen? (Asking questions and Making hypothesis)
- How can you prove that Oxygen helps in burning? (Experimental and field investigation)
- Give supporting argument for both the statements :- (Information skills and Project)
A) Fire is use full B) Fire is harmful
- Draw a diagram of a candle flame and label all the zones? (Diagrammatic representation)
- Madhu decided to avoid automobile and started going to school by bicycle .Do you appreciate his decision? (Appreciation& aesthetic sense)
- How do you feel about fuels have become a part of human life (conceptual understanding)
- What would happen if oxygen stopped support combustion? Make a guess and if it is the situation for other fuels are useful?

8. ELECTRICAL CONDUCTIVITY OF LIQUIDS

- What is electricity? Name the some good solid and liquid conductors? (Conceptual understanding)
- What do you add to distilled water to make it conduct electricity ?(Asking question& Making hypothesis)
- Explain the process of coating copper on an iron key? Draw the circuit diagram.(Experimental and Field investigation)
- Explain an activity to test the effects of electric current on potato? (Experimental and Field investigation)
- Collect the information and make it a list of good conductors and bad conductors ?How do you use this information in your daily life?(Information skills and projects)
- Draw a circuit diagram of a Zn-Cu electrolytic cell? (Diagrammatic representation)
- In case of fire before the fireman use the water, they switch off the main electrical supply of the area. Explain why they do this ? (asking question)

- How can you test whether the material allows electric current to pass through it or not? Explain.
- How do you convert chemical energy into electrical energy by electrolysis? Explain(experimental and field)
- Expand LED.

9. SOME NATURAL PHENOMENA

- Sometimes a cracking sound is heard while taking off a sweater during winter .explain. ? (Conceptual understanding)
- What are the precautions you take in your house when an earth Quake occurs? (Conceptual understanding)
- How lightning is formed when there is a thunderstorm? (Conceptual understanding)
- Explain why a charged balloon is repelled by another charged balloon whereas an uncharged balloon is attracted by a charged balloon? (Asking question& Making hypotheses)
- If an earth Quake occurs in your area what will you do? (Asking question& Making hypothesis)
- How do you appreciate the efforts of the scientists who developed an instrument to assess the intensity and source of earth Quake. ?(Appreciation& aesthetic sense)
- Explain an activity to study the effect of rubbing on different materials (Experimentation and field investigation)
- Describe with the help of a diagram an instrument to detect a charged body? (Diagrammatic representation)
- Give two examples which affect your life because of transfer of charges.. (Application)
- Which is a safe place during a thunderstorm and which is not? Explain (application and skill question)

10.STARS AND THE SOLAR SYSTEM

- What is your local noon time ? (Conceptual understanding)
- Why doesn't an eclipse occur on every full moon day or on every new moon day? (Conceptual understanding)
- What questions tease your mind when you look at the sky in night? (Asking question & Making hypotheses)
- Explain the making of a sundial .(experimental and Field investigation)
- How can you find north and south directions at your place? .(experimental and Field investigation)
- Draw the different phases of the moon .arrange them in an order from Full moon to new moon day? (Diagrammatic representation)

- Draw the diagram of the solar system. ? (Diagrammatic representation)
- What is the use of artificial satellites in our daily life?(Application to daily life and concern to Bio diversity)
- Among the nine planets of our solar system, earth is the only planet that supports life .How do you protect our earth and its environment? ?(Application to daily life and concern to Bio diversity)
- What is mars science laboratory ?Explain(application)
- Name some applications of artificial satellites?(application)
- Even though we don't have clock, we know the time by observing some shadows in daytime. Think and discuss with your friends how you can know the time at night?(biodiversity)

Suggest to Prepare bit banks by students to improve their text book knowledge.

LIST OF SUGGESTED PROJECTS

CLASS: VIII

SUBJECT: BIOLOGICAL SCIENCE

CHAPTER I WHAT IS SCIENCE

1. Determination of rate of germination and growth of different brands of seeds in different soils.
2. Collect the measurements height and weights of 20 students of your school, previous and present year, interpret data and report the results. [collect information from PET record]
3. Collect information on how the study of biology helpful us in many ways
4. Collect pictures of endemic species of plants and animals and make a report and display on wall magazine.
5. Prepare an album on scientists and their innovations

CHAPTER II CELL-BASIC UNIT OF LIFE

1. Prepare a documentary on cell structure in sequence [Scientists involved who explained the cell structure]
2. Prepare a design on cell of your own after studying the lesson about cell organelles [preparation of model]
3. Analysis of blood report to understand components and proportion of blood components.
4. Identification of plants as dicots and monocots through tender stem cuttings.

CHAPTER III STORY OF MICRO-ORGANISMS

1. Collect information about useful micro-organisms
2. Preparation of compost manure in your school area and write a report on its process and its uses
3. Gather information about vaccination, antibiotics, spread of diseases in human beings and their control from nearby PHC/DOCTOR/ANM of your locality.
4. Gather some roots of legume plants and non-legume plants. Observe roots of both and prepare a report how they are helpful to farmers.

CHAPTER IV REPRODUCTION IN ANIMALS

1. Observation of larvae of insects available in your school premises and make a report on different stages of development.
2. Discuss about rented mothers, Test-Tube Babies with your teachers, elders and gather information from news papers, internet and prepare a report on it and conduct seminar.

CHAPTER V REACHING THE AGE OF ADOLESCENCE

1. Prepare a pamphlet on the adverse effects of child marriages from your surroundings or from various sources.
2. "Consumption of tobacco is injurious to human health". Do you agree? Gather information from internet and prepare a report on it.
3. Prepare a pamphlet on list of healthy habits, cleanliness and physical exercises at adolescence and display in the class room.
4. Collect information on endocrine glands and their effect on different organs present in human body from library or internet. Prepare a note.

CHAPTER VI BIO-DIVERSITY AND ITS CONSERVATION

1. Collect and prepare herbarium specimens of some medicinal plants and make a report on medicinal values in Ayurvedic medicine
2. Collect some photos of endangered, endemic and extinct animals and plants from internet or library and prepare a report on it.
3. Prepare a cartoon showing conservation of forests.
4. Write a report on eco-friendly programmes organized by Government and involvement of students. Discuss.
5. Conduct a rally on biodiversity and its conservation. Prepare a report on the programme.

CHAPTER VII DIFFERENT ECOSYSTEMS

1. Observe the type of ecosystem in your school surroundings and find out plants and animals and display the chart in your classroom.
2. Collect different types of xerophytes and hydrophytes in your locality. Prepare a report of their adaptations with their photos.
3. Collect information of forests of A.P. write flora and fauna. Discuss. Prepare a report.
4. Collect the data of different organisms and their food habits in your school premises and present in a table

CHAPTER VIII PRODUCTION AND MANAGEMENT OF FOOD FROM PLANTS

1. Collect information about factors for high yielding crops of your village in a detailed manner viz., quantity of yield, comparison three years yielding, investment, type of manure and pesticides used etc.,
2. Collect information about low cost methods/techniques of harvesting and give suggestions in and around your village.
3. Collect information from agricultural officer/ Field officer of your locality about low cost weeding methods.

4. Now a days scientists are advised to take organic food products only to keep health. Gather information about production of organic products from farmer/field officer/Agricultural officer. Prepare a report.
5. Effects of pesticides on crop yielding and environment.
6. Collect information about chemical fertilizers and bio-fertilizers on yielding and quality and effect on human health. Find out the differences of taste of food items regarding the products of chemical fertilizers and bio-fertilizers.
7. Collect information from daily newspapers of agricultural magazines regarding the economic importance of plants and their scientific names.

CHAPTER IX PRODUCTION AND MANAGEMENT OF FOOD FROM ANIMALS

1. Collect information about alternative biogas production method that you followed in your school premises by using materials like bio-wastes
2. Invite a veterinary doctor/compounder of your locality and collect information on cattle breeding techniques, cattle diseases and controlling measures
3. Conversion of agricultural lands into fish ponds, leads to food crisis and environmental pollution. Write your opinion to conduct a debate on this issue. Write a report.
4. Collect information from newspapers and magazines on production of milk through modern techniques and effect of hormone injections given to buffaloes on human health

CHAPTER X NOT FOR DRINKING, NOT FOR BREATHING

1. How reuse the waste paper is used to mould in terms of articles and reuse the waste plastic materials such as carry bags, water bottles, pens etc.,. Prepare a note on it.
2. Collect information about natural disasters took place in last 5 years- Discuss and give report
3. Observe eco friendly activities in your school/local area. Collect information and prepare a list and analyse. Prepare a report on it.

CHAPTER XI WHY DO WE FALL ILL

1. Conduct an awareness programme about preventive methods of diseases in your street/village. Write a report.
2. Write a report on vaccination and immunization process for 0 – 5 years of children in your local area from local health worker. Collect information about 10 children of such children

MODEL PROJECT

I. PRELIMINARY INFORMATION:

- CLASS : VIII
SUBJECT : BIOLOGICAL SCIENCE
NAME OF THE LESSON/UNIT : CELL- BASIC UNIT OF LIFE
PROJECT NO. : 01
DATE OF SUBMISSION : 24.01.2016
ROLE OF TEAM:
1. Team leader : Leading the entire team
2. 2nd student : Collection of material
3. 3rd student : Taking section cuttings and preparation of slides
4. 4th student : Preparation of tables
5. 5th student : Submission of report

II. DETAILS OF THE PROJECT:

1. TITLE OF THE PROJECT:

'IDENTIFICATION OF PLANTS AS DICOTS AND MONOCOTS THROUGH SECTION CUTTINGS'

2. OBJECTIVE OF THE PROJECT:

"How do you determine the tender stems into monocots/dicots after conducting stem cuttings"

3. TOOLS:

Experimentation and observation

4. MATERIALS.

Microscope, slides, saffranin solution, watch glasses, brushes, blades, tender stems of Tridax, Neem, Pongamia, Jowar, Maize and bajra.

5. PROCEDURE:

A) INTRODUCTION:

Generally flowering plants are different types. We can identify the dicot and monocot plants by observing physical features viz., type of venation, root system, flower structure etc., Based on the internal structure of the stem, we can identify the plants as dicots and monocots. So we have to observe the internal structure of the stem by taking stem section cuttings.

B) PROCEDURE:

1. Take the section cuttings of Tridax, Neem, Pongamia, bajra, jowar, and maize tender stems and put the slides under microscope.
2. Observe each stem cutting under microscope and draw diagrams of stem cuttings.
3. While observing, note the number of vascular bundles, their arrangement and cortex etc., in the given table.

C) TABLE

Characters	Tridax	Maize	Pongamia	Jowar	Neem	Bajra
I. External Features						
II. Internal Characters						
1. Epidermis						
2. Cortex						
3. Hypodermis						
4. No.of Vascular Bundles						
5. Nature of Vascular Bundles Conjoint collateral/ endarch/exarch						
6. Vascular Bundles Closed/Open						
7. Cambium						

D) ANALYSIS

The following common characters are observed in the stem cuttings of Neem, Tidax and Pongamia

1. Epidermal/ dermal hairs
2. Well developed cortex.
3. Hypodermis is made up of collenchymas.
4. No. of vascular bundles are limited, arranged in circular, open type and oval shape.
5. Endodermis is present.

In stem cuttings of jowar, bajra and maize the following common characters are observed.

1. Absence of dermal hairs.
2. Cortex is reduced, only hypodermis is present, which is made up of sclerenchyma.
3. Endodermis is absent.
4. No. of vascular bundles are many and scattered.
5. Vascular bundles are egg shaped, closed type, protoxylem is present.
6. Cambium is absent.

E) CONCLUSION :-

Based on the characters found in section cuttings and with reference to the text book (I year intermediate Botany) or guidance of the teacher. Neem, Pongamia and Tridax plant tender stems belong to Dicotyledons. Jowar, Maize and Bajra plant stems belong to Monocots.

6. EXPERIENCE OF THE STUDENT :-

1. Observe different types of plants.
2. Got experience in handling microscope.
3. Got experience in preparation of slides.
4. Chances to take extra section cuttings.
5. Internal structure of Tridax stem is clearly seen.
6. Some section cuttings are not clear.

7. DOUBTS WHILE CONDUCTING THE PROJECT :-

1. Arrangement of vascular bundles is not same in all section cuttings.
2. Why vascular bundles are scattered in Monocots.
3. On what basis one can identify plants into dicots and Monocots.
4. What are the other characters influenced in division of plants into monocots and dicots.
5. What is the role of cambium in dicot stems.
6. Why cambium is absent in Monocotyledon stems.

8. REFERENCES:-

- 1 year Intermediate Botany text book.
- Internal structure of stem from internet

9. ACKNOWLEDGEMENTS:-

1. Thanks to co-students of group in presentation of the project.
2. Thanks to the teacher who guided us to do this project and for his valuable guidance to success this project.
3. Thanks to the Headmaster/Principal of this institution for his encouragement

10. Signature of the Student

PROPOSED ASSIGNMENTS

Class : VIII

Subject : Biology

Unit- I WHAT IS SCIENCE?

1. Collect information about the branches of science.
2. What do you think about 'SCIENCE'. Justify your answer with daily life experiences. Do you find any systematic procedure

Unit- II CELL – BASIC UNIT OF LIFE

1. Gather different types of cells present in human body
2. Prepare models of chlamydomonas, amoeba, nerve cell
3. Collect some stagnant water on a slide and observe under microscope
4. Prepare models of different cells in human body
5. Collect information about various staining techniques
6. Observation of similarities in cells of onion peel, human cheek cell, T.S. of stem

Unit- III STORY OF MICRO ORGANISMS

1. Gather information to prepare a table on microorganisms diseases caused
2. Collect more information about scientists who invented and discovered other facts related to micro organisms and prepare album
3. Collect different types of micro organism from nearby pond with the help of micro-scope
4. Observation of fungus (bread mould) under microscope, prepare a slide, write notes
5. List out the diseases caused by bacteria, preventing vaccine, time of giving vaccine benefits etc
6. Culture methods of microorganisms in the laboratory
7. Make models of different types of microorganisms

Unit- IV REPRODUCTION IN ANIMALS

1. Draw the diagrams of asexual reproduction in amoeba, hydra, male and female reproductive systems of human, sperm and ovum and stages in the life cycle of frog.
2. Gather picture and information about different stages of embryonic development in humans from nearby PH
3. Collect information on poultry management.
4. Collect information about birth control measures
5. Observation of floral parts in flower and their role in fertilization

Unit-V REACHING THE AGE OF ADOLESCENCE

1. Observe in your classmate or your elder classmate. What do you observe the changes occur in adolescence
2. Prepare a chart with a list of healthy habits, cleanliness and physical exercises at adolescence and display it in the class room
3. Collect information on endocrine glands and their functions in humans.
4. Early marriages are social sin. Prepare some slogans to prevent this.

Unit-VI BIO- DIVERSITY AND ITS CONSERVATION

1. Collect some photos of endangered , endemic and extinct animals from internet write notes.
2. Get information about national parks and sanctuaries in India
3. Collect information and pictures of animals from nearby sanctuary or wild life sanctuary
4. Collect information about meeting conducted on biodiversity-2012.
5. Gathering of information about types of ecosystems and preparation of charts.
6. Collect information about WWF from internet.
7. Collect more information on forest ecosystem and suggest measures to improve the forest, the renewable natural resources.

Unit-VII DIFFERENT ECOSYSTEMS

1. Mention the flora and fauna of your village or school, write their common names and scientific names
2. When forest is considered as an ecosystem, record the flora and fauna connected with it
3. Collect information forest of India , write the flora and fauna.
4. Mangrove ecosystem.
5. Collect the data of different organisms and their food habit in different ecosystem present in a table.
6. Prepare a chart on the energy flow in an ecosystem.

Unit-VIII PRODUCTION AND MANAGEMENT OF FOOD FROM PLANT

1. Collect information about different irrigation methods
2. Collect information about chemical fertilizers and the harmful effects on crops
3. Collect information about bio fertilizers and bio pesticides
4. Go to your nearest fertilizer shop or invite a farmer and collect information about chemical fertilizers and write notes on it

5. Collect and tabulate information about the type of soil ,type of crop grown, the fertilizers and pesticides used and yielding of the crops. Analyse the way of profit or loss for the farmer
6. Collect the pictures of various agricultural instruments/prepare their models and make a note of it
7. Collect specimens of diseased plants and make herbarium
8. Collect information and prepare a report on “how Parthenium is harmful to environment and humans health.

Unit-IX PRODUCTION AND MNGEMENT OF FOOD FROM ANIMALS

1. Collect information about biogas production from your school library or internet .write notes on biogas
2. How vermiculture is helpful in cultivation of crops?
3. What is white revolution? How can you increase the milk production?
4. Make a list of food preservation practices in your area.
5. Meet nearby veterinary doctor or veterinary compounder collect information about animal husbandry
6. Milk production and improvements of white revolution and impurities in milk. Collect news from newspapers and magazines.
7. Go and visit nearby poultry farm and collect information about poultry farm
8. Collect information on cattle diseases and controlling measures

Unit-X NOT FOR DRINKING, NOT FOR BREATHING

1. Collect some pictures of natural activities and human activities causing pollution.
2. Natural disaster-pollution
3. Controlling methods of water pollution, air pollution
4. Visit a pollution check centre. observe the process of conducting a pollution check and record your findings
5. Collect information about fluorosis and its effects
6. Results of water pollution, suggest precautions
7. “Malpractices made by man which causes air pollution”. prepare a report
8. Collect information to make a list of the power generation plants and where they are
9. Collect information and prepare charts on Air pollution their sources and pathological effects in human body.

Unit-XI WHY DO WE FALL ILL

1. Prepare a table about various diseases caused in different seasons
2. Collect information from your local health worker about spreading of diseases
3. Visit nearby PHC and collect information about common diseases, and their preventive measures
4. Prepare and display charts of prevention and curative methods of diseases
5. Transmission of diseases in human beings
6. Collect information on natural Immunization scheme
7. Prepare notes on common methods of transmission of diseases .
8. Make models of different types of diseases causing organism like tape worm, pin worm, round worm and trypanosoma etc
9. Prepare charts of the life history stages of Anopheles and Culex mosquitoes.
10. Identifies and gives reason for the frequently occurring diseases in the village.

PROJECT WORKS
CLASS -VIII
SUBJECT: SOCIAL STUDIES

Preface

A project is a planned piece of works designed to find out and produce new information.

A Project is based on known factors. Main motto of a project is to develop creativity among students, Individual work, Group work, which can help to improve, develop and inculcate the Academic Standards, Sociability, Leadership Qualities, and Scientific Knowledge among students. Overall, Projects can make you as a scientist.

Resources: - From all A.P.R. Schools project work papers.

Ref: Internet, G.K. Books (Manorama Year Book), Oxford School Atlas, Royal School Atlas, Oxford Illustrated Dictionary.

CHAPTER WISE PROJECTS INDEX

Class VIII

SUB: SOCIAL STUDIES

S.NO	CHAPTER NAME	PROJECT TITLE
1	Reading And Analysis Of Maps	ANCIENT VIEWS ON MAPS
2	Energy From The Sun	ALBUM, FIELD WORK, GROUP DISCUSSIONS, SCRAP BOOK
3	Earth Movements And Season	BOOKLET-SEASONS, ALBUMS, SUNRISE & SUNSET MODELS, LIVING ITEMS
4	The Polar Regions	ALBUMS, MAGAZINES, PICTURE COLLECTION, MODEL, AURORA BORIALISIS, WALLPAPERS
5	Forests: using and protecting	MODELS, ALBUM, GRAPH BOOK, SEMINAR, SLOGANS, VANAMAHOTSAVAM POSTERS
6	Minerals and mining	ALBUM, SCRAP BOOK, POSTERS, MODELS, PICTURES, MAGAZINES, PIE DIAGRAM, FLOWCHART, EXHIBITION
7	Money and banking	SCRAP BOOK, ALBUM, LECTURES, LOGOS, SCRIPT, SCHOOL LEVEL EXHIBITION
8	Impact of technology on livelihoods	COLLECTION OF PICTURES, MAGAZINES, MODELS, SEMINARS, POSTERS

S.NO	CHAPTER NAME	PROJECT TITLE
9	Public Health And The Government	LECTURES, ALBUM, HEALTH SLOGANS, MINERAL WATER PLANT, SEMINAR, POSTERS, REMOVAL OF HEALTH DEVILS
10	Land Lords And Tenants Under The British And The Nizam	SCRAP BOOK, MIGRANTS LIST, SEMINAR, ALBUM, SCRIPT
11	A. National Movement - Early Phase 1885-1919	ALBUM, DEBATE,SLOGANS, DRAMATISATION, ROLE MODEL, WALL - POSTERS, ARTICLES, DRAWINGS, TIMELINE CHART, EXHIBITION
	B. National Movement - Early Phase 1919-1947	
12	Freedom Movement In Hyderabad State	ALBUM, LITERARY PERSONALITIES,PICTURE COLLECTION,EXHIBITION,ARTICLES
13	The Indian Constitution	PROJECTS,GROUP WISE,CONSTITUTIONAL AMENDMENT LIST,ROLE MODEL,ALBUM,SEMINAR,INVOKE GOD,SCHOOL EXHIBITION
14	Parliament And Central Government	ALBUM,ROLE MODEL,MOCK PARLIAMENT,MOCK ELECTIONS,SEMINARS,REPORTS,EXHIBITION
15	Law And Justice - A Case Study	ROLE PLAY,FIELD WORK,PYRAMID,DRAMATISATION,PAPER CLIPS
16	Abolition Of Zamindari System	ALBUM,FIELD WORK,VETTI MODEL,DEBATE,ARTICLE
17	Understanding Poverty	FIELD WORK,SEMINARS,LECTURES
18	Rights Approach To Development	INFORMATIONS,DISTRIBUTION OF PAMPHLETS,SEMINAR,VARIOUS COMPETITIONS
19	Social And Religious Reform Movements	SCRAP BOOK,POSTER,WALL POSTERS,DEBATE,
20	Understanding Secularism	SCRAP BOOK,SEMINAR,FIELD WORK,GROUP DISCUSSIONS,COMPETITIONS
21	Performing Arts And Artistes In Modern Times	ALBUM,FESTIVAL PICTURES,FIELD WORK,SCRIPT,MAGAZINE
22	Film And Print Media	SCRAP BOOK,MAGAZINE,PAPER CLIPS,PATRIOTIC SONGS,MODELS,LANGUAGES,DANCE
23	SPORTS : Nationalism And Commerce	MAGAZINE,CLASSIFICATIONS,MASUREMENT CHARTS,GAMES EQUIPMENTEXHIBITION
24	Disaster Management	NEWSPAPER CLIPS,ALBUMS,MAGAZINES,TIMELINE CHART

CHAPTER 1

READING AND ANALYSIS OF MAPS

1. **Model:** Prepare the earth with clay or ball or scrap papers, tailors cut pieces or any paper pads with availability.
2. **Ancient maps :** Prepare Ancient maps with the help of these resources.
 - a) China b) World after hecatacus-Baghdad etc.
 - c) Babylon (present Iraq, Tigrus river) [Image 1]
 - d) Model of the world according to Bible
 - e) Ptolemy's maps f) Map Graph by Mercator (use graph book)
3. **Manuscript 'Atlas':** Prepare a Manuscript 'Atlas' on A4 Sheets(Individual work) with Division of zones, India, Andhra Pradesh with capital cities, continents
4. **School Maps :** Prepare your school maps.
5. **Model with wax :** A.P relief and drainage, Annual rainfall
6. **Booklet:** Prepare a small booklet with the help of above 1&2 maps.
7. **Field Work :** Collect information about the population in your area. And find Density of 8. Population- Prepare a graph : Select one or four villages very nearer to school. Find out reasons why density of population is different from one village to another. Prepare a graph
9. **Prepare a graph :** Prepare a graph about: North Indian & South Indian density. Write comparison to north & south density of population.
10. **Prepare Symbols:** Prepare a list of Conventional Symbols on maps (Image 2).
11. **Models :** Models with Small Sticks and classify them, 2 contour lines.
12. **Prepare Thematic Maps:** Write a comparison & prepare a table.
13. **Prepare Album :** Prepare Album of Explorers.
14. **GRID (Group Work):** Prepare all continents grids.
15. **Group Discussions:** Navyandhra Capital City"AMARAVATI". Later prepare an article about Amaravati.
16. **Prepare Maps:** Prepare a major type of soils in Andhra Pradesh.
17. **Ancient Views On Maps:** Albums or scrap book models (Individuals)

Reference: NCERT Books, Oxford Atlas, Royal Atlas. Internet. Daily News Papers, Articles, Weekly Magazines.

CHAPTER 2

ENERGY FROM THE SUN

1. **Album :** An album on solar energy "GREEN HOUSE EFFECT".
2. **Field Work:** Visit one solar power plant and try to prepare a solar plant at school.
3. **Use of Thermometer:** Make a table of Insolation-Factors influencing Temperature.
4. **Group Wise:** Prepare a chart on "heat Budget" of the earth.

5. **Group Wise:** With the help of Thermometer find out seasonal Insolation And prepare a Graph book.
6. **Group Discussions:**
 - a) “Daily Temperature and their effects” on daily life.
 - b) Prepare an individual article if atmosphere gets more polluted with “Smoke&Dust” and discuss it grouply.
7. **Scrap Book:** Prepare a Scrap Book on “Global Warming”.
8. **Album :** Collect Weather Reports and prepare an Album and Record.
9. **School Exhibitions:** conduct a school exhibition.
10. **Scientists:** Collect Andrews Celsius pictures and write few lines about him.
11. **Lab work:** The amount of solar radiation received by the earth and angle of incidence are related with each other prove it by showing with examples such as using torch light focusing on ball by changing the positions of the ball and torch light.

References: Daily News papers, Oxford School Atlas, Internet.

CHAPTER 3

EARTH MOVEMENTS AND SEASONS

MODEL: Earth tilt and revolution (Individual) , Model of an Orbit Shape.

BOOKLET: SEASONS PICTURES. Seasons of India, Seasons in Western Countries, Seasons in Northern and Southern Hemisphere.

ALBUM: From daily local news papers and Internet, prepare: Table of Sun rise and Sun set, Time – Place of Sun rise and sunset, Time of sunrise and sun set local area, Time of sunrise and sun set World Wide

MODEL: Temperature Belts. Tools required: a)Wool b)Fabric c) Cotton

Collect pictures : Collect pictures on Seasons of India and prepare an album.

GROUP WORK: Prepare a Scrap Book on Sun rise and sun set of: a) Coastal areas b) Polar regions c) Equatorial Regions.

Living items: EX: Trees- We can show the differences in seasons.

Make report: Observe the changes in your habits and life style according to the change in seasons and make a report on it.

REFERENCES/SOURCE: Daily News Papers, Weather reports from B.B.C News, Internet, Oxford School Atlas.

CHAPTER 4

THE POLAR REGIONS

INDIVIDUAL ALBUMS: About Eskimos. Obtain Information from internet.

GROUP WORK: Manuscript Magazines about

- A. Groups of Eskimos
- B. Languages
- C. Hunting and preparation of clothes
- D. Collection of Tools
- E. Igloo

Album : prepare an album with IMAGES of Eskimos, Igloo, Tools, etc.,

MODEL(Group Wise): AURORA BORALISIS

COLLECTIONS: Pictures of Tundra Region Animals, Flowers, Fishes etc

Create Wall papers : Create Wall papers and descriptions with illustrations. Write comparisons between your area and tundra regions

GROUP DISCUSSIONS: "Are you pity with Eskimos". Prepare an article.

Debate: Do you find any recent changes about Eskimos.

Mono Action: Eskimo Life Style.

Album: observe the life style of people living in different regions such as tropical, temperate and polar regions list out the similarities and differences between all the three & prepare a project pasting the pictures.

REFERENCES/SOURCE: INTERNET,G.K.BOOK, NCERT TEXT BOOKS, Oxford Dictionary, Daily News papers, Oxford Atlas.

CHAPTER 5

FORESTS USING AND PROTECTING

CHART: Classification of forests.

MODELS: Various forests, Ever Green, Thorny Bushes, Teak Bushes, Medicated value forests.

Album: About A.P. forests, Indian forests, areas and its natural vegetation. ex: Tropical Ever green forests

Graph Book: Prepare forest Geographical Area and forest area of each state. Write highest and lowest area of forests. (in thousand sq.kms.) and forest rights.

GROUP WISE: Prepare some own pictures on the basis of text book page no.5.9 and prepare a scrap book. Take the help of your teachers.

MODELS: Collection of forest products and write their values and uses.

SEMINAR ON: Joint forest management (C.G), Community forest management (A.P), Global Warming.

COMPARISONS: Tribal's land revenue-Salt Satyagraha.

SLOGANS: Prepare slogans on "protect environment"

VANAMAHOTSAVAM: At school Premises adopt one area.

Discussion: Conduct a group discussion on “forests are part of our life”.

Source: Internet

CHAPTER 6 MINERALS AND MININGS

GROUP WISE: Prepare a scrap book on Renewable-Non Renewable Minerals, Metallic-Non Metallic, Atomic Minerals.

SYMBOLS: Prepare symbols of mines and fuels.Ex: diamond mines.◊◊

ALBUM: Singareni collar company limited.

MODEL: Minerals of A.P.from each district.

PICTURES: Prepare a picture of bellcode board at school level.

BLACK LUNG DISEASE: Prepare wall posters and paste them in your school and local premises of your school.

MANUSCRIPT MAGAZINE: Write an essay about different minerals (allot topics to individual students) and prepare a manuscript magazine.

PIE DIAGRAM: Production of Mineral fuels.

Article: Barytes mine movement at Kadapa.

Album: list out the minerals and paste the pictures of minerals that are using in your daily life.

FLOW CHART: Prepare a flow chart to visit underground mining.

CHAPTER 7 MONEY AND BANKING

ALBUM: Ancient coin pictures., Current Currency, Coin Currency and paper currency, Cheque, Demand Draft.

SCRAP BOOK: Day to day currency values, 193 Independent nations’ currencies, Invite a bank employee to your school and know about, Savings Account System, Cheques, DD’s Loans, Deposits and their interest rates, National electronic funds transfer, Credit Cards, A.T.M’S, Net Banking, Educational loan facility to students, School level banking system (with Students)

Field trip: Visit a bank and observe the security levels at bank and prepare the list of problems.

LOGOS: collect various logos of companies like R.B.I, All Nationalised banks

SKIT: Prepare a plot about functioning of banks and play, S.H.G members meetings.

Exhibition : School level exhibition about various currencies.

Role Play: show the plight of people at the time of Barter system was in existence with the help of small paly in your classroom.

CHAPTER 8

IMPACT OF TECHNOLOGY ON LIVELIHOOD

Collect pictures : Collect some pictures of: a) Agriculture b) Industrial and c) Service sectors.

GROUP WISE: Visit below industries which are nearer to school and Prepare a booklet or magazine about them: Small scale industries, Farming industry, Fertilizers and pesticides

Comparison: Steam Engine-Combined Harvester

Graph: About use of man and animal power in your area and villages, towns especially in the city of Mumbai, Calcutta, Vizag.

Debate: Conduct a debate on "Technology is not always welcomed. People are afraid that they would lose their jobs by the machines".

Report: find out from your elders and prepare a project report on how the technology have brought changes in their lives such as in transportation, telecommunications and in computers.

List of technologies: History of postal departments, Infrastructural facilities, Telecommunications Department.

Collect material : Collect material about Green channels, Business channels, Metro channels, Satellite channels.

Group discussions and Seminars : Without man power, technology will not be used.

Collect some matter about technological developed countries like U.S.A, U.K, and write comparisons with Indian technology.

POSTER: Technology in agriculture.

CHAPTER 9

PUBLIC HEALTH AND THE GOVERNMENT

GROUP WISE: Conduct survey on government welfare schemes on health and list the beneficiaries in your area.

Study on Red Cross, 108,104 Services, Aarogyasree, Health cards, Medical reimbursement, RIMS.

Chart: Ministry of health and family welfare.

Lectures: From experts like doctors.

VISIT: Your local primary health centres and community health centers, Anganwadi centers and prepare a list about their services.

Invite: Any nutritionist to know about the nutrition values. Conduct medical camps and prepare a report on the camps.

Slogans: Collect some slogans from district water management about water conservation. Establishment of mineral water plants in your school or in your school village.

Report: Prepare conditions that are suitable to the plant a) Area b) Soil c) Distribution centres availability either nearer to your school village, towns etc and transport facility.

Chart: Prepare some Clippings about public health services.

HEALTH DEVILS: How can you eradicate , Dengue, HIV, Cancer, Blindness, T.B

Prepare an article: Prepare an article with the help of W.H.O, and UNICEF suggestions.

Seminar: Facilities of government and private hospitals.

Poster: Prepare posters on nutrition and malnutrition values.

Field Work: Visit near by primary health centres and hold an interview with the medical officer and ask questions as possible proper guidance with your teacher.

Collect Information: List out the basic public facilities provided by government in your area and collect the information which section of people are availing these facilities.

REFERENCE: Internet, Ncert books, Daily news papers, television programmes.

CHAPTER 10

LANDLORDS AND TENANT UNDER THE BRITISH AND THE NIZAM

GROUP WISE REPORTS : Make a team of students and Interview the elders of the village and know how the conditions were during the British days. Two of them should be Woman, one should an artisan.

SCRAP BOOK: About Famines.

Migrants list: To- Kuwait, Saudi Arabia from your area.

SEMINAR: "Common man is a victim in paying taxes in olden days and modern days also".

PICTURES COLLECTION: Album about: Zamindaris, Peasants.

Mention some development activities taken by the government with money collected as tax on- Education, Health, Welfare.

Script: Prepare a script and role plays about zamindari system and vetti.

Discussion: Conduct a group discussion on "During the colonial period the peasants were exploited. Is it completely abolished now".

Locate some irrigation projects in India in atlas. Ex:- Bhakranangal, Chambal, Kosi, Nagarjuna sagar etc.,

REFERENCE: Oxford school atlas, G.K. Books, Daily news papers and magazines.

CHAPTER 11

A.NATIONAL MOVEMENT-THE EARLY PHASE- 1885-1919

B.NATIONAL MOVEMENT-THE LAST PHASE -1919-1947

INDIVIDUAL ALBUM: Collection of pictures of freedom fighters with information.

Album : Album of National Symbols And Flag

Album : Pictures of First World War.

DEBATE: Moderates and Extremists.

Competitions: Elocutions, Essay Writing, Quiz.

SLOGANS: Prepare some slogans .Ex:- "Freedom is my birth right."

DRAMTISATIONS: Movement of Chirala-Perala, Salt Satyagraha, Swadeshi Movement.

ROLE MODELS: Gandhi, Subash Chandra Bose.

Wall posters: Prepare some wall posters to save our Sovereignty in our country and in your local area.

GROUP WISE: Biography of Tilak, Sardar vallabhai patel, Bhagat Singh, Bankim Chandra Chatarjee, Pandit Nehru.

Draw Pictures: Abot Post mark& paste it in each class.

Time line chart : Prepare Time line chart on freedom Struggle from 1885-1947.

Chart : Make a chart with colours of India, Pakistan, Bangladesh.

EXHIBITION: School level

Dramatisation: Dramatisation of Khilafat movement and the non-cocopration movement.

Collect songs: Collect patriotic songs / write a patriotic song and sing the classroom.

CHAPTER 12

FREEDOM MOVEMENT IN HYDERABAD STATE

ALBUM:GROUP WISE : Telangana freedom fighters' biography with pictures. Especially Women leaders.

Collect Information : Information about literary personalities like: Ramananda Tirtha, Maula Abdul Qhayyum, M.Hanumantha Rao, Ravi Narayana Reddy, Osman Ali Khan, Sardar Vallabhai Patel

GROUP WISE: Collect some pictures about Gurilla Squad.Collect Some Wallposters and paste them in your school/class//local area and collect views of some people and prepare an article about them.

EXHIBITION AT SCHOOL LEVEL: Role Play: Observe the role played by the libraries of school and your village town. Are the libraries are having any information in any movement now.

CHAPTER 13

THE INDIAN CONSTITUTION

GROUP WISE: Prepare charts about "Preamble of India, U.S.A, South Africa, and its importance.

Amendment List: Timeline chart about Indian Constitution Amendments.

Role Model: Dr.B.R.Ambedkar

ALBUM: Drafting Committee pictures, National Emblem, Democratic States,

"FLEXIBLE": Why the word "FLEXIBLE" should be used in Indian Constitution.

INVOKE GOD: Which Preamble does not invoke god.

SEMINAR: Conduct Seminars on Liberty, Equality.

School level Exhibition: School Constitution: Prepare a School Constitution.

Report: List out certain rules and gegulations needed to a good student to be a better citizen of our country and hang out that chart in the class.

REFERENCE: Daily News papers, Internet.

CHAPTER 14

PARLIAMENT AND CENTRAL GOVERNMENT

ALBUM: Indian Political party Symbols (individual work)

Mock Elections: conduct Election Process with the students to elect class leader and school leader.

SCRAP BOOK: National leader pictures and write an essay about them.

ROLE MODEL: Prime minister of India, Chief Minister of Andhra Pradesh and President of India.

Conduct: Mock Parliament.

SEMINAR: Special Status for Andhra Pradesh.

Conduct: Elocutions, Essay Writing Completions and Quiz.

REPORT ON: 2014 Elections.

Exhibitions : Conduct School Level Exhibitions.

Elections: Collect the information and prepare a report on how the school people leader is elected in your school.

REFERENCES: Internet, News Papers.

CHAPTER 15

LAW AND JUSTICE

ROLE PLAY: Police, Lawyer, Collector

FIELD WORK: Visit police station, Advocate, Collectors' office and prepare an essay/report.

Model: Prepare Pyramid-About Structure of Court.

DRAMATISATIONS: About the hearings in the court

Album: Prepare clippings about any local area cases either civil/criminal and prepare reports.

Chart: Prepare a chart listing the points to be mentioned in (FIR) First Information Report and hang in your class.

Collect experiences : Collect the experiences of your elders as a witness of any accident, crime of civil disputes and their reactions towards such incidents.

CHAPTER 16

ABOLITION OF ZAMINDARI SYSTEM

CHART: About zamindaris in Hyderabad and Andhra Pradesh.

Role Play: Prepare and perform a play on "Vetti".

Field Work: Visit Pochampalli village and prepare your report.

GROUP WORK: Take a visit to elders and prepare a report on zamindari system.

DEBATE: Land Reforms Act in Democratic Government.

ARTICLE: About 1970's Land Ceiling Act.

Collect information: Collect the information from your village or town that any members donated land towards purpose of education temples or for poor people.

REFERENCES: NCERT Books, News papers

CHAPTER 17

UNDERSTANDING POVERTY

FIELD WORK (GROUP WISE) : Select some villages/towns and find out their food habits.

Map: Locate Some places/states in African Continent and find out the Poverty rates.Ex:Sahara Desert area

Map: Locate some places/states in African Continent and compare its currency values and food products. Ex. Cost of vegetables per kg .

Compare: Write comparisons about Standards of living to villages and towns.

P.D'S: Visit some P.D'S and prepare a report.

RVMS'S: Visit them to find out their Welfare programme to the society.

B.P.L &A.P.L: Collect pictures.

M.N.R.E.G.A: Visit it and collect some information about MNREGA.

Map: Locate some places on A.P. map and find out how P.D.'S are useful to control poverty.

SEMINAR: "Poverty is a Social Evil" –and prepare a report.

Collect Information: Collect the information from your village/town the set of people lying under below poverty line and above poverty line.

REFERENCE: Daily News papers. Weekly magazines, NCERT Books

CHAPTER 18

RIGHTS APPROACH TO DEVELOPMENT

Celebrations: Celebrate Human rights day on 10-DEC-1948: Human Rights Collection from U.N.O through internet.

CORRUPTION: Prepare an essay on corruption in government departments.Ex; Note-Vote

Prepare pamphlet: Distribute Pamphlets about R.T.I & R.T.E Acts and report the views of the people.

SEMINAR: Mid day meal, Removal of Illiteracy.

ESSAY WRITING COMPETITION : Anna Hazare Movement.

List out: List out the rights you desire as a student and justify it.

REFERENCES: Internet, T.V. news, Daily news papers.

CHAPTER 19

SOCIAL AND RELIGIOUS REFORM MOVEMENT

SCRAP BOOK: (INDIVIDUAL WORK): Some Religions and Symbols, State wide religions and importance

GROUP WISE: Gather the religious principles from The Bible, Quran and Bhagavad-Gita and Ramayana.

ALBUMS: Social Reformers Pictures and write few lines about them.

POSTERS: Girls' Education and its importance and factors that affect girls' education.

GROUP DISCUSSIONS: Necessity of Religious Reforms. If yes, why?

Wall Posters: Prepare Bhakti Movement principles on charts and paste them in Your School.

DEBATE: Abolition of child marriages.

Group Discussion: To what extent religion plays an active role in your life to live as a socially acceptable person.

REFERENCES: Internet, Daily News Papers.

CHAPTER 20

UNDERSTANDING SECULARISM

SCRAP BOOK: Prepare a Scrap Book about- National Festivals, Religious Festivals, Find out the Differences between that Festivals.

SEMINAR: Conduct a seminar about "Secularism".

GROUP DISCUSSIONS: Conduct a Group discussion on "Unity And Diversity".

FIELD WORK: Visit government office and make a report on reservation.

Information collection: List out some points on how the Indian Secularism differs from American Secularism.

REFERENCE: Internet, Daily News Papers.

CHAPTER 21

PERFORMING ARTS-ARTISTS IN MODERN TIMES

ALBUM: About- Different Dancers, Musical instruments and pictures

Prepare wall poster : Prepare wall posters on Seasonal Pictures of festivals and paste in your school.

SCRAP BOOK: About- Folk Arts and Artists and name them

FIELD WORK: Select some area to collect village customs and cultures. Ex: Burrakatha, Harikatha etc.

Prepare Script: At School level.

Group Discussion: Conduct a discussion on "Arts play an important role in reducing stress".

CHAPTER 22

FILM AND PRINT MEDIA

SCRAP BOOK: Take one telugu movie and collect all images in the film and prepare a report.

Information collection: Collect some English movies and name them.

GROUP WISE: MANUSCRIPT MAGAZINE

Prepare list : Prepare list of actors and write essay about each of them. And prepare a manuscript magazine.

Paper Clip Collection : Print media – paper clip collection.

Information collection: Collect patriotic songs and practice them.

Information collection: Prepare and collect film tools and prepare models.

EXHIBITION AT SCHOOL LEVEL : Languages followed by artists-List them Classify city level and village level arts and cultures.

DANCE : Conduct “DHIMSA DANCE” in your school cultural programmes.

Prepare chart : Prepare charts of various Awards for various movies.

Debate: influence of film and print media on the society and they are the main source of entertainment now-a-days.

CHAPTER 23

SPORTS NATIONALISM AND COMMERCE

MANUSCRIPT MAGAZINE: Each Student take a sport/game and prepare an essay about it. And finally prepare a **Manuscript Magazine** : manuscript magazine with all the essays from students.

Classification: Classify Indoor – Outdoor games.

Chart : Prepare measurement chart about games.

Model: Prepare models about sports equipment.

List out: National games/sports list. State level Sports/games list

Prepare list : Prepare the list of Sportsmen/Sports women who have won in international games. Ex: Olympic games, Asian Games, Commonwealth games.

Group Discussion: Conduct a group discussion on “Sports promote the feelings of national integration”.

CHAPTER 24

DISASTER MANAGEMENT

Album: Prepare an album on any recent disaster in various places in India and around the World.

1. News paper clippings
2. Albums
3. Scrap books
4. Magazines
5. Time line chart about disasters.

CLASS - VIII : ASIGNMENTS

CHAPTER 1 : READING AND ANALYSIS OF MAPS

1. Who invented the Latitudes and Longitudes & Grid System?
2. What are the uses of Maps – in our daily life & particularly for the explorers?
3. How many Continents are divided as per Bible? What is the largest Continent?
4. What is the Birth Place of Jesus Christ?
5. How do symbols help in reading Maps?
6. Find out the similarities of Ancient Maps and Recent Maps?
7. Write about Amaravathi on Historical Base?
8. What are the most populous Nations as per 2005 & 2011?
9. South East Asian Continent is getting more rainfall. Why?
10. Define the following
 1. Geographer
 2. Depict
 3. Grid
 4. Perspective
 5. Contour Lines
 6. Exploration

CHAPTER 2 : ENERGY FROM THE SUN

1. Prepare Mean Temperature Charts of India.
 1. Temperature & Pressure - January
 2. Temperature - July & April
 3. Temperature - October
2. World Mean Annual Temperature – Charts of January & July.
3. What are the differences between Insolation and Radiation?
4. What are the effects on Nuclear Energy?
5. What are the effects of Global Warming?
6. Define the following?
 1. Atmosphere
 2. Condensation
 3. Solar Radiation
 4. Insolation
 5. Angle of Incidents
 6. Heat Balance
 7. Temperature Inversion
 8. Global Warming
7. Appreciate the Green Houses.
8. The “Sun is the source of heat on the Earth” Write a comment on it.
9. Write individual opinion on “effects on Human body “if very cool and heat condition.
10. What is the normal temperature of human body?

CHAPTER 3 : EARTH MOVEMENTS AND SEASONS

1. What are the results of Rotation and Revolution?
2. What would happen if the earth did not rotate on its own axis?
3. Write an explanation about Indian seasons?
4. Identify the Country or (Russia) Moscow & Falkland in the Temperature Belt in both Northern and Southern Hemisphere. Compare the seasons in those countries and your places. Which will be warmer in May and June and which will be cooler in December and January or in March or September.
5. Map Pointing.
Locate the following on World outline map.
 1. Norway
 2. Iceland
 3. Denmark
 4. Alaska
 5. Karasea
 6. London, Sweden
 7. Finland, New foundland
 8. Russia – Moscow
 9. Lapland
 10. Canada
6. What is the Impact of seasons on the lives of Human beings?
7. Define the following:
 1. Axis
 2. Orbit
 3. Snowfall
 4. Horizon

CHAPTER 4 : THE POLAR REGIONS

1. What is the Arctic Circle?
2. What is meant by Icebergs?
3. Locate the following places on World outline map.
Alaska, Canada, Greenland, Siberia, East Siberian Sea,
Hudson Bay, Nuuk, Franz Josef land
4. Write brief note on Eskimos hunting lifestyle?
5. Polar region is being destroyed by the other region people. Why?
6. If the Sun does not set entire day (24 hours) and another day where there is no Sun on the Sky what changes will happen in your daily life. Write a note on them.
7. “Tree Less Region”– write a few lines on it.

Write polar Zone Continents & locate on the world map.

CHAPTER 5 : FORESTS USING AND PROTECTING

1. Define Forest. Or what is Forest?
2. What are the uses of Teak Forests?
3. What is the density of population near Forest areas of A.P.?
4. "Forest Right 2006 is suitable in your area" – write a report on it.
5. What suggestion do you have for increasing the forest cover in our state?
6. Create a timeline Chart to show the major changes in use of forest over countries?
7. Write a few lines about "How man's interaction with nature has resulted in different hazardous situation such as deforestation and soil erosion causing Floods and Draughts.
8. Name some Medicinal plants.
9. In what way do you think it makes up for the Justice done to the tribal people in the past 200 years?
10. Why do you think tribal people were not able to pay land review – demanded by the government?
11. G.D.P. value – from forest – Make a chart
12. Write about Global Warming?
13. Select soil is also important to grow one tree.

Locate the places of forests in A.P. & India. (Use Atlas)

CHAPTER 6 : MINERALS AND MININGS

1. What is meant by minerals?
2. What is underground Mining?
3. What is Pit Mining?
4. How the minerals helping to the Country in development?
5. Write your appreciation about A.P. Minerals.
6. Contribution of Mining to our economy is Low or high - Write your comment.
7. What are the problems raised in the Open Cost Mining?
8. The minerals do not belong to any particular person but they belong to all people. How do you justify?
9. Narrate the difference in requirement of labour in mines while using machines and human labour?

10. Answer the following two different statements

1. We cannot live because of minerals.
2. We cannot live without minerals.

How these two statements will effect on environment.

CHAPTER 7 : MONEY AND BANKING

1. What is meant by Barter System?
2. Write a comparison of Cheque and Demand Draft?
3. Write about Fixed Deposit Schemes?
4. How Bank Loans are useful?
5. Write a few lines about “Hundis “?
6. “Cheque “– transactions is getting corrupted. How? What are the reasons?
7. Electronic Transaction can give clear date - about your Transactions. Is it true or not. Give your opinion.
8. Name some Nationalized Banks?
9. Write the instructions of A.T.M.?
10. To work on A.T.M. – Write about security precautions?
11. Mentions some short loans?
12. What is difference between Current account and Savings Accounts ?

CHAPTER 8 : IMPACT OF TECHNOLOGY ON LIVELIHOOD

1. People live in forest and adjacent to forest cannot afford to use latest technology? What measures do you suggest for improving their lives?
2. “New skills new jobs “What are the newly created jobs for young people in your area?
3. What are the advantages of C H? Who will benefit most? Why do farmers use C H ?
4. Name some machines in
 1. Agriculture Sector
 2. Industrial Sector
 3. Service Sector
5. Building dams (Projects) List out them and Locate on outline Indian Map. Ex: Prakasam Bar-
rage.

6. What is Technology?
7. What is the third Largest Telecommunication Network in the World ?
8. Can you establish a Small Scale Industry at your school level?
Ex: 1. Candles Preparation 2. Book Binding 3. Preparation of School Bags.
9. What is Industrial Revolution?
10. What are the contributors to the Industrial Revolution?

CHAPTER 9 : PUBLIC HEALTH AND THE GOVERNMENT

1. What are Public Amenities?
2. What is Nutrition?
3. What is meant by Anganwadi Centres ?
4. Who is Village Health Worker?
5. What steps can be taken to prevent Malaria?
6. Write a few lines about Red Cross?
7. Can you find out Good Services of Mother Theresa?
8. Find out some polluted areas in A.P. & India. Through the pollution what are the diseases identified?
9. Ponds water leads to get diseases, narrate
10. How "CT Scan" will identify diseases?
11. What are the Health Services rendered to remote areas by Government

Take one Super Specialty Hospital. Prepare matter about all round development of Hospital?
Ex: NIMS Hospital

CHAPTER 10 : LAND LORDS AND TENANT UNDER THE BRITISH AND THE NIZAM

1. What are the differences and similarities between Dora & Zamindars?
2. Write about our Indian Agricultural Land Systems?
3. Write a brief note on Ryotwari System?
4. Can you find out the difference between Mahalwari System and Ryotwari System?
5. Write about Vetti?
6. Who prepared the plan to establish Prakasam Barrage?
7. Locate the following on Indian outline Map.
 1. Ganjam 2. Awadh 3. Hyderabad 4. River Godavari

8. Write about "Neeli Crop" at the time of Britishers.
9. Write about Opium and its effects on Society?
10. Who are Money Lenders?
11. What are Jagirs?
12. In what way can Government help to prevent famines even in times of crop failure?
13. What is difference between Rent & Revenue?

CHAPTER 11

A.NATIONAL MOVEMENT-THE EARLY PHASE- 1885-1919

B.NATIONAL MOVEMENT-THE LAST PHASE -1919-1947

1. Why is it important to understand the economic impact of British Rule in India?
2. How did different parts of the country and people respond to division of Bengal?
3. Are there any Movement taken place in your region recently why? Locate some Freedom Movement places in Atlas?
4. As a part of Non-Co-Operation Movement what incidents took place in our state ?
5. Write about Tilak contributions to Swadeshi Movements?
6. "Do or Die" Write a few lines about it?
7. Write about I.N.C.
8. What are the Aims of National Congress of 1885?
9. "Direct Action Day" Write few lines about it?
10. What is the difference between Religious State and Democratic State?
11. What is Nationalism?
12. Is the word "Secular" is suitable to India?
13. Who is a Terrorist?

CHAPTER 12 : FREEDOM MOVEMENT IN HYDERABAD STATE

1. What is Feudal System?
2. If you have Nizam Rule in your area? How do you feel about it?
3. Locate Nizams rules places on Indian Outline Map?
4. Describe the activities of Andhra Mahasabha for the promotion of education?
5. Do you like to become a Freedom Fighter of any place?

6. What are the demands of the Hyderabad State Congress? How many of them are fulfilled after 1948?
7. Write a para on Samaikyandhra ?
8. Map Pointing :
 1. Aurangabad
 2. Warangal
 3. Gulbarga
 4. Rayachoor

CHAPTER 13 : THE INDIAN CONSTITUTION

1. What is Cabinet Mission Plan?
2. What is Constitution?
3. What is Writer Constitution?
4. What thoughts inspired the framing of our Constitution?
5. Who are the members of Constituent Assembly?
6. Who was elected to the Drafting Commission?
7. Prepare an article about Dr. B. R. Ambedkar ?
8. What are the important features of our Constitution?
9. Write about “ All are Equal before Law “

CHAPTER 14 : PARLIAMENT AND CENTRAL GOVERNMENT

1. What are the conditions of Election Commission?
2. Election Commission is Autonomous – Write your opinion?
3. Write about Single Voting System?
4. Write about Parliament?
5. What is the process to elect the Indian President?
6. Role of Indian women at Indian General Elections?

CHAPTER 15 : LAW AND JUSTICE

1. What is Civil Case?
2. What is Criminal Case?
3. Who is District Magistrate?
4. What are the weapons of Justice?
5. What is Judgement? Explain “Rule is Rule, Rule Is Equal to All” Explain it.
6. Explain Appellant System in India?

CHAPTER 16 : ABOLITION OF ZAMINDARI SYSTEM

1. Write about Bhoodan Movement?
2. Imagine you are a Landlord at the time of Land Reform Act, describe your feelings and action at that time.
3. Locate Pochampalli (Village) on A.P. Map
4. What is Jagirdari System?
5. What is Tenancy Act? Who is Vetti?
6. Why did Land Ceiling become necessary?

CHAPTER 17 : UNDERSTANDING POVERTY

1. What is Poverty?
2. What is Below Poverty Line?
3. What is "Standard of Living "?
4. What are the conditions, "not to get the minimum standard of Living"
5. Do you find any Hunger Revolution? Ex: At the time of Russian Revolution.
6. Russian slogan "We need Bread – Not War". Write a few lines about that slogan?
7. Write your suggestions about removal of poverty?
8. How "Spanadana" Program will help to remove poverty?
9. Which sector is getting more Poverty?
10. Are the Government Welfare Schemes can rectify the Poverty?

CHAPTER 18 : RIGHTS APPROACH TO DEVELOPMENT

1. What are the Human Rights declared by U.N.O.?
2. R.T.I. is boon to children?
3. Write about UNICEF & UNESCO?
4. What is historical view before the implementation of R.T.I. & R.T.E.?

CHAPTER 19 : SOCIAL AND RELIGIOUS REFORM MOVEMENT

1. What are the Qualities of Social Reforms you like?
2. Write about Raja Ram Mohan Roy?
3. How the Print Media will help to reform the Society?
4. What are the Welfare Programmes implemented by the Government to Indian Women Wide?
5. Write about Rama Bai, Sir Syed Ahamed Khan?
6. Write about Social Reforms regarding Caste and Community?
7. Write a few lines about Dr. B.R. Ambedkar views on Social Reforms?

CHAPTER 20 : UNDERSTANDING SECULARISM

1. What are National Festivals?
2. What is Secularism?
3. What are the reasons that some countries are not following Secularism?
4. Equality is the Main Principle to Secularism. Is it True or Not?
5. Find out the differences between Secular State and Religious State?

CHAPTER 21 : PERFORMING ARTS-ARTISTS IN MODERN TIMES

1. Describe the performance of Tolubommalata ?
2. What are the major things that had affected the popularity of Folk Arts?
3. How did the performing artists earn a livelihood?
4. What is your opinion about the present position of Bharathnatyam?
5. Do you learn any dance?

CHAPTER 22 : FILM AND PRINT MEDIA

1. Newspapers have played a key role with slogans at the time of Freedom Movement?
2. Prepare the differences between Film and Dance?
3. Write about Mechanism of Camera?
4. Can repair Press Machine?
5. Do you Know Projector Operation?

CHAPTER 23 : SPORTS NATIONALISM AND COMMERCE

1. How T.V. Technology influenced the development of Contemporary Cricket?
2. What are the possible conditions to get Medals in each game?
3. Timeline Chart of Games and Sports?
4. How can we get National Integration with the help of Games?
5. Contributions are also helpful to develop the games?
6. We can get good health through Games.

CHAPTER 24 : DISASTER MANAGEMENT

1. What is Disaster?
2. Mention some Disasters?
3. Write about one Disaster?
4. How can you rectify the Loss of Disaster?
5. Prepare Map-work plan on Disaster Plan?

CLASS - 1X

PROJECTS IN MATHEMATICS

PROJECT: Set of activities in which pupils discover experiment and collect information by themselves in a natural situation to understand a concept and arrive at a conclusion may be called a PROJECT.

Project work will develop the skills in academic standards such as problem solving, logical thinking, mathematical communication, representing data in various forms in daily life situations. This approach is to encourage the pupils to participate, discuss (articulation) and take active part in class room processes.

Project work essentially involves the students in a group work and submitting a report by the students on a given topic, after they worked on it, discussed it and analyzed it from various angles and perspectives.

ASSIGNING PROJECTS – TEACHER’S ROLE

1. Teachers must have a thorough awareness on projects to be assigned to the students.
2. Teachers must give specific and accurate instructions to the students.
3. Teachers must see that all the students must take part in the projects assigned.
4. Allot the projects individually on the basis of student’s capabilities and nature of the projects.
5. Teachers must see that children with different abilities are put in each group and give opportunity to select division of work according to their interesting task at the time of allotment of the project.
6. Teachers must analyze and encourage the pupil, while they work on the project.
7. Teachers should act as facilitators.
8. Proper arrangements must be made for the presentation and discussion of each student’s project, when the students must be told whom to meet to collect the information needed.
9. Allow the students to make use of the library, computer lab etc.
10. Give time and fix a date to present the project. Each project should be submitted within a week in the prescribed Proforma.
11. Each project can be allotted to more number of pupils just by changing the data available in and around the school.
12. The projects presented should be preserved for future reference and inspection.
13. Every mathematics teacher is more capable to prepare projects based on the Talent/Interest/ Capability of students.
14. Teacher also ideal to the students by adopting one difficult project from each class.
15. Procedure of the project should be expressed by the students using his own words.
16. Each student should submit 4 projects in an academic year.

Welcome your comments and suggestions.

CLASS – IX : MODEL PROJECT

PROFORMA

Preliminary Information

Class : 9

Subject : Mathematics

Name of the Lesson/Unit : SURFACE AREAS AND VOLUME

No. of the Project : 1

Allotment of work :

(i) Preparation of models

- Masters Manikanta Reddy & Prem kumar

(ii) Measuring and recording of dimensions

- Master Venkatesh

(iii) Preparation of tables

- Master Masthan

(iv) Presentation of the project

- Master Chakravarthy

DETAILED INFORMATION OF THE PROJECT

1. Title of the Project :

Identify / collect / prepare the models of Cylinder and Cone . Find the formula for its CSA, TSA and Volume. Find CSA, TSA and Volume of collected models by measuring the required dimensions.

2. Objectives of the project :

- (i) Identification of cylinder, cone.
- (ii) Find the formula for LSA, TSA and Volume of cylinder and cone.
- (iii) Find the LSA, TSA and Volume of collected articles which are in the shape of cylinder & cone.

3. a) Materials used :

Charts, Scale, Scissors, Pencil, cellophane tape, long scale etc.

b) Materials collected :

Water drum, bucket, tea cups, joker's cap, ice-cream cup

4. Tools :

- (i) Preparation of materials – Prepared cylinder and cone.
- (ii) Identification – Volume of Cube is $\frac{1}{3}$ rd volume of cylinder.
- (iii) Comparison – Identification of all measurements.

5. Procedure :

1. Introduction : CYLINDER

I prepare a cylinder model by using the rectangular shaped sheet.

2. Process :

Take a rectangular sheet of length l and breadth b units.

Prepare a cylinder by joining the breadths of rectangle.

'b' becomes 'h' of cylinder

'l' becomes circumference of the cylinder = $2\pi r$.

Here 'r' is the radius of the cylinder

LSA of cylinder = Area of rectangle = $l \times b = 2\pi r \times h = 2\pi rh$

LSA of cylinder = $2\pi rh$ Sq.units

TSA of cylinder = LSA + Areas of top & bottom ($2\pi r^2$)

$$= 2\pi rh + 2\pi r^2 = 2\pi r (h + r)$$

$$\text{TSA of cylinder} = 2\pi r (h + r) \text{ Sq. units}$$

Volume : Volume of cylinder = Area of base x height

$$= \pi r^2 \times h = \pi r^2 h$$

$$V = \pi r^2 h \text{ Cubic units}$$

1. **Introduction** : CONE

1. Draw a circle and separate a sector from circle. Prepare another same as above.
2. Take one sector and prepare a cone by joining the radii.
3. Take another sector and cut small sectors as many as you can.

These portions are almost like small triangles with base $b_1, b_2, b_3, \dots, b_n$ and height equal to slant height 'l' of the cone.

2. **Process**:

$$\begin{aligned} \text{Curved Surface Area of cone} &= \text{Sum of areas of all triangles} \\ &= \frac{1}{2} b_1 l + \frac{1}{2} b_2 l + \dots \\ &= \frac{1}{2} l (b_1 + b_2 + \dots + b_n) \\ &= \frac{1}{2} l (\text{circumference of cone}) \\ &= \frac{1}{2} l \times 2\pi r \\ &= \pi r l \end{aligned}$$

$$\text{CSA of cone} = \pi r l \text{ Sq. units}$$

$$\begin{aligned} \text{TSA of cone} &= \text{CSA} + \text{Area of its base} \\ &= \pi r l + \pi r^2 = \pi r (l + r) \end{aligned}$$

$$\text{TSA of cone} = \pi r (l + r)$$

VOLUME OF CONE :

1. Prepare a cylinder and a cone of equal radius and heights.
2. Take the sand into a cone and fill the cylinder.
3. Observe and note how many times you fill the sand into cylinder using cone.

i.e. 3 times volume of cone = 1 cylinder volume = $\pi r^2 h$

$$\text{Volume of cone } V = \frac{1}{3} \pi r^2 h \text{ Cubic units}$$

3. Recording the data:

S. No.	Name of the cylinder	Dimensions	CSA = $2\pi rh$	TSA = $2\pi r (h+r)$	Volume $V = \pi r^2 h$
1	Water drum	r = h =			
2	Bucket	r = h =			
3	Tea cup	r = h =			

S. No.	Name of the Cone	Dimensions	$l = \sqrt{r^2 + h^2}$	CSA = πrl	TSA = $\pi r (l+r)$	Volume $V = \frac{1}{3}\pi r^2 h$
1	Joker's cap	r = 7 cm h = 24 cm				
2	Ice cream cup	r = 3 cm h = 4 cm				
3	Funnel	r = 6 cm h = 8 cm				

4. Analysis :

If we take a cylinder and a cone of equal height and radius

Volume of cylinder $V = \pi r^2 h$

Volume of a cone = $\frac{1}{3} \pi r^2 h$

Ratio of volumes of cylinder and cone = $\pi r^2 h : \frac{1}{3} \pi r^2 h$

$$= 1 : \frac{1}{3} = 3 : 1$$

5. Conclusion :

S.No.	Cylinder	Cone
1	LSA = $2\pi rh$ Sq.units	CSA = πrl Sq.units
2	TSA = $2\pi r (h + r)$ Sq.units	TSA = $\pi r (l + r)$ Sq.units
3	$V = \pi r^2 h$ Cubic units	$V = \frac{1}{3} \pi r^2 h$ Cubic units

6. Experiences of the students :

(i) We enjoy while preparing the models i.e.

1. Cylinder from a rectangle.
2. Cone from a sector

- (ii) We find out CSA, TSA and Volume of cylinder very easily.
- (iii) We feel difficult in finding CSA of cone while cut the sector into smaller triangles.
- (iv) We enjoy while finding the volume of cone, filling the cylinder by using cone with same height and radius.
- (v) It is very difficult to prepare a cone with equal height and radius of a cylinder.
- (vi) It is easy to prepare a cylinder with equal radius and height of a cone.

7. Doubts & Questions :

1. We cut a sector into small sectors but we take it as triangles, while finding the CSA of a cone.
2. Can we prepare a cone with equal height and radius of cylinder?

8. Acknowledgement :

1. Convey our sincere thanks to who are cooperate and putting their earnest efforts in completing the project.

9. Reference Books/Resources :

1. Class–VIII & IX Mathematics text books

10. Signature of the student(s) :

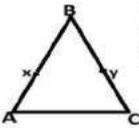
CLASS – IX : LESSON WISE PROJECTS

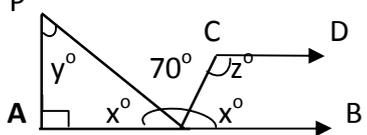
Sl. No.	Name of the lesson	Title of the Project
01	Real Numbers	<ol style="list-style-type: none"> 1. Collection of information about Irrational Numbers- History of Irrational Numbers - give daily life examples. 2. Representation of Irrational Numbers on the number line. 3. Construction of “square root spiral”. 4. Collect and identify any five real numbers in our daily life situation which contains at least three decimal places and represent on the number line by using the process of successive magnification. 5. List out and verify all the operations on Real Numbers by taking own examples.
02	Polynomials and Factorization	<ol style="list-style-type: none"> 1. Formation of Polynomials by using daily life situations – Degree - zeroes of a polynomial. 2. Factorization of Polynomials using Remainder theorem and Factor theorem. 3. Geometrical proof of Identities. 4. Factorization of Polynomials using Algebraic identities. 5. Find the dimensions of rectangle whose areas are x^2+5x+6, $x^2+24xy+9y^2$, $4x^2-(y^2/25)$, $25a^2-35a+12$ etc. 6. Find the dimensions of the cuboids whose volumes are $3x^2-12x$, $12y^2+8y-20$, $x^3-23x^2+142x-120$ etc.
03	The elements of Geometry	<ol style="list-style-type: none"> 1. Development of Geometry – Euclid’s contribution
04	Lines and Angles	<ol style="list-style-type: none"> 1. Draw different types of lines and angles by observing the surroundings (by using geo-board also) and write its concept map. 2. Observe the surroundings and draw the parallel lines and transversal. Identify the different types of angles formed and write about these angles.(supporting rods of window etc.. or by using Geo-board.) 3. Self generating Golden Triangle – Golden ratio.
05	Co-ordinate Geometry	<ol style="list-style-type: none"> 1. Locating of points in a plane and find the area of different types of figures if the points are joined in an order.(use daily life examples, surroundings and geo board etc.)
06	Linear equations in two variable	<ol style="list-style-type: none"> 1. Formation of Linear Equations in two variables by using daily life situations and find solutions. 2. Graphical representation of Linear equations in two variables and identify the solutions (all points lies on the line, are solutions) 3. Formation of Linear Equations in two variables which are parallel to x and y axes from daily life situations and its graphical representation.

Sl. No.	Name of the lesson	Title of the Project
07	Triangles	<ol style="list-style-type: none"> 1. CPCT & Congruency Rules of triangles by preparing models. 2. Properties of Triangles by preparing and using models. 3. Inequalities of triangles by preparing and using models.
08	Quadrilaterals	<ol style="list-style-type: none"> 1. Identification of different types of quadrilaterals in our surroundings and draw in a flow chart name wise. 2. Midpoint Theorem of Triangle through activity or models. 3. Observe and write the properties of parallelogram through activities or by preparing models. (by using broom sticks, match sticks, empty refills and cycle valve tubes etc.)
09	Statistics	<ol style="list-style-type: none"> 1. Collect the data (it may be heights, weights, marks, consumption of different types of provisions in a month or which are available in our surroundings) and construct a grouped frequency distribution table and find the range. 2. Collect the data and find all types of Measures of Central Tendency for ungrouped data. 3. Collect the data and prepare Ungrouped Frequency Distribution Table and find the Mean through Deviation Method. 4. Collect the data and prepare the Frequency Distribution table and represent this information through Bar- Graphs.
10	Surface areas and Volumes	<ol style="list-style-type: none"> 1. Identify /collect/prepare models of cube, cuboid, prism and pyramid, find formula for volume and find the volumes of the above collected models by measuring the required measurements. 2. Identify /collect/prepare models of Cylinder and Cone, find the formula for Lateral surface area, Total surface area and Volume and find LSA, TSA of collected models by measuring the required measurements. 3. Identify /collect/prepare models of Sphere and Hemisphere and find formulas for Lateral surface area, Total surface area and Volume. Find LSA, TSA and Volume of collected models by measuring the required measurements. 4. i) Identify /collect/prepare models of a pyramid and a right prism of same base and height, verify the relation between its volumes. ii) Identify /collect/prepare models of Cylinder and Cone of same height and verify the relation between its volumes. 5. Prepare the magic squares of order 3x3, 4x4, 5x5, 6x6, ... etc. <p>Note: The teacher is requested to allot the Projects by splitting or by changing at his convenience.</p>

Sl. No.	Name of the lesson	Title of the Project
11	Areas	<ol style="list-style-type: none"> Find the area of the rectangle by dividing the rectangle into equal compartments. Prepare the flow chart of Area of Planar Regions. Prove the Theorems on areas by using the graph sheets. State the Pythagoras theorem and prove it by using models. Prepare puzzles on areas.
12	Circles	<ol style="list-style-type: none"> Identify from our surroundings the shape of a circle, semi-circle, congruent circles, concentric circles, minor arc, major arc, minor segment of circle, major segment of circle. Draw in a flow chart and prepare these models. Construct different Circumcircles and identify the circumcentre. Identify the following by preparing the models <ol style="list-style-type: none"> The relation between angle subtended by an arc at the centre and angle subtended by it on the remaining arc of the circle. Angles subtended by an arc in the same segment of a circle. Prepare the different models and observe about <ol style="list-style-type: none"> The sum of all angles of a cyclic quadrilateral The sum of opposite angles of a cyclic quadrilateral
13	Geometrical constructions	<ol style="list-style-type: none"> Construction of triangles when the following measurements are given <ol style="list-style-type: none"> Base, a base angle and the sum of other two sides Base, a base angle and the difference of other two sides. The perimeter and its two base angles. Construction of segment of circle, if length of chord and one angle in a segment of a circle were given. What happen if the angle in the segment of circle is right angle? Draw the figure and give reason. <p>Teacher is requested to allot the above projects with different measurements for each student.</p>
14	Probability	<ol style="list-style-type: none"> Understanding of Probability – through daily life situations. Finding of the probability of different situations (tossing of two coins – rolling of a die etc)
15	Proofs in Mathematics	<ol style="list-style-type: none"> Prepare the list about <ol style="list-style-type: none"> Mathematical statements Conjectures Axioms Theorems Write the logical arguments in mathematical proof and give one proof of any theorem.

CLASS – IX : LESSON WISE ASSIGNMENTS

SL. NO.	Name of the lesson	ASSIGNMENTS
1	Real Numbers	<p>A1- 1. How Irrational numbers differ from rational numbers, explain with suitable examples? 2. Find the value of $\sqrt{7}$ upto six decimal places by long division method?</p> <p>A2- 1. Simplify $\sqrt[4]{81} - 8\sqrt[3]{343} + 15\sqrt[5]{32} + 225$ 2. Find the values of a and b i) $(\sqrt{3} + \sqrt{2}) / (\sqrt{3} - \sqrt{2}) = a + b\sqrt{6}$ ii) $(\sqrt{5} + \sqrt{3}) / (2\sqrt{5} - 3\sqrt{3}) = a - b\sqrt{15}$</p>
2	Polynomials and Factorization	<p>A1-1. If -5 is a zero of a polynomial $p(x) = 5x^2 - 11x + 2a$, find the value of a? 2. If 5 and -5 are the zeroes of the polynomial $f(x) = 2x^3 + x^2 - ax + b$, find the values of a and b?</p> <p>A2-1. Find the remainder when $9x^3 - 3x^2 + x - 5$ is divided by $(x - 2/3)$? 2. If the polynomials $2x^3 + 9x^2 + 3x - 5$ and $x^3 + x^2 - 4x + a$ leave the same remainder when divided by $x - 2$ find the value of a?</p> <p>A3-1. If $(x - 2)$ and $(x - 1/2)$ are factors of $px^2 + 5x + r$, show that $p = r$. 2. If $(x^2 - 1)$ is a factor of $ax^4 + bx^3 + cx^2 + dx + e$, show that $a + c + e = b + d = 0$. 3. If $x^2 - x - 6$ and $x^2 + 3x - 18$ have a common Factor $(x - a)$, then find the value of a?</p> <p>A4-1. Factorize $9a^2 + 4b^2 + 16c^2 + 12ab - 16bc - 24ca$? 2. Factorize $27x^3 + y^3 + z^3 - 9xyz$?</p> <p>A5-1. Verify that $x^3 + y^3 + z^3 - 3xyz = \frac{1}{2}(x + y + z)[(x - y)^2 + (y - z)^2 + (z - x)^2]$ 2. If $x + y + z = 0$ then show that $x^3 + y^3 + z^3 = 3xyz$.</p>
3	The Elements of Geometry	<p>A1-1. Write some of Euclid's axioms? 2. Write Euclid's postulates.</p> <p>A2-1. Draw an equilateral triangle whose sides are 5.6cms. 2.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>In the adjacent figure, we have $BX = \frac{1}{2} AB$, $BY = \frac{1}{2} BC$ and $AB = BC$. Show that $BX = BY$.</p> </div> </div>

SL. NO.	Name of the lesson	ASSIGNMENTS
4	Lines and Angles	<p>1. </p> <p>In the above figure $AB \parallel CD$, find the values of x, y and z?</p> <p>2. If a side of a triangle is produced, then the exterior angle so formed is equal to the sum of the two interior opposite angles.</p>
5	Co-ordinate Geometry	<p>A1- 1. Plot the points $(1,0)$, $(3,0)$, $(-2,0)$, $(-5,0)$ what do you observe? 2. Plot the points $(0,1)$, $(0,3)$, $(0,-2)$, $(0,-5)$ what do you observe ?</p> <p>A2 - 1. Plot the points $(0,0)$, $(0,3)$, $(3,4)$, $(4,0)$ and join them with straight lines to make a rectangle and find the area of the rectangle? 2. Plot the points $(2,3)$, $(6,3)$ and $(4,7)$ on a Graph sheet. Join them to make it a triangle. Find the area of the triangle?</p>
6	Linear Equation in two variables	<p>A1 - 1. Draw the graph of the equation $2x+3y=12$, find co-ordinates of the points where the graph cuts the co-ordinate axes and also find the solutions from the graph</p> <ol style="list-style-type: none"> whose y-co-ordinate is 3 and x co-ordinate is -3. <p>2. When Rupa was born, his father was 25 years old. Form an equation and draw a graph for this data. From the graph find</p> <ol style="list-style-type: none"> The age of the father when Rupa is 25 years old. Rupa's age when her father is 40 years old. <p>A2- 1. Draw the graph of $X=3$ and $y=5$ and write the nature of the lines. 2. Draw the graph of $y=0$ and $x=0$ and what do you notice from the graph?</p>
7	Triangles	<p>A1-1. If in two right triangles the hypotenuse and one side of one triangle are equal to the hypotenuse and one side of the another triangle, then the two triangles are congruent.</p> <p>2. If two sides of a triangle measure 4 cm and 6 cm find all possible measurements (positive integers) of the third side. How many distinct triangles can be obtained?</p>

SL. NO.	Name of the lesson	ASSIGNMENTS																										
8	Quadrilaterals	<p>A1 – 1. Show that the angle bisectors of a parallelogram form a rectangle.</p> <p>2. AB and DC are two parallel lines and a transversal l, intersects AB at P and DC at R. Prove that the bisectors of the interior angles form a rectangle.</p> <p>A2- 1. The line drawn through the midpoint of one of the sides of a triangle and parallel to another side will bisect the third side.</p> <p>2. In triangle ABC, D,E and F are the midpoints of sides AB, BC and CA respectively. Show that triangle ABC is divided into four congruent triangles, when the three midpoints are joined to each other.</p>																										
9	Statistics	<p>A1- 1. Centuries scored and number of cricketers in the World are given below. Find the mean, median and mode of the given data.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>No. of centuries</td> <td>5</td> <td>10</td> <td>15</td> <td>20</td> <td>25</td> </tr> <tr> <td>No. of cricketers</td> <td>56</td> <td>23</td> <td>39</td> <td>13</td> <td>8</td> </tr> </table> <p>2. If the mean of the following frequency distribution is 7.2, find the value of k</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>X</td> <td>2</td> <td>4</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> </tr> <tr> <td>Y</td> <td>4</td> <td>7</td> <td>10</td> <td>16</td> <td>k</td> <td>3</td> </tr> </table>	No. of centuries	5	10	15	20	25	No. of cricketers	56	23	39	13	8	X	2	4	6	8	10	12	Y	4	7	10	16	k	3
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10	Surface areas and volumes	<p>A1- 1. The volume of a cylinder is 308 cm^3. Its height is 8 cm. Find its lateral surface area and total surface area?</p> <p>2. One side open cylindrical drum has inner radius 28 cm and height 2.1 m. How much water you can store in the drum? Express in litres?</p> <p>A2-1. The height of a tent is 9m. Its base diameter is 24m. What is its slant height? Find the cost of canvas cloth required, if it costs Rs 14 per sq.m?</p> <p>2. A joker's cap is in the form of right circular cone of basic radius 7 cm and height 27 cm. Find the area of the sheet required to make 10 such caps?</p> <p>A3-1. A metallic cylinder of diameter 5 cm and height $\frac{10}{3}$ cm is melted and cast into a sphere. What is its diameter?</p> <p>2. A hemispherical bowl has diameter 9cm. The liquid is poured into cylindrical bottles of diameter 3 cm and height 3cm. If a full bowl of liquid is filled in the bottles, find how many bottles are required?</p>																										

SL. NO.	Name of the lesson	ASSIGNMENTS
11	Areas	<p>A1-1. Find the area of the figure formed by joining the mid points of the adjacent sides of a rhombus with diagonals 12 cm and 16 cm?</p> <p>2. In triangle ABC, D,E,F are the mid points of sides BC,CA and AB respectively. show that</p> <ol style="list-style-type: none"> BDEF is a parallelogram. Area of DEF = $\frac{1}{4}$(area ABC). Area of BDEF = $\frac{1}{2}$(area ABC).
12	Circles	<p>A1-1. Construct a Circumcircle of triangle ABC where AB=5 cm and $\angle B=75^\circ$ and BC=7cm.</p> <p>2. The pairs of opposite angles of a cyclic quadrilateral are supplementary</p>
13	Geometrical constructions	<p>A1-1. Construct a triangle ABC given BC=5cm, AB+AC=8 cm and $\angle A=60^\circ$</p> <p>2. Construct triangle ABC in which BC=4.2cm $\angle B=30^\circ$ and AB-AC=1.6 cm.</p> <p>A-2.1. Construct a triangle ABC with $\angle B=60^\circ$ $\angle C=45^\circ$. and AB+BC+CA=11 cm.</p> <p>2. Construct a segment of circle on a chord of length 7 cm and containing an angle of 60°</p>
14	Probability	<p>A-1.1. A coin is tossed 100 times and the following outcomes are recorded Head 45 times and tails 55 times from the experiment</p> <ol style="list-style-type: none"> compute the probability of each outcomes find the sum of probabilities of all outcomes <p>2. A bag contains 5 green marbles ,3 blue marbles, 2 red marbles and 2 yellow marbles. one marble is drawn out randomly</p> <ol style="list-style-type: none"> Are the four different colour outcomes equally likely? Explain. Find the probability of drawing each colour marble? Find the sum of their probabilities ?
15	Proofs in mathematics	<p>A1-1. The sum of three interior angles of a triangle is 180°.</p> <p>2. Prove that if x is odd ,then x^2 is also odd.</p>



MODEL PROJECTS FOR
PHYSICAL SCIENCE
CLASS - IX

MODEL PROJECT-1

- Class** : IX
- Time frame** : 7 days
- Title & Content** : Science Dictionary
- Objectives** : To know and learn to apply meaning of technical Words Given in the text book.
- Assessment Activity** : Science dictionary usage.
- Materials Required** : Science text book, science dictionary, paper and Pencil.

Procedure :

- ★ Instruct the students to underline the technical words in the science text book using pencil.
- ★ Write the underlined words in a note book.
- ★ By using Science Dictionary find the meaning of the underlined words and write them in the note book.
- ★ Use these words in the class room activities.

Learning outcome

Students understand the meaning of the difficult scientific words.

Suggested Remedial Measures

- Teacher encourages students to use the science dictionary in the Library.
- Teacher can guide them on how to use the website for finding meaning for the technical words.

PROJECT REPORT

Name of the project : Making Science Dictionary

Class : IX

Subject : Physical science

Time frame : 7 days

Materials/sources used : IX-class P. science text book, Internet, Reference books, news papers, library.

Details of procedure followed :

1. Collecting scientific terminology from text book,
2. Arrange them alphabetical order.
3. Define the meaning from various sources like reference books, internet and consolidating& analysing data.

Findings& Observations :

1. We knew the meanings of difficult science words.
2. We noticed the scientific terms in day to day life.
3. We understood the utilization of science dictionary in easy mode..

Experiences faced: while preparing the projects we faced difficulty in finding the meanings of some scientific terms.

Project Outcome: We share our experiences with teachers and class mates and parents and we will get the ability of problem solving and research nature in our daily life. our project team submitted the project report along with the project base developed science dictionary to the school library and Students understand the meaning of the difficult scientific words by using this dictionary.

Name of the group members and work allotment :-

SL.No	Name of the team member	Work allotment
1.	A	Collecting the difficult terminology from text book, and news papers some reference books.
2.	B	Arrange the terminology as alphabetical order
3.	C	Finding the meanings and synonyms using with net surfing, source of senior students and different sources
4.	D	-DO-
5.	E (Team leader)	Work allotment, concise work, preparing the project report, and presentation with his team.

Date of submission:

Signatures

MODEL PROJECT-2

Class	: IX
Time frame	: 7 days
Title & Content	: Is matter around us pure? Purification of water
Objectives	: Improvisation of water Purification methods of Contaminated water.
Assessment	: Project based

Activities Materials :

Mud water, Water bottles, pebbles, sand, activated carbon powder (you can make from coconut shell combustion) connectors, a tube, collection tank water TDS meter.

Required Procedure :

Teacher may give instructions to search for simple Methods of Water purification. To select the most practical one, and Guide Them to do it. Students may submit the report on how impure water will be converted in to pure water.

Learning outcome

- ★ Students should know simple method of water purification.
- ★ Students may gain scientific knowledge and skills to design new instruments and its usage and improve their interest in science, to create new devices.
- ★ Students will develop the scientific temper and experimenting skills. Skills to solve problems.

Suggested Remedial Measure

- ★ To screen the simple methods of water purification through multimedia as computer.

Project Report

Name of the project : Improvisation of water Purification methods of contaminated water.

Class: IX

Subject:- Physical science

Time frame:- Week days

Materials/sources used : Mud water, Water bottles, pebbles, sand, activated carbon powder (you can make from coconut shell combustion) connectors, a tube, collection tank water TDS meter. IX-class P. science text book, Internet, NCERT IX science text.

Details of procedure followed :

1. We collected the required materials from different sources for the project.
2. We searched the science blogs in internet for technical knowledge to Similar projects for picture collection.
3. We purified the mud water and tested the results with TDS data.
4. We take the help of local health officer/sanitary inspector for above data analysis.

Findings& Observations:-

1. We knew the importance of water purified components like coal, sand pebbles.
2. We noticed the importance of aeration of water.
3. We notice Total dissolved solids in water and impurities in water.
4. By the advice of health officer we understood TDS parameters for water analysis and importance chlorination.

Experiences faced: while preparing the projects we faced difficulty in collecting the TDS meter

Project Outcome: We share our experiences with teachers and class mates and parents and we will get the ability of problem solving and research nature in our daily life. Our project team submitted the project report along with the project model along with the relevant data to the school.

Name of the group members and work allotment :-

SL. No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

Model Project-3 (Album)

Title & Content	: Atomic scientists who develop the atomic Models
Class	: IX
Time frame	: 5 days
Objectives	: Students may know about atomic scientists
Assessment Activities	: Album
Materials Required	: Drawing sheets, science Textbooks, science Magazines, Journals, gum and scissors, Internet

Procedure:

Teacher may give instruction to students in advance to collect the pictures of atomic scientists and their inventions. Tell them to neatly paste the pictures of scientists on chart or note book. Students may file the pictures, tag reposted papers and present it beautifully.

Project Outcome:

- ★ Students may know the details of Atomic scientists through album.
- ★ Students gain interest on science and develop the scientific temper to create new things.

Suggested Remedial Measure

- ★ Teacher may show the visuals of atomic scientists and their inventions in the computer / laptop and help students have a clear knowledge about them.

Project Report

- Name of the project** : Atomic scientists who develop the atomic Models
- Class** : IX
- Subject** : Physical science
- Time frame** : One days
- Materials/sources used** : Drawing sheets, science Textbooks, science magazines, Journals, gum and scissors, Inter Net, IX-class P. science text Book, Internet, NCERT, IX Science text, library.

Details of procedure followed :

1. We collected the required photos and information from different source like science magazines, news papers and text books.
2. We searched the science blogs in internet.

Findings& Observations :

1. We knew the importance of the inventions and contributions of the scientists.
2. We noticed that importance of their research work on atomic structure.
3. We appreciate the contributions of atomic scientists in the field of nuclear science.

Experiences faced: we enjoy collecting information and photos of atomic scientists from various sources.

Project Outcome:

- ★ Students may know the details of Atomic scientists through album.
- ★ Students gain interest on science and develop the scientific temper to create new things.

Name of the group members and work allotment :-

SL.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

Model Project-4 (Working Model)

Class	: IX
Time frame	: 2 days
Title & Content	: Floating bodies
Objectives	: To know the working principle of submarine
Assessment	: Model making
Activities Materials	: Floating vessel, water tank, water Expelling unit.
Required Procedure	: Laws of Floatation

- ★ The weight of the floating body is equal to the weight of the liquid displaced by it.
- ★ The centre of gravity of the floating body and the centre of gravity of the liquid displaced (Centre of buoyancy) are in the same vertical line. By using the laws of floatation and the given materials make a model of a submarine.

Learning outcome

- ★ Students understand the working principle of submarine.

Suggested Remedial Measures

- ★ Explain the principle of ship/boat model floating in the water. Based on this, explain the function of submarine

Project Report

Name of the project : Floating bodies

Class : IX

Subject : Physical science

Time frame : One week

Materials/sources used : Floating vessel, water tank, water Expelling unit

Details of procedure followed:

1. We collected the required information from different source like science, text books, magazines and science blogs.
2. We made model as per the procedure with available local material.

Findings & Observations :

- ★ We made working model of submarine by using laws of flotation.
- ★ We understood the working principle of submarine.
- ★ When an object immersed in a fluid it appears to lose weight because of buoyancy verified experimentally

Experiences faced : Previous versions of P. Science text books give valuable information regarding this experiment.

Project Outcome:

We understood laws of flotation

We understood centre of buoyancy.

We understood working principle of submarine.

Name of the group members and work allotment:-

SL.No	Name of the team member	Work allotment
1.	A	
2.	B	
3.	C	
4.	D	
5.	E (Team leader)	

Date of submission:

Signatures

PROPOSED PROJECTS FOR PHYSICAL SCIENCE FOR CLASS - IX

MATTER AROUND US-1

- ◆ Collect information about fifth state of matter calculated by S.N Bose from internet and submit a project report.
- ◆ Take up a project and observe the speed of diffusion of two gases (Eg: $\text{NH}_3 + 2\text{HCl} \rightarrow \text{NH}_4\text{Cl}$)
- ◆ Identify the factors effecting evaporation and submit a detailed project report .
- ◆ Collect different samples from different states of matter (solids, liquids and gases), study and tabulate their properties and pictures the arrangement of particles to display them in your class room.
- ◆ Investigate and identify the animals which Toil in the Mud/soil in hot days and submit a project report with the reasons mentioning thereof. Extend your observation and identify why a desert cooler cool better on a hot dry day.
- ◆ Design and develop an activity which provides the evidence for the inter particle space and submit a detailed report.
- ◆ Collect two different liquids available in your kitchen and estimate the temperatures of them at two different states (steam and boiling liquid). Estimate and submit a detailed report mentioning the reasons from your observations for “steam produces more severe burns than boiling water”. (Caution: Perform the activity in presence of your Mother)
- ◆ Identify and submit a report on the characteristics of matter with a demonstration by diffusion.
- ◆ Collect different samples of volatile liquids and submit a detailed project report on “changes in temperature, surface area and wind speed, affect the rate of evaporation”.
- ◆ Visit a nearby shop where large Electrical appliances were sold and collect waste packing material to prepare a model explaining the structure of particles in solid, Liquids and Gases. Submit the complete project report right from the inception of inquiry about the shop with your parent.
- ◆ Visit a nearby meteorological department and collect information regarding Humidity in your town and use e-sources for the same in different towns and cities of our country. Estimate how it helps in weather forecast and the necessary precautions in safeguarding the people. Submit a detailed project report.
- ◆ Design and Develop an experiment to demonstrate “water behave like gas molecules”.
- ◆ Collect different liquids (both volatile and non-volatile) and develop an activity to demonstrate the differences between Evaporation and Boiling. Pictures the models for displaying them in your science laboratory along with a brief project report.

- ◆ Visit a nearby brick manufacturing factory with a collection of different solid materials and test their compressibility. Pictures their shape and size before and after the compressibility test to submit your project report.
- ◆ Collect different liquids varying in their viscosities to demonstrate the force of attraction between the particles of the matter. Submit a project report upon your observations and conclusions.
- ◆ Design and develop a model to demonstrate and appreciate the sweating mechanism of human body in controlling the temperature of the body.
- ◆ Visit a nearby CNG gas filling station and prepare a project report on the process of fueling the vehicles.

MOTION-2

- ◆ Design, develop and demonstrate an activity to appreciate the change in velocity of an object moving DOWN an inclined track with different slopes to conclude in defining acceleration. Submit the detailed project report.
- ◆ Design, develop and demonstrate an activity on constant acceleration and submit a detailed report.
- ◆ Demonstrate types of motion related to microscopic and macroscopic bodies. Collect pictures and prepare a report.
- ◆ When we are travelling in a bus we feel the surroundings are going back. But when we observe the things visible at a long distance they seem to be at rest. Observe such different things in different situations and prepare a report to explain the concept of relatedness.
- ◆ Collect different working toy models of vehicles and draw Displacement Vs Time graphs for uniform and non-uniform motions. Submit the conclusions in the form of a project report.
- ◆ Visit a nearby internet café and Collect information about various experiments conducted and theories proposed by Galileo and prepare a project report.
- ◆ Design and develop a model to identify the direction of velocity of an object moving in a circular path. Submit a report to display it in your class room.
- ◆ Design, develop and demonstrate an activity to appreciate the change in velocity of an object moving UP an inclined track with different slopes to conclude in defining acceleration. Submit the detailed project report.
- ◆ Design and conduct an activity to verify the equation for uniform accelerated motion $S_n = \{U + a(n-1/2)\}$ for the displacement covered in its n^{th} second of its motion.
- ◆ When the Velocity is constant can the average velocity over any time interval differ from instantaneous velocity at any instant? If so, develop and activity and demonstrate it; if not, submit a report with the reasons and difficulties in preparing a model.

LAWS OF MOTION-3

- ◆ Collect information about life history of Sir Isaac Newton and his inventions from internet.
- ◆ Design and develop an activity to understand that action and reaction forces act on two different objects and submit a detailed report from the inception of the project.
- ◆ Collect different objects with regular shape and uniform densities. Allow these objects to be placed with different inclinations with the vertical wall and draw Free Body Diagrams. Develop display models of the project.
- ◆ Develop working model presentations in verifying Newton's Third Law.
- ◆ Collect information about various experiment conducted by Galileo Galilee. Submit a project report on how you appreciate the scientist.
- ◆ Design and develop a working model showing how to reduce the intensity of impulse under free fall with varying heights and submit the detailed report.
- ◆ Design a working model in support of your appreciation about Galileo's thought on any moving body which continues in its state until some external force acts on it.
- ◆ Collect and submit a report on the information related to the results of laws motion and their application to daily life.
- ◆ Develop an alternative similar model to a balloon rocket and submit the report right from its inception.
- ◆ Collect the pictures of Satellites in support of Newton's Third law of motion and submit a detailed report on each object you gather.
- ◆ Collect information about Michael Faraday's various experiments from various sources (internet, story books on famous scientists, stories from your educated neighbor, etc) and submit a detailed report.
- ◆ Investigate and identify the different situations of static inertia in your daily life and present a detailed report.
- ◆ Investigate and identify the different situations of Dynamic inertia in your daily life and present a detailed report.
- ◆ Develop a model to demonstrate static inertia which you observe in your daily life and present a detailed report.
- ◆ Develop a model to demonstrate dynamic inertia which you observe in your daily life and present a detailed report.
- ◆ Collect the information about Father of Motion Science and submit a project report.
- ◆ Take some identical marbles make a path or a track keeping your note books on either side so as to make a path in which marbles can move now. Use one marble to hit the other marbles. Take 2, 3 marbles and make them. Prepare a report on your observations in support of conservation of momentum.

IS MATTER PURE-4

- ◆ Collect information about Tyndall effect from internet and submit a report.
- ◆ Develop a working model to separate the components of any solution using paper chromatography.
- ◆ Collect different liquids (water, milk, coconut oil, kerosene, petrol, etc) and check the solubility of some solutes (salt, sugar, sand, flour, etc). Prepare a detailed report right from the inception of inquiry about the materials with your teacher or parent.
- ◆ Collect different solutions with different concentrations and test the degree of saturation to submit a detailed project report.
- ◆ Investigate and identify different Colloidal solutions and prepare a list of common properties for your final submission of the project report.
- ◆ Investigate and identify different suspensions and prepare a list of common properties for your final submission of the project report.
- ◆ Investigate and collect different samples and identify the core Elements and their Atomic Numbers for the submission of your project report.
- ◆ Collect the possible samples to demonstrate the Heterogeneous nature of colloidal solutions and develop a report on the observations.
- ◆ Design and develop a model to separate two miscible liquids, from their Mixture and submit a project report.
- ◆ Collect information about Michael Faraday's various experiments and scientific inventions from e-sources and submit a report.
- ◆ Give personal observation report in classifying Solutions, Suspensions and Colloidal dispersions from the given substances. Explain with reasons.
- ◆ Draw the figure of Arrangement of apparatus for fractional distillation.
- ◆ From the formula of water molecule H_2O , what information you get?
- ◆ Calculate the molar mass of Sulphuric acid (H_2SO_4) and Glucose ($C_6H_{12}O_6$)
- ◆ Image what could happen if we do not have standard symbols for elements.
- ◆ Collect information regarding with identifying Heterogeneous mixtures as Suspensions and Colloids.
- ◆ Collect and tabulate the information regarding with Elements, Compounds, and Homogeneous Mixtures and Heterogeneous mixtures.
- ◆ Classify the following elements compounds and mixtures: Soil, Silver, Air blood Soap, Fruit pulp, Ink, Fruit salad.
- ◆ Identify Polar and non polar substances and Tabulate and display.
- ◆ Collect the information of Rocket Launching from News Papers and Internet and prepare power point presentation.
- ◆ Prepare a table showing the details of Elements, Compounds, Homogeneous and Heterogeneous Mixtures.

- ◆ Prepare Chromatography.
- ◆ Separate of mixtures by sublimation.
- ◆ Draw the figures of arrangement of apparatus for distillation and fractional distillation. What do you find the major difference?

ATOMS & MOLECULES-5

- ◆ Collect the information about the Antoine Lavoisier (Father of Modern Chemistry) and John Dalton.
- ◆ Explain the change in Mass before and after a Chemical reaction. Verify Law of conservation of Mass.
- ◆ Prepare the table of Elements, Symbols, Atomic Numbers and Mass and Analyses them.
- ◆ Prepare placards with Symbols, and Valances of the atoms with different elements. Make formulae of different compounds.
- ◆ Collect the Information about Scientist like Dalton, Lavoisier.
- ◆ Tabulate and display the elements with Atomic number and Atomic mass.
- ◆ Verify the Law of Conservation of Mass using Milk.
- ◆ Collect the pictures of Scientists Who are responsible for the discovery of atomic structure. Explain in detail.
- ◆ Make Placards for the concept of mole.

WHAT IS THE INSIDE THE ATOM-6

- ◆ Prepare a chart showing Electron – Configurations of different Elements.
- ◆ Report on Thomson and Rutherford atomic models.
- ◆ Collect information about various experiments conducted and theories proposed by scientists from John Dalton to Niles Bohr. Prepare a story with a title of “History of Atom” .
- ◆ Collect information about the Symbols of elements Atomic number, Mass, Neutron number, Electrons number and analysis systematically with PPT.
- ◆ Prepare a model of Rutherford’s atomic model.
- ◆ Collect the pictures of Scientists who are responsible for the discovery of atomic structure and explain in detail.
- ◆ Collect the information from internet and make power point presentation of Thomson’s model and Rutherford’s model of an atom.
- ◆ Made a model with a local available material for the” Arrangement of electrons for the first 18 elements”.
- ◆ Show the Energy levels of an atom.
- ◆ Make some models of arrangement of electrons in an atom of first 10 elements by using plastic color Balls and Sticks (Iron wire).

GRAVITATION-7

- ◆ Collect story of Gravitation from “Life history of Sir Isaac Newton” through internet.
- ◆ Find the centre of gravity of Irregular shaped object.
- ◆ Find out the centre of gravity in different objects (Meter scale, Triangle, Circular etc.).
- ◆ Find the centre of gravity of daily using articles. Prepare Placards to present on wall.
- ◆ Find the centre of gravity of India map made with steel.
- ◆ Describe the method of measuring the weight of a free Fall body.
- ◆ If there is no Gravity what would be the consequences made PPT.
- ◆ Which type of Energies involved when the Object rotates. Prepare a project report.
- ◆ Prepare a project that” the Acceleration of a freely falling body is independent of mass”.
- ◆ Collect Toys and interesting stories about Gravitational force. Prepare Placards to present on walls.

FLOATING BODIES-8

- ◆ Collect some Solids and Liquids around us. Orderly arrange them according their relative Densities and prepare a project report.
- ◆ Find the Relative density of different objects by using local resources.
- ◆ Prepare a table the relative densities of different things with descending order make a project report.
- ◆ Liquid brakes in Automobiles work on Pascal’s Law. What is about air breaks? Collect information about working process of air brakes.
- ◆ Make a Lactometer will refill, find relative densities of different Fruits & Vegetables & write a list.
- ◆ Why does the metal piece sink in water and metal plate floats on water?
- ◆ Find the Densities of Rectangular objects by doing some activities and list out in increasing order.
- ◆ How do you identify the purity of gold by using Archimedes principle of buoyancy?
- ◆ Visit a printing press or a cotton mill and observe the working of Brahma press and make a report.

WORK AND ENERGY-9

- ◆ Collect pictures showing various situations where potential energy possessed by an object depends on its shape and position. Prepare a scrap book.
- ◆ Collect the information from different sources and submit a project report
 - A. How do you appreciate role of energy conversion occurring naturally in maintaining ecological balance of nature?
 - B. Applications of SONAR.

- ◆ Collect the information to know whether the work done in different situations is Positive or negative or Zero.
- ◆ Prepare a detail report on energy conversion in nature.
- ◆ What happens to the speed of the object when it moves up and down? verify and submit a project report.

SOUND-10

- ◆ Find out the names of animals (Photos from internet) which communicate using infra-sonic or Ultra-sonic sounds and prepare a scrap book.
- ◆ Find the velocity of sound in air by resonating air column and submit a project report..
 1. Collect the pictures of different Musical instruments and tabulate their frequency and loudness from internet and magazines.
 2. Collect the images of ultra sound scanning.
- ◆ Submit a project report on the working of applications of SONAR.
 1. Why cinema halls built by Sound proof system.
 2. Can you hear the sound of a supersonic aero plane? Collect the information from the Internet.
- ◆ How are multiple reflections of Sound helpful to Doctors and Engineers? Prepare a project report.
- ◆ Medium is necessary for the propagation of Sound. Make experiment and submit report.
- ◆ With the help of Diagram describe how compression and rare fraction pulses are produced in air near a source of Sound. Make a project and submit a project report with graphical representation
- ◆ Collect the Life history of Scientist Heinrich Rudolph Hertz from internet or Library.

PHYSICAL SCIENCE SUGGESTED ASSIGNMENTS

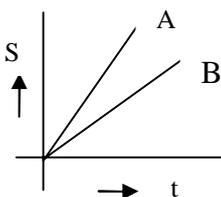
FOR CLASS - IX

MATTER AROUND US-1

- ❖ Compare the properties of three states of matter.
- ❖ Do all substances change from Solid to Liquid and liquid to gas on heating? Explain.
- ❖ Why do we prefer to sip hot tea with a saucer rather than a cup?
- ❖ How can we smell perfume sitting several meters away from the source?
- ❖ Steam produces more severe burns than boiling water. Think why?
- ❖ How do you appreciate sweating mechanism of human body to control the temperature of the body?
- ❖ Distinguish the properties of Solids, Liquids and Gases.
- ❖ Name the characteristics of matter that are demonstrated by diffusion?
- ❖ Write an activity which provides the evidence for the inter particle space?
- ❖ Define the following terms. (A) Melting point (B) Boiling point (C) Evaporation
- ❖ Low weight gases diffuse more than high weight gases. Why?
- ❖ Describe an activity for the motion of particles.
- ❖ Define Evaporation.
- ❖ What is boiling point?
- ❖ What is matter? Give some examples from your day to day life.

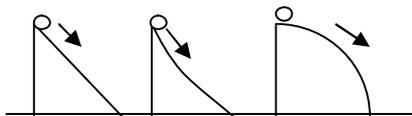
MOTION-2

- ❖ Explain the terms vector, scalar, speed, velocity and acceleration in their units?
- ❖ Draw the Distance V/s time graph when the speed of a body increases or decreases uniformly.
- ❖ Distinguish between speed and velocity.
- ❖ Derive the equation $V^2 - U^2 = 2as$.
- ❖ What is acceleration?
- ❖ What is the average speed of Cheetah that sprints 100m in 4 sec? What if it sprints in 2 sec?
- ❖ Describe uniform motion?
- ❖ A car travels at a velocity of 80 km per hour during the first half of its running time and at 40 km per hour during the other half. Find the average speed of the car.
- ❖ In the figure given below distance vs time graphs showing motion of two cars A and B are given. Which car moves fast

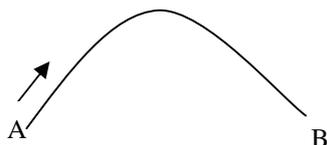


- ❖ A train of length 50M is moving with a constant speed of 10m/s. Calculate the time taking by the train to cross an electric pole and bridge length 250M.

- ❖ Suppose that the three balls shown in figure below start simultaneously from the top of the hills. Which one reaches the bottom first? Explain



- ❖ As shown in figure given below, a point transverse the curved path. Draw the displacement vectors from given points A to

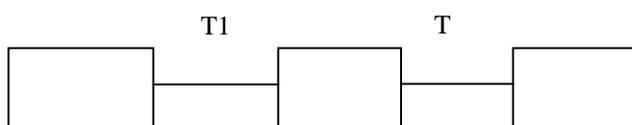


- ❖ Draw the distance vs time graph when the speed of a body increases uniformly
- ❖ Draw the distance vs time graph when its speed of a body decreases uniformly
- ❖ A car covers half the distance at a speed of 50 km/h and the other half at 40km/h. Find the average speed of the car

LAWS OF MOTION-3

- ❖ Deduce the Laws of conservation of momentum.
- ❖ Illustrate with an example of each of the three laws of motion?
- ❖ Explain the motion of the carom coin hit by a striker?
- ❖ Shows that the impulse will be less on a soft and cushioned surface.
- ❖ Air bags are used in the cars for safety. Why?
- ❖ Divya observed a horse pulling a cart. She thought that cart also pulls the horse with same force in opposite direction. As per third law of motion, the cart should not move forward. But her observation of moving cart raised some questions in her mind. Can you guess what questions raised in her mind?
- ❖ What is Inertia? Give two examples.
- ❖ What is Linear momentum?
- ❖ What is conservation of momentum?
- ❖ What is momentum? What are its units in S.I system?
- ❖ How do you appreciate Galileo's thought of any moving body continues in the state only until some external force acts on it which is contradiction to the Aristotle's belief of "any moving body naturally comes to rest"?
- ❖ A hammer of mass 400 grams moving at 30 meter per sec. strikes a nail. The nail stops the hammer in a very short time of 0.01 sec. What is the force of the nail on the hammer?
- ❖ Derive $F_{\text{net}} = ma$

- ❖ Explain 1st and 3rd laws of motion , with examples?
- ❖ Two objects have masses 20 kg and 50 kg. Which one has more inertia?
- ❖ What is the momentum of a 6.0 kg bowling ball with a velocity of 2.2 m/s?
- ❖ What is the force required to produce an acceleration of 3 m/s^2 in an object of mass 0.7 kg?
- ❖ Three identical blocks, each of mass 10 kg , are pulled as shown on the horizontal friction less surface. If the tension in the rope is 30 N. What is the acceleration of each block? And what are the tensions in the other ropes?



- ❖ A man of mass 30 kg uses a rope to climb which bears only 450N. What is the maximum acceleration with which he can climb safely?

IS MATTER PURE-4

- ❖ Write the differences between mixtures and compounds.
- ❖ Write the differences between suspensions and colloids.
- ❖ Explain the following with examples (a) Saturated solution (b) Colloid (c) Suspension
- ❖ Which of the following will shows “Tyndall effect”? How can you demonstrate Tyndal effect in (a) Salt solution (b) Milk (C) Copper sulphate solution (d) Starch solution?
- ❖ Determine the mass by mass percentage concentration of a 100 gm salt solution which contains 20 gm salt.
- ❖ Describe an example for the separation of mixture by sublimation.
- ❖ Draw the figure of Chromatography?
- ❖ Classify the following substances in the below given table (Ink, Soda water, Brass, fog, blood, aerosol sprays, Fruit salad, Black coffee, Oil and Water, Boot polish, air, nail polish, Starch solution, milk)

Solution	Suspension	Emulsion	Colloidal Dispersion

- ❖ Draw the figures of arrangement of apparatus for fractional distillation.
- ❖ Describe paper Chromatography activity to observe the colors present in a marker ink.
- ❖ Explain (a) Saturated solution (b) Pure substance with examples.

- ❖ Imagine what would happen if we do not have standard symbols for elements.
- ❖ What is Tyndall effect?
- ❖ What are the disperse phase and dispersion medium of a colloidal solution?

ATOMS AND MOLECULES-5

- ❖ Write an experiment to prove law of conservation of mass.
- ❖ "H₂ differs from 2H. Justify.
- ❖ The formula of Water molecule is H₂O. What information do you get from this formula?
- ❖ Calculate the molar mass of Sulphuric acid (H₂SO₄) and Glucose (C₆H₁₂O₆).
- ❖ Which has more number of atoms 100 gm of sodium or 100gm of iron? Justify your answer.
- ❖ Explain the process and precautions in verifying law of conservation of mass.
- ❖ Define the following terms (a) Atomicity (b) Valence (c) Ions
- ❖ Explain the method of writing a formula to a compound using Criss-cross method with the help of an example.
- ❖ What are the main postulates of Dalton's atomic theory?
- ❖ Write the valences of Fe in FeCl₂ and FeCl₃.
- ❖ Write the formula (1) Common salt (2) Baking soda (3) Vinegar
- ❖ What is molar mass?
- ❖ What is the use of Symbols for elements?
- ❖ Complete the following table.

Anions -> Cations v	Chloride	Hydroxide	Nitrate	Sulphate	Carbonate
Sodium	Na Cl				
Magnesium				MgSO ₄	
Calcium					
Aluminum					
Ammonium					

WHAT IS THE INSIDE THE ATOM-6

- ❖ What are three sub atomic particles? Write their characteristics.
- ❖ What are the main postulates of Bohr's model of an atom?
- ❖ Define valence by taking examples of nitrogen and boron?
- ❖ How many electrons can be accommodated in which shell of an atom?
- ❖ Define Isotopes and give two examples.
- ❖ What are the applications of Isotopes in our Daily life?

- ❖ What is Atomic Number and Atomic Mass?
- ❖ What are the charges of electron, neutron and proton?
- ❖ Define Isotopes and Isobars.
- ❖ What are the limitations of JJ Thomson's model of the Atom?
- ❖ How do you appreciate the efforts made by scientists to explain the structure of atom by developing various atomic models?
- ❖ Compare the characteristics of Electrons, Protons, Neutrons.
- ❖ Write the rules proposed by Bore and Bury for electron distribution?
- ❖ Compare all the proposed models of an atom given in this chapter.
- ❖ Sketch Rutherford's Atomic model. Why Rutherford's model of the atom is called the planetary model?
- ❖ Describe the Rutherford's gold foil experiment.
- ❖ What is the Importance of Valiancy?

GRAVITATION-7

- ❖ State the Universal law of Gravitation and units for universal gravitational constant.
- ❖ A ball is dropped from a height if it takes 0.2 sec to cross the last 6m, before hitting the ground, find the height from which it is dropped. Take $g = 10\text{m/s}^2$.
- ❖ Explain some situations where the center of Gravity of man lies outside the body.
- ❖ How can you find the center of gravity of a India map made of steal. Explain.
- ❖ Explain why a long pole is more beneficial to the tight rope walker if the pole has slight bending.
- ❖ Why it is easier to carry the same amount of water in 2 buckets, one in each hand rather than in single bucket?
- ❖ Two spherical balls of mass 10 kg each are palm with their centers 10 cm apart. Find the gravitation force of attraction between them?
- ❖ Define centripetal force and derive an expression for it.
- ❖ What is the speed of an apple dropped from a tree after 1.5 sec? What distance will it cover during this time? Take $g = 10\text{m/s}^2$.
- ❖ Draw the diagram of the motions of the moon and apple?
- ❖ What is Stability?
- ❖ Can you think of two particles which do not exert gravitational force on each other?
- ❖ Where does the center of gravity lie, when a boy is doing Sit- ups? Does weight vector pass through the base or move away from the base? Explain.
- ❖ A car moves with constant speed of 10 m/s in a circular path of radius 10 m. The mass of the car is 1000 kg. What is providing the required centripetal force for the car? How much is it?
- ❖ A ball is projected vertically up with a speed of 50m/s. find the maximum height the tie to reach the maximum height , and the speed at the maximum height ($g=10\text{m/s}^2$)

- ❖ Explain some situation where the centre of gravity of man lies outside the body?
- ❖ A man is standing against a wall such that his right shoulder and right leg are in contact with the surface of the wall along his height, can he raise his left leg at this position without moving his body away from the wall? Why? Explain?

FLOATING BODIES -8

- ❖ Where do you use the Archimedes principle in daily life? Explain with examples.
- ❖ Why some objects float on the water and some sink?
- ❖ Explain density and relative density and write their formula.
- ❖ Can you make iron to float? How?
- ❖ How do you appreciate Pascal's discovery in helping to make Hydraulic Jack?
- ❖ How can you measure the Atmospheric pressure?
- ❖ How to make the lactometer with ball point pen refill?
- ❖ Find the relative density of wood. Explain the process.
- ❖ How can you appreciate the technology of making ships float, using the material which sinks in water?
- ❖ Where do you observe Pascal's principle in daily life? Give few examples.
- ❖ Draw the diagram of Mercury barometer.
- ❖ State and prove Archimedes principal of buoyancy.
- ❖ Find the relative density of wood. Explain the process.
- ❖ Draw the diagram of Hydraulic Jack and label its parts.
- ❖ A solid sphere has a radius of 2cm and a mass of 0.05 kg. What is the relative density of the sphere?
- ❖ An ice cube floats on the surface of a glass of water. (Density of ice=0.9g/cm₃). When the ice melts will the water level in the glass rise)
- ❖ Find the pressure at a depth of 10m in water if the atmospheric pressure is 100Kpa. (1 pa = 1N/m²) (100kpa = 10⁵)
- ❖ What is buoyancy
- ❖ Where do you observe Archimedes principle in daily life? Give two examples?

WORK AND ENERGY -9

- ❖ Write the differences between Kinetic Energy and Potential Energy.
- ❖ Define the force and its units.
- ❖ Define work and write its units.
- ❖ What is kinetic energy and potential energy? Derive equations.
- ❖ What is mechanical energy?

- ❖ What is potential energy? Derive an equation for gravitational potential energy of a body of 'm' at a height 'h'
- ❖ Draw a diagram to show conservation of mechanical energy in case of a free falling body.
- ❖ When an apple falls from a tree what happens to its gravitational potential energy just it reaches the ground and after it strikes the ground?
- ❖ What is kinetic energy? Derive equation for the kinetic energy of a body of mass 'm' moving at a speed 'v'.
- ❖ State the principles of conservation of energy.
- ❖ What is the meaning of one joule?
- ❖ Explain negative value of work done.

UNIT – 10: SOUND

- ❖ With the help a diagram describe how compression and rarefaction pulse are produced in air near a source of sound.
- ❖ Explain the terms a) Amplitude b) Wave length c) Frequency
- ❖ Explain how echoes are used by bats to judge the distance of an obstacle in front of them.
- ❖ Explain the working and applications of SONAR
- ❖ How are multiple reflections of sound helpful to Doctors and Engineers?
- ❖ How can you say that sound is a form of energy?
- ❖ Draw the diagram to show wavelength, amplitude, low pitch and high pitch.
- ❖ Which has larger frequency infrasonic or ultrasonic sound?
- ❖ Why is soft furnishing avoided in concert halls?
- ❖ How the concrete halls and cinema halls are designed to use multiple reflections of sound?
- ❖ How does Sound travel?
- ❖ Write the characteristics of the sound wave.
- ❖ Write the applications of ultra sound waves.
- ❖ Does the Sound follows same laws of reflections as light does?
- ❖ What do you understand by a sound wave?
- ❖ Sound travels in the form of waves. Justify your argument.
- ❖ Describe the working of a stethoscope.
- ❖ Find out the names of animals which communicate using infrasonic or ultrasonic sound.
- ❖ Name two quantities that vary periodically at a place in air as a sound wave travels through it

- ❖ Suggest to Prepare bit banks by students to improve their text book knowledge

List of suggested Projects for IX class Biology

1.Cell – Structure and Function

1. Collect the names and photographs of scientists who investigated and developed the cell biology with brief note
2. Prepare the list of cell organelle and their functions and make the list in a table. Discuss with your classmates and write the report .
3. Prepare the models of plant and animal cells by using stones, beads, threads, bulbs or with any scrap material.
4. Prepare a cartoon about lysosome as suicidal bags of the cell.
5. Prepare a model of mitochondria and chloroplast with a comparison in a table.
6. Take the leaf peels of rheo plant, onion, beetle, croton plants and observe them under microscope for stomata and epidermis and brief your observation
7. Prepare the models of prokaryotic and eukaryotic cells and brief the differences of them.
8. Collect information about stem cell technology from internet, library, or from your teacher and report on it.
9. Prepare your own model of generalised cell after going through the lesson and with neat labeling.

2. Plant Tissues

1. Collect the different types of plant tissues and draw them and write the functions of them.
2. Prepare a permanent slide of T.S of a leaf and write the procedure of making it.
3. Collect the barks of different trees and mount them on wall magazine and also write the uses of it.
4. Prepare the slides of root, stem, and leaf (T.S) and observe the arrangement of vascular bundles and write your comparative analysis.
5. Observe the arrangement of stomata in plants that grow in different habitations (hydrophytic, xerophytic, mesophytic) and collect the leaf stomata that present in different habitant plants and interpret it .
6. Rate of transpiration will be higher in plants in summer than winter. Do you agree? Justify your comment.
7. Draw out the differences between annual plant to perennial plant in terms of utility of water, transport of minerals supplied by observing brinjal and papaya plant.
8. Collect more information about xylem and phloem tissues of plants from library or internet compare and contrast?
9. Compare meristematic tissue found in root and stem tips, interpret the similarities/ differences ,note down in a table and write a report

10. Visit nearby saw mill and observe the T.S of a old tree trunk ,find out the age of that particular plant by counting the annual rings and record it in your project book, submit the report on your observations

3. Animal Tissues

1. Collect some old blood reports of your friends/neighbours/relatives ,prepare a report on the abnormal and normal components of blood .
2. Prepare a working model of a typical nerve cell[neuron] with any scrap material.
3. Collect the information with regard to the procedure of blood donation from near by blood bank/PHC, and prepare a report on it.
4. Prepare a pamphlet to focus on blood donation, write a report on the rally organised by your group on blood donation.
5. Prepare a detailed study on involvement of different muscles and action of body, movement of body from morning to evening in your daily life.

4. Plasma membrane

1. Visit near by water purifying plant [mineral water plant], observe and collect more information about reverse osmosis process, submit a report?
2. Prepare a potato cup and conduct osmosis experiment with different variables changing samples like salt ,sugar, and water, submit your report?
3. Prepare a model of reverse osmosis plant , write a report on the entire procedure?
4. Visit near by PHC ,consult a doctor collect more information about technique of dialysis and need of artificial dialysis ,submit a project report on the work done by your group members
5. Prepare a project report on the contribution of various scientists worked on field of artificial dialysis process
6. Prepare a report about the role of osmosis and diffusion in plants and animals
7. Prepare a report on role of diffusion and osmosis in our body in different situations of our daily activities.

5. Diversity in living organisms

1. Distinguish the plants in your surroundings based on similarities and differences, prepare a report on the same.
2. Prepare a herbarium of plant parts display it in the class room discuss with your friends, write a report on it
3. Collect the external characters in humans based on height, weight ,thumb impression ,write your interpretation on the characters

4. Usage of plastics leads to life trouble, gather information about the effects of plastics on environment, prepare a report on it?
5. Conduct a campaign against usage of plastics and prepare a report on the same with your interpretation?
6. Collect information from different sources mentioning about biodegradable and non degradable substances in a tabular form and write your interpretation.
7. Collect different plants ,observe leaf venation,root system along with shape of leaf ,size of leaf,colour patterns,make a detailed table ,interpret on the table.
8. Prepare a model of bacteria,euglena and paramoecium with scrap material.
9. Visit near by field,collect plant twigs with inflorescence discuss with your friends in the class, write a report on it.
10. Collect information regarding classification studied by various biologists and paste the pictures in scrap book ,submit it.
11. Collect some common names of plants known to you prepare their scientific names of the same plants which are majorly used as food stuff ,make a table display in the wall magazine
12. Collect information about bridging animals and in what way they are connected each other prepare a report
13. Collect the photographs of corals or coralreefs sponges from internet ,paste them in your scrap book
14. Collect some bean seeds ,observe their germination ,growth ,make measurements of heights of the seedlings for week days, draw out the differences.
15. Collect the information from library or internet ,classify the animals, and place them in various groups ,prepare a hierarchy of man ,cat, tiger, dog.
16. Prepare a flow chart on classification of animal and plant kingdoms, display in the class room

6. Sense Organs

1. Collect information regarding the eye diseases and defects, better to take the help from ophthalmic assistant by conducting eye camp in your school, write a report on the same information.
2. Organ donation is a good habit. How do you appreciate the statement, justify your comment after collecting information about the importance of organ donation.
3. Approach a dermatologist to study the skin diseases, how they effects people, based on age, habitat, food. Make notes on skin allergies or diseases,draw your interpretations with some evidences.
4. Prepare models of eye, ear, skin, with clay/plaster of paris/available scrap material.
5. Prepare the data and interpret on the information collected by you on the relation of time, state of substance, and taste of the food [from morning to evening]
6. Collect notes on braille script to study that how the visually handicapped students read the page by using braille script.

7. Animal Behaviour

1. Make one album with different fauna
2. Identify the differences between humans and animals behaviour in conditioning and imitation.
3. Write a report after collecting and observing how birds are going to build their nests in your locality.
4. Prepare a report on communication ,movement, transport, etc, of ants after collecting information from your close observation.
5. Prepare a choice box model, showing different conditions.
6. Observe the parental care of monkeys ,cats, hens, dogs and pigeons in your surroundings. Record the parental care ,feeding process, protection etc, in the project report
7. Count and find the number of migrating birds to your school in one month .write a report on that data collection.

8. Challenges in improving Agriculture Products

1. Write a report on eco-friendly methods of pest controlling methods
2. Submit a report on hybridization and its advantages after collecting information from farmers, internet, agricultural assistants of your village /at MDO office.
3. Collect information about bio fertilizer and their impact on vegetable crops from the farmers. Write a report on the same information.
4. Write a report on various methods of irrigation after visiting near by field and discuss with the farmers in your village.
5. Collect the data from the farmers regarding the type of crop grown in a particular season and methods followed by them in improving the yield in the cultivation.
6. Collect information with regard to vermi compost, how farmer follow different steps in making the compost ,conduct a vermi compost pit in your school ,write a report on it.
7. Make a list of major weeds in your area that grown in different crops . Discuss with your friends and farmers ,teachers and make a report.
8. Panchagavya process is useful to the farmer conduct the process in the neighbouring farmers house /in your house /near by source ,write a re[port on the procedure.
9. Collect information with regarding to various agricultural practices for cultivating various crops of rabi and kharif.
10. Organic fertilizers are better than chemical fertilizers .how do you prove it experimentally by conducting a sample. project on two selected plants ,draw results from the experiment ,write a report on it.

11. Farmers are the back bone for community .explain the statement , prepare a report on the annual income of few farmers of your village and record them in a tabular form, interpret ton it.
12. Prepare a poster of water resources of your village.
13. Collect the diseased plants near to your school, make a herbarium of them and write analysis after discussing with the same farmers for the reasons for the diseases
14. Collect information on bt varieties , which are useful or harmful ,make a report on it.

9. Adaptations in different Ecosystems

1. Write a report on” how hydrophytes and xerophytes are able to survive at adverse conditions” ,visit near by pond/tank ,discuss with your teacher to analyse the findings
2. Write a report on eutrophication of pond in your village pond/tank, visit near by one pond/ tank discuss with your teacher, farmers, ,bring out your analysis with some suggestions .
3. Visit nearby pond /lake in which cranes living in ,find out why their long legs long beaks are adopted to suit their habit, for collection of prey, when compared with other birds .write your findings to analyse the nature .
4. Prepare a table with information about reasons of soil pollution, solutions for the prevention of soil pollution. consult near by farmers ,write a report on it .
5. Collect information about similarities and adaptations in plants and animals in your vil- lage ,discuss with your teacher, friends, write a report on it.
6. Bring out the comparison and contrasting features of marine and fresh water ecosys- tems ,make a report on it.
7. Collect information from school library/internet about migratory birds ,how do they know their route,, prepare a report on the information.

10. Soil Pollution

1. Develop a project on soil pollution basing on your local conditions where soil is in different from place to place.
2. What are the non degraded pollutants produced from your school during working days, list out, explain their effect on your health after discussing with your teachers friends ,and elders.
3. Name some living things that live in soil, in the local fields, collect information, write report on the information .
4. Prepare pamphlets on soil pollution, conduct a seminar on it, write the minutes of the discus- sions, prepare a report on the topic.
5. Urbanization leads to different types of pollutions, how do you agree with the statement, jus- tify your notes with some illustrations.

11. Bio-Geo Chemical Cycles

1. There is a need to increase the ground water level .how do you justify this statement, prepare a report on it by consulting irrigation officer/farmers/elders/teachers.
2. Prepare a cartoon on global warming concept.
3. Prepare a pamphlet on greenhouse effect ,display it on the school notice bard, write a report on its importance to the environmental protection.
4. Prepare a working model on `destruction of ozone layer `and display it.
5. Prepare a model of water cycle and nitrogen cycle .
6. Prepare a album of bio-geo chemical cycles
7. Collect the information about water sources of your village , consumption in ,wastage of water at taps, discuss in the school assembly ,about the effects, conservation techniques.

List of proposed Assignments for Biology for Class IX

CHAPTER-1

CELL IT'S STRUCTURE AND FUNCTIONS

1. Gather information on structure and function of mitochondria as a power house of cells?
2. Gather information on the structure of function of cell wall & cell membrane?
3. Collect more information about nucleus / endoplasmic reticulum and explain their role in the cell?
4. Prepare a model of mitochondria and chloroplast.
5. Collect the pictures of various types of eukaryotic and prokaryotic cells prepare their models.
6. Collect information on section cuttings process and submit report.

CHAPTER-2

PLANT TISSUES

1. Collect information regarding water transport in tall trees?
2. Prepare a permanent slide of T.S of leaf and write steps?
3. Observe the different parts of the plant and find where the growth is more & what are the reasons?
4. Collect information about dermal tissues of plants in what ways they are useful and display it on wall magazine?
5. Gather information regarding water and mineral salts in herbs?
6. Collect more information about xylem and phloem tissues. Compare and contrast?
7. Plant body is made of different types of tissues justify?
8. Collect more information with regards to section cutting technique procedure and how temporary or permanent slide prepare submit report?

CHAPTER-3

Animal Tissues

1. Prepare a Tabular from with the information related to Animal tissue their types, location in the body, also mention functions & characteristic features.
2. Observe the three types of muscles and draw your findings and write in a tabular form.
3. Collect the information about different types of blood cells and blood groups.
4. Draw different types of epithelial tissue and write briefly about them.
5. Collect different connective tissue pictures and write brief note.

6. Prepare a chart showing the method of determining blood groups.
7. Collect a small piece of chicken (with bone) put in HCL solution after some time collect different types of tissues observe under microscope and submit report on iserve under microscope and submit report on it.

CHAPTER-4

Plasma Membrane

1. Collect more information from internet and prepare a report about interesting facts related to osmosis and diffusion?
2. Collect the information about importance of osmosis and diffusion in our daily life?
3. Prove ex osmosis and endosmosis by doing the activity along with preparation of semi permeable membrane submit note on these two activities?
4. Collect the information about dialysis and names of scientists who works on dialysis and prepare a report?
5. How can we prepare a semi permeable membrane submit report?

CHAPTER-5

DIVERSITY INLIVING ORGANISM

1. Collect information from different sources mention Biodegradable and non degradable substance in a table from.
2. Collect different plant leaves observe variation and root system along with shape. Size colour patterns note down the above and submit report.
3. Prepare a model of bacteria. Euglena and paramecium?
4. Visit nearby field collect plants leaves study the characters and make herbarium?
5. Collect more information about filarial worms and round worms?
6. Prepare a table or flow charts on classification of animal and plant kingdom, display in the class room

CHAPTER-6

SENSE ORGANS

1. Collect different photos related to optical illusions.
2. Visit nearby PHC collect information regarding the long sighted and short sightedness.
3. Collect relevant information about the structure of skin & approach dermatologist.
4. If you are suffering from fever you can not the taste of food why.
5. Prepare a chart of skin.

6. Prepare a report in a tabular form related to the importance of the sense organs.
7. You are given some food items like bitter guard. Jiggery table salt lemons, tamarind, sweet and some fruits identify the above items record the Taste.
8. Write a brief note of sense organs and make on album.

CHAPTER-7

ANIMAL BEHAVIOUR

1. Select any one of the animal from surroundings observe how it behaves in all aspects.
2. Collect information about different behaviors of various animals from different Eco-system
3. Based on the types of behavior site example of animals and affix their photos explain briefly
4. What are reflexes mention two types of reflex action with examples and write Ivan Pavlov Dog experiment proving condition reflexes submit report.
5. Describe all types of behavior of chimpanzee
6. Collect the pictures of scientist's concerned animal behavior and prepare charts

CHAPTER-8

AGRICULTURE PRODUCTS

1. Visit nearby field and study the various methods of irrigation.
2. Make a list of major weeds in your area prepare a list of weeds that are grown in different crops.
3. Identify the relation between agriculture and irrigation.
4. How could you explain to a former; using chemical fertilizers switch over to chemical fertilizer.
5. Collect information on multi level cultivation.
6. You may be given different types of seeds of 100 grams of each belongs to various crops. How do select the good quality seeds physically for sowing.
7. Collect information about bio fertilizer and their impact on vegetable crops. Write a report.
8. Students are advised to observe Hybrid plants and animals find out differences with normal plants and animals.
9. Collect more information about Hybridization and what are it advantages-submit report.

CHAPTER-9

ECOSYSTEMS

1. Collect information from internet and prepare a table about the organisms that are adopted to different zones of the lake?
2. Observe a pond nearby your school mixing with biodegradable substances note down what are the effects seen on organisms and their adaptations?
3. Compare and contrast between marine & fresh water ecosystems?
4. Get more information about various ecosystems?
5. Collect more information regards to desert plants and write down?
6. Bats and owl move & search for food during night only. How could they know what is day and what is a night collect information about it?
7. Students are advised to observe the xerophytes plants and water plants and their special adaptations submit report?

CHAPTER-10

SOIL POLLUTION

1. Explain about pollution and it types & factors of soil pollution.
2. Analyses the effects of green house gases and Prepare note.
3. Report on human activities effect on ozone layer depletion.
4. Effect of water pollution in water bodies and a repor.?
5. Collect the pictures of environmental scientists Collect pictures and prepare album.
6. Create awareness programme on 3 'R's (Reduce, Reuse, and Recycle).
7. Collect waste from different areas. Write your suggestion to minimize the soil pollution prepare pamphlets on soil pollution.
8. What is soil conservation and what are the various possible ways in conserving the soil submit report?
9. How urbanization leads to pollution. Collect matter in this regard.
10. What are the effects of deforestation .Submit a detail report.

CHAPTER-11

BIO-GEO CHEMICAL CYCLES

1. Go to nearby pond observe organisms living in the pond add biodegradable substances mixing in water. How their effect on these organisms? Writ you observation
2. There is a need to increase the ground water level" suggest methods.
3. Collect the information about green house effect and ozone layer and list out reasons for green house effect.
4. Write short essay on ozone layer.
5. Collect information about the effects of human activities on ozone layer depletion and prepare a report.
6. Gather more information about oxygen cycle and submit a report.

PROFORMA FOR PROJECT WORK

Social Studies

Preliminary Information of the project:

1. Class : IX CLASS
2. Subject : SOCIAL STUDIES
3. Name of the lesson/Unit : UNIT –1 OUR EARTH
4. No. of Project : 01
5. Date of submission : 24-01-2016
6. Allotment of work : Group work allotted
7. Roll of team members :
 - a) A. Samba Siva Rao, Team leader : Information gathering, editing
 - b) K. Suresh, : Preparation of questionnaire, tables, pie charts
 - c) K. Radhika Rani, : Drawing pictures, written work.

Detailed Information of the project

1. **Title of the project** : Collect the information about the water falls in A.P.
2. **Objectives of the project** : To identify the various waterfalls in our state.
3. **Hypothesis** : How the water falling from the high lands? to know the formation of the water falls
4. **Tools** : Observation and survey.
(Questionnaire / checklist / interview / Observation / experiments / survey / rating scale)
5. **Materials required** : Charts, Pencils, News paper clippings, sketch pens, other Stationary.
6. **Process/ procedure :**

a. Introduction:

Waterfalls are a beautiful land scape that we see on the globe. The water falls are most numerous in the mountain areas where changes of slope are more abrupt. The water falls with great force and dig out the rock beneath to form a 'plunge pool'. Highest waterfall in the world is Angel falls -height is 979 mts, on river Churun, in Venezuela. Second highest waterfall in the world is Tugela falls -height is 947 mts -on river Tugela, in South Africa. Highest waterfall in India is Jog fall (or) Jerosoppa-height is 253 mts -on river Sharavathi, in Karnataka.

b. Process :

By our teacher advise we have taken this project. We have form a group with three students to undertake this project. Our team is headed by A. Samba Siva Rao. The work has been distributed among three members. With collected information we have edited, classified, making into tabular form and analyzed the content.

1. Araku Waterfalls (Near Araku Valley)

At a distance of about 8 Kms from Araku & 688 Kms from Hyderabad, Araku Waterfalls are lovely and little known waterfalls.

At a height of over 60 feet, these falls are one of the best waterfalls in Araku Valley. These waterfalls are located on mountain peak and about 10-15 minutes trekking is required to reach these falls from nearest motorable road.

To reach these falls, you have to take right turn after 2 Kms from Araku on Paderu road (towards Chaapa Raayi). Once you travel for 5-6 Kms on the same bumpy road, the road ends at a small village from where the falls can be reached by trekking the summit. The approach road from main road very bumpy and only SUVs can manage to get you through this road properly.

Best time to visit these falls is the post monsoon season.



10 BEST WATERFALLS IN ANDHRA PRADESH

2. Talakona Waterfalls

At a distance of 49 km from Bakarapet, 64 km from Tirupati, 120 km from Horsley Hills, 192 km from Chennai and 89 km from Chittoor, Talakona Falls are situated in Sri Venkateswara National Park near Nerabailu Village of Yerravari Mandal of Chittoor District in Andhra Pradesh. The gorgeous waterfall falling deep into a valley from a height of around 270 feet makes it the highest waterfall in Andhra Pradesh.

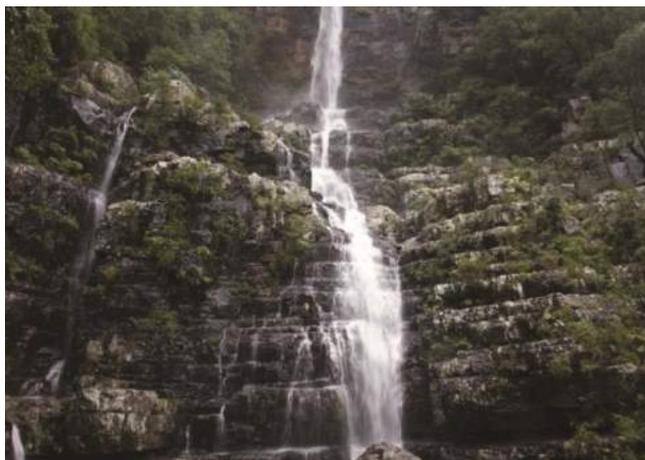
The waterfalls are placed amidst dense forest surrounded by natural beauty and greenery. It is believed that the water of Talakona Falls is enriched with herbs with healing powers. Talakona was declared as Bio-Sphere Reserve in 1990 because of wide variety of plant species present in the region. In this forest, one can find variety of endangered species like sambar, porcupine, cheetal, golden gecko, Indian giant squirrel, slender loris, panther and mouse deer etc. Talakona means 'head hill' in Telugu. This place is believed to be the starting point of Seshachalam Hills which are extended till Tirumala.

There is a 240 m long canopy rope walk, about 35 to 40 feet in height, giving a thrilling experience to the visitors while walking. There are mighty trees around with birds and monkeys during

the canopy walk. There are number of trek routes in different categories of difficulty, giving an option for the visitor to choose their route. There are also several caves dotted over the mountains where it is believed that sages meditate eternally.

Situated close to this waterfall is a small temple dedicated to Lord Siddeswara Swamy. This temple is believed to be built by a devotee named Appa Swamy in 1811 AD. The temple is usually crowded by devotees during the festival of Shivaratri, which is a very popular event in this region. The falls have to be reached by 2 km trek from Siddeswara Swamy Temple which is the nearest motorable road to the falls. The duration of the trek is about 30 minutes (one way) through dense forest and slippery road.

Accommodation is also available in this dense forest; it gives immense pleasure for visitors to spend time during nights. One can find two different Guest houses-Forest Guest House and TTD Guest House. The forest guest house is maintained by Forest Department of AP, where you have 6 Suites (rooms) and 2 Dormitories with attached toilets and cost is also very minimal, Room costs around Rs 600/- per day and Dormitory costs around Rs 1000/-per day. Visitors can avail the facility of advance booking from the forest department website www.seshachalavanadarshini.com.



TTD Guest House at Talakona is for pilgrims. There are 12 rooms and each room has two beds with attached toilets costing Rs 250/-per day. There is no advance or online booking for TTD rooms.

October to January is the best season to visit. Usually it takes one full day. There are several private transport facilities to Talakona Falls from Bakarapet, which has direct bus services from Tirupati and Chittoor.



3. Katiki Waterfalls (Near Araku Valley)

At a distance of 30 Kms from Araku, 3 Kms from Anantagirivillage & 645 Kms from Hyderabad, Tadimadawaterfalls, also known as AnantagiriWaterfalls are one of the best waterfalls in this region.

With a height of about 100 feet, these falls offer best views in monsoon season. The best way to reach these waterfalls is by walking / trekking from Anantagiri. The falls are about 1-2 away from the main road between Anantagiri and Araku (after about 1.5 Kms from Anantgairi). The approach road from main

road is very narrow and bumpy. Only SUVs can manage well on this road. It's advisable to walk to these falls from Anantagiri-Arakumain road (for about 1-2 Kms) which takes about 20 minutes. The road is almost flat and anyone can manage to walk easily.

The rocks near the falls are very slippery and should be careful while getting on to the rocks. Though swimming is possible, water here is bit dirty.

Kaigal Falls / Dumukurallu Waterfalls (Near Kanipakam)

At a distance of 2.5 km from Kaigal Village, 28 km from Palamaner, 55 km from Kolar, 92 km from Horsley Hills, 142 km from Tirupati, 123 km from Bangalore, 68 from Chittoor, 78 km from Kanipakam, 96 km from Vellore & 225 km from Chennai, Kaigal Water Falls, also known as Dumukurallu Water Falls is a nice waterfall located on the Palamaner-Kuppam Highway.

The waterfall is natural, perennial and water comes from a big rock at a height of 40 feet, irrespective of seasons. But its force and beauty is increased during the Monsoon season. The name Dumukurallu waterfalls came into prominence because of its sound resembling the fall of stones from above.

The falls is formed by the Kaigal stream which is one of the two streams flowing through Koundinya Wildlife Sanctuary. There is a big pond below the waterfalls and this is a nice place to visit for nature lovers. It is situated in a dense forest with plenty of birds, shrubs, trees and wildlife. The falls is particularly popular picnic destination for people from surrounding areas. There is a shivalinga installed near the falls which attracts pilgrims from nearby villages during Shivaratri festival.

Visitors seeking public transportation can take Palamaner-Kuppam bus and get down at Kaigal waterfalls bus stop. From the Kaigal Waterfalls bus stop, the falls can be reached by 10 minute walk on mud road. The road from highway becomes inaccessible for vehicles during peak monsoons and walking is the best mode to reach the falls from main road.

There is no accommodation available nearby waterfalls. Best season to visit the waterfalls is between September and December.



Tada Falls / Ubbalamadugu Falls (Near Srikalahasti)

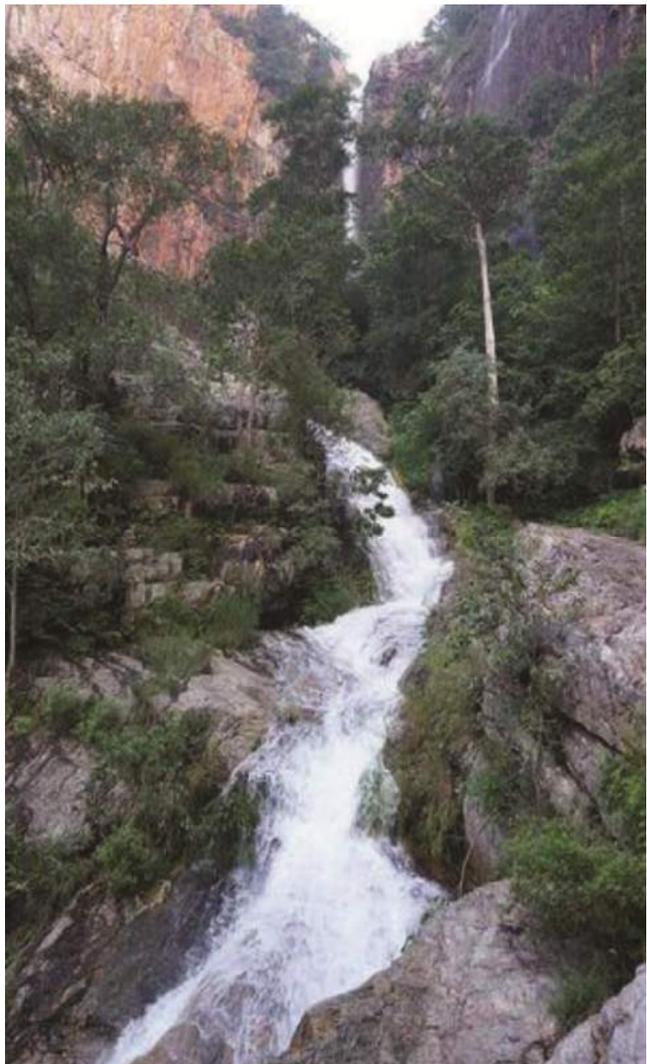
At a distance of 29 km from Tada, 45 km from Srikalahasti, 85 km from Tirupati, 92 km from Chennai, 130 km from Nellore and 156 km from Chittoor, Tada falls or Ubbalamadugu Falls is situated in Varadaiahpalem mandal of Chittoor district. It is situated on the border of Tamil Nadu and Andhra Pradesh.

The falls are located in a dense forest called Siddulaiah Kona. The falls are located within the Kambakamhills and are a popular destination for trekking, climbing and picnicking. The terrain that surrounds the falls includes rocky hill formations and lush forests interspersed with a number of streams.

To reach the falls visitors have to go through the Varadaiahpalem village, about 12 km from Tada falls. There is only 7 km rugged path and the remaining distance has to be trekked through. SUVs or vehicles with high ground clearance are best suited to reach the trekking starting point. Autos can also be hired from Varadaiahpalem village to the trekking starting point. There is a forest check post on the way where visitors need to pay Rs 50 per vehicle and Rs 50 for camera. There is limited guidance in the form of arrow marks and it is advisable to hire a villager as guide in Varadaiahpalem village. The total trek distance would be about 10 km both ways, which is somewhat difficult and advisable only for physically fit people.

As soon as you enter the forest you need to cross one small bridge. One can witness the crystal clear water throughout the journey. Initial trek for about 1.5 km is easy and there is a stream beside Shiva temple on the way to the falls. The path to the falls runs beside the stream. Visitors encounter the first tier of the falls which is a beautiful place amidst thick forest and rocky formations with a pool of water. The second tier of the falls is more beautiful amidst serene location, but it demands tough trek through steep boulders.

Last ATM point, snacks/ water purchasing shops are at Tada town. There are frequent buses and auto to Varadaiahpalem from Tada.



Kapila Theertham (Near Tirupati)

At a distance of 4 km from Tirupati Railway Station, Kapila Theertham is a famous waterfall which is situated inside Kapileswara Swamy Temple at the foot of Sheshadri Hills in Tirupati. This is a unique waterfall where the water of mountain streams drop from a height of over 100 feet into a large pond.

Kapila Theertham temple is the only Shiva temple in the vicinity of Tirupati. It is also said to be one of the 108 sacred teerthas (springs) on Tirumala hills. The Siva lingam here is made of brass. A huge stone statue of a seated bull Nandhi, greets devotees at the entrance to the temple.

According to legend, Saint Kapila Maharishi was said to have lived here, worshipped and meditated in the cave in front of the idol of Lord Shiva, hence the place is named after the saint as Kapila Theertham. Lord Shiva is said to have blessed Sage Kapila with a vision of himself and his consort. This temple received very good support from the Kings of Vijayanagara between 13th and 16th centuries, especially from Krishna Devaraya.

There are many sub-shrines with-in the main temple premises. Temples for Kamakshi, Vinayaka, Subhramanya, Agastheeswara and Sri Krishna are few among them. Both the temple and the waterfall are considered to be highly sacred. A holy dip here is believed to rid the devotees of all sins. This is a good place to visit during the monsoons as the water fall looks breathtaking. The waterfall would be empty in late winter and summer seasons.

The famous festivals celebrated in the temple are Brahmotsavam, Annabhishekam, Maha Shivarathri and Vinayaka Chaturthi. Kapileswara Swamy Brahmotsavam is the biggest event of the temple celebrated in during the month of February. Another auspicious day is the full moon day in the Karthika Month.



f. Conclusion :

Waterfalls are commonly formed when a river is young. At these times the channel is often narrow and deep. When the river courses over resistant bedrock, erosion happens slowly, while downstream the erosion occurs more rapidly. As the watercourse increases its velocity at the edge of the waterfall, it plucks material from the riverbed. Whirlpools created in the turbulence as well as sand and stones carried by the watercourse increase the erosion capacity. This causes the waterfall to carve deeper into the bed and to recede upstream. Often over time, the waterfall will recede back to form a canyon or gorge downstream as it recedes upstream, and it will carve deeper into the ridge above it. The rate of retreat for a waterfall can be as high as one and half meters per year.

g. Experiences :

We faced difficulties to reach waterfalls, because there is no roads to all the waterfalls. We have visited waterfalls and taken photographs collect information. We consulted 5 to six persons to collect information about each waterfall. (Write any experience you faced)

h. Doubts/ Questions:

What is the highest waterfall in the world? Where is it? What is the height of the waterfall? In which country it is located? What is the highest waterfall in the India? Where is it? What is the height of the waterfall? In which state it is located?(any questions raised to students have to mention here)

i. Acknowledgement:

We are very thankful to our Social teacher for allotting this project. Our Head Master/ Principle / (other persons helped and supported) supported a lot.

j. References:

1. Wikipedia
2. Original Places
3. Youtube
4. Andhra Pradesh Geography –Telugu Academy
5. Atlas
6. Physical Maps of Andhra Pradesh

SOCIAL STUDIES PROJECTS

Class – IX

1. Our Earth

1. **MODEL** : Make a model on stages of continental drift.
2. **MODEL** : Preparation of clay model of the interior of the Earth
3. **DISCUSSION** : Hold a discussion on Big bang theory which describes the origin of the universe.
4. **CHART** : Make a chart on World – Time zones.
5. **DRAWING**: Draw the diagrams of different hemispheres.
6. **DRAWING**: Draw the diagrams of latitudes and longitudes separately.
7. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
8. **POSTER** : Prepare a poster which shows environmental protection.
9. **ALBUM** : Prepare an album relating our earth.
10. **FIELD WORK** : Visit your village/town fields and write about the physical features of the area draw a picture and explain.

2. The Natural realms of the Earth

1. **MODEL** : Collect the various types of rocks which are available in your areas and classify them.
2. **MODEL** : Prepare a clay model of The Natural realms of the Earth
3. **DISCUSSION**: Is there any relationship between volcanoes, earthquakes and folded mountains. Discuss with your class.
4. **CHART** : Prepare a chart on The Natural realms of the Earth
5. **PUZZLE**: Prepare a zigsaw puzzle based on world “Plate Techtonics”
6. **INFORMATION COLLECTION**: Collect newspaper and magazine articles on different deserts and coastal areas.
7. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
8. **ALBUM** : Make a file on Volcanoes and Earthquakes taking from various sources such as periodicals magazines, internet etc.
9. **FIELD VISIT** : Visit your village/town fields. Did you find any kind of erosion there? Collect information about the particular erosion and discuss with your class.
10. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

3. Hydrosphere

1. **MODEL** : Prepare a 3D model on relief of the ocean.
2. **DISCUSSION** : Hold a discussion on Oceans and its importance.
3. **DISCUSSION** : Conduct a discussion on Hydrological cycle in your class with the help of your Science Teacher.
4. **CHART PREPARATION** : Prepare a list of Ocean currents which, found in the Pacific, the Atlantic and the Indian Oceans.
5. **MAP DRAWING**: Draw a map of Ocean currents use red color to indicate warm currents and use blue for cold currents.
6. **INFORMATION COLLECTION**: Collect information about a few countries which are leading petroleum producers.
7. **INFORMATION COLLECTION**: Collect the information about the salinity in different oceans, seas and lakes. Find reasons for salinity differences in different water bodies.
8. **INFORMATION COLLECTION**: Find the factors influence differences in temperatures of oceans.
9. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
10. **POSTER** : Illustrate the different stages of water cycle & prepare a picture.
11. Mock conference:
12. **ALBUM** : prepare an album with the picture of various rivers, oceans, lakes, seas, ground water and ponds around the world and your location.
13. **MOCK CONFERENCE**: Conduct a "Mock conference on Ocean pollution by plastic waste". Prepare a report on it.
14. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

4. Atmosphere

1. **INFORMATION COLLECTION**: Collect the weather information of a defined area of any media for a definite period in a tabular form and summarize the findings.
2. **INFORMATION COLLECTION**: Collection of paper clippings over air pollution and make it file.
3. **INFORMATION COLLECTION**: Collect weather information from newspapers, T.V. Radio from recent 15-20 days of our district to understand weather phenomenon.
4. **INFORMATION COLLECTION**: Collect information about Extreme rainfall from July to December in different parts of the country.
5. **INFORMATION COLLECTION**: Collect information about the layers of atmosphere. And draw the structure of the atmosphere and differences in different layers. What is the importance of the troposphere.

6. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.
7. **DISCUSSION :** The influence of rotation on wind direction of the earth. Discuss and draw a picture on this topic.
8. **CARTOON :** Prepare a cartoon on pollution.
9. **SLOGANS :** Prepare slogans on “Pollution awareness”.
10. **ROLE PLAY :** Imagine you are atmosphere. Prepare a role play.

5. Biosphere

1. **FIELD VISIT :** Visit any nearby industrial area and observe what kind of smoke, liquids and solid wastes come out of the compound. Find out from the nearby habitations about their impact on drinking water, plants, and animals. Based on the information collected, make a report and present in the classroom.
2. **GROUP DISCUSSION :** Hold a Group discussion on “Biosphere – its conservation”.
3. **COLLECT THE INFORMATION :** Collect the information about Key Words and draw the pictures.
4. **CARTOON :** Prepare a cartoon on Biosphere.
5. **COLLECT THE INFORMATION :** Collect information about extinction of birds and animals in your area. Fill table and discuss in the classroom.

S. No.	Name of the Bird / Animal	Endangered / Extincted	Causes	Effects	Precautions

6. Agriculture in India

1. **COLLECT THE INFORMATION :** Collect the several grains such cereals, pulses, oil seeds and present them in the classroom.
2. **COLLECT THE INFORMATION :** Collection of newspaper clippings on Agriculture – Green revolution, H.Y.V seeds, peasant suicide cases.
3. **COLLECT THE INFORMATION :** Collect information on about food crops and non - food crops that are grown in your area. Identify the season in which they are grown and write the duration of the crop.
4. **DEBATE:** Make students two teams, one team should support chemical fertilizers and other organic fertilizers.
5. **COLLECT THE INFORMATION :** Collect information about the types of farming. Which type of farming is following in your area?
6. **COLLECT THE INFORMATION :** What are the local names given for different cropping seasons in your area?
7. **FLOW CHART:** Prepare a flow chart on various food crops with examples.

8. **COLLECT THE INFORMATION** : Identify the uses of dryland agriculture.
9. **COLLECT THE INFORMATION** : Collect the information about Key Words and draw the pictures.
10. **COLLECT THE INFORMATION** : Collect information about crops grown in your area. Which of these grows from HYV seeds and which are grown from traditional seeds. Compare the HYV seeds with traditional regard the following points.
 - A. Duration of crop
 - B. Number of times irrigated
 - C. Production
 - D. Fertilisers
 - E. Diseases
 - F. Pesticides

7. Industries in India

1. **PREPARE A CHART**: Prepare a chart on Industries – classify i.e. Agro-based – Mineral based.
2. **DISCUSSION** : Hold a discussion over the Topic compared with neighboring countries, particularly with China.
3. **DEBATE** : “Conduct a debate on the Transformation of Indian Industry”.
4. **DISCUSSION** : Hold a discussion with pupils over the need of cottage industries.
5. **COLLECT THE INFORMATION** : Collect the information about Key Words and draw the pictures.
6. **COLLECT THE INFORMATION** : Collect the information about any one Agro based industry in our area.
 - i. What are the raw materials they use?
 - ii. What are the other inputs in the process of manufacturing that involve transportation - cost?
 - iii. Is this factory following environmental norms.
7. **COLLECT THE WRAPPERS** : Collect the wrappers of various companies packets of tea and toothpaste. Study them carefully and identify which are agro-based which are mineral based and which are forest based etc.,
8. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

8. Service activities in India

1. **GROUP DISCUSSION** : Hold a group discussion over the increasing importance of the service sector in India.
2. **PREPARE A TABLE** : Prepare a table with some five or six people identified by sector they are employed in their problems and prospects.

- 3. COLLECT THE INFORMATION :** Is there any incident of farmers committing suicide in your area? If so, find out the reasons and make a report, discuss in the classroom by adding a few newspapers clipping related to this issue.
- 4. FIELD WORK :** Visit any industry in your area & prepare a report.
- 5. INTERVIEW :** Conduct interview with three members from different sectors like agricultural, industrial and Service sectors and analyze their life styles economic status, children's education etc.,
- 6. INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.
- 7. FIELD WORK :** Visit Bank/ Post office/ Press/ Media office/ Hotel/ Shopping mall, etc., interview the Head of the office and collect their activities, prepare a report, discuss in the classroom.

9. Credit in the Financial System

- 1. GROUP DISCUSSION :** Prepare a file a peasant death case in dual Telugu states from media. Hold a discussion and make a note on the issues.
- 2. INTERVIEW :** Hold an interview with a banker how they are serving to the peasants and other low income class.
- 3. COLLECT THE INFORMATION :** Prepare a table by collecting the prices of some 5 essential commodities for last 3 months.
- 4. FIELD WORK :** Visit a bank near by your house/school. Collect forms like withdrawal, pay-in-slip, DD form, bankers' check, account opening form, etc., fill them with the help of your teacher & display in the class.
- 5. FIELD WORK :** Did you find any Co-operative society in your area. Collect and submit a report on the particular society.
- 6. INTERVIEW :** Interview a member of Self help Group in your village/town. Collect the information about its functioning and prepare a report.
- 7. INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

10. Prices and Cost of Living

- 1. GROUP DISCUSSION :** Prepare a table for vegetable prices for a week, taking from district tabloid and hold a discussion and note down the reasons for fluctuations in prices with special reference with onion.
- 2. GROUP DISCUSSION :** Hold a group discussion over price like of commodities and impact on the middle class.
- 3. LETTER WRITING :** Write a letter to your Tahsildar on proper maintenance of public distribution system by indicating your suggestions.
- 4. MODEL BUDGET:** Prepare budget report on the Celebration of Republic Day in your school.
- 5. INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

11. The government budget and taxation

1. **MODEL BUDGET:** Prepare a family budget of your own and assess what type of budget do your family is following surplus, balanced or deficit.
2. **INFORMATION COLLECTION:** Make a report on market mechanisms.
3. **ALBUM PREPARATION:** Preserve the budget papers such as general and railway budget.
4. **FIELD WORK:** Visit a wholesale shop of edible oils and collect MRP Rates of different companies of edible oils. Discuss the rate mentioned and the rate to which they are sold. Talk about the profit that the wholesaler gets.
5. **DEBATE :** Hold a debate on subsidies.
6. **MOCK BUDGET MEETING:** Imagine you are a finance minister. Prepare a report on expenditure of Government show it in a tabular form or Pie Chart. Justify your statement like a minister in the assembly/parliament.
7. **FLOW CHART :** Classify the different types of taxes with a flow chart. Give examples.
8. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

12. Changing cultural traditions in Europe 1300 – 1800 AD.

1. **ALBUM :** Make an album with pictures of the Renaissance period and collect profiles of the contributors of the Renaissance.
2. **GROUP DISCUSSION :** Conduct a discussion on how the Renaissance has changed the outlook of the world, particularly in Europe.
3. **TIMELINE CHART :** Prepare a timeline chart about 16th and 17th centuries in Europe.
4. **MAP DRAWING :** Draw the World map. Mark geographical explorations on the map.
5. **ROLE PLAY :** Prepare a play on the debate between Galileo and a priest who did not believe that the earth went around the Sun.
6. **INFORMATION COLLECTION:** Study the various ways in which we use products of the printing press today and prepare a detailed report.
7. **MAP DRAWING :** Draw a map on geographical explorations. How navigations lead explorations, though out the world.
8. **TIMELINE CHART :** Prepare a timeline chart of Renaissance. Make a table and discuss in the classroom.
9. **GROUP DISCUSSION :** Hang a Picture of “Monalisa”. Observe it carefully. Identify the feeling of the picture. Is it Unhappy? Happy? Or any other feeling? Discuss in your classroom.
10. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.
11. **ALBUM :** Collect pictures of great Renaissance artists and prepare an album.

Material used :

- a) Charts and pictures of Renaissance.

- b) Old history books.
- c) Pictures / information from internet.

13. Democratic and Nationalist Revolutions 17th – 18th Centuries

1. **ALBUM** : A note may be drafted on the Heroes of America & French revolutions and an album with pictures.
2. **GROUP DISCUSSION** : A group discussions may be conduct on “how the revolutions of French as well as America have provided a dais for democratic ideals.”
3. **BOOK REVIEW**: Learn something more about the different personalities who played an important role in American and French revolution. Which of them impresses you the most and why? Write a paragraph on him/her.
4. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
5. **GROUP DISCUSSION** : Make a table on various revolutions in the world & hold a discussion and present in the class. Use concerned material:
 - i. Charts and pictures of different American & French revolutionaries.
 - ii. Old history books.
 - iii. Pictures/ information from internet.

14. Democratic and Nationalist Revolutions 19th Century

1. **MAPPING** : A report on changes in map of Europe from 1815 to that of today.
2. **TIMELINE CHART** : A timeline chart may be prepared for various events which occurred in Europe.
3. **MAP DRAWING** : Draw the map of unification of Germany 1866-71 and present political Germany Compare these two maps and discuss.
4. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
5. **MAP DRAWING** : Draw a map of Italian States before unification and after unification compare them.
6. **INFORMATION COLLECTION**: Write about the Revolts of 1830 and 1848. Materials used:
 - A. Social studies textbook of IX class books.
 - B. Information from internet.

15. Industrialization and social change

1. **INFORMATION COLLECTION**: A report may be prepared for Socioeconomic consequences for the industrial revolution.
2. **ALBUM** : Make an album with pictures of various scientists who contributed for industrialization.

3. **TIMELINE CHART** : Mention the consequences of the industrial revolution in the economic field. Write a report and present in your class.
4. **TIMELINE CHART** : Prepare a time line chart based on Industrial revolution.
5. **FIELD WORK** : Visit any industry/factory near by your location. What type of pollution is affecting that area. What precaution could you show. Prepare a report.
6. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
7. **SUMMARISING** : Read the Unit 15, Industrialization and social change Prepare its summary with a few sentences.
8. **INFORMATION COLLECTION**: Collect information and fill the table:

S. No.	Year	Invention	Inventor	Importance/ Uses	Remarks

16. Social Protest Movements

1. **INTERVIEW**: Hold an interview with leaders who organize protest movements in your area and present in your classroom.
2. **MAP DRAWING** : Locate the countries in the world in which the protest movements took place on world map make a note on common factors in each movement.
3. **MAP DRAWING** : Locate the countries in the world map in which the protest movement took place. Material used : Atlas.
4. **TIMELINE CHART** : Prepare a time line chart based on Social Protest movement.
5. **DEBATE** : Conduct a debate against and favour of industrialisation and Luddism.
6. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.
7. Conduct a debate on “Industrialists Vs Luddists.”

17. Colonialism in Latin America, Asia & Africa

1. **DEBATE** : Conduct a debate on colonialism is a “Curse on Humanism”.
2. **GROUP DISCUSSION** : Hold a group discussion on “How colonial expansion took place in India”.
3. **GROUP DISCUSSION** : If you were a citizen of Britain, could you support its colonisation. As an Indian citizen, could you support or reject colonisation. Give a brief account of your views.
4. **MAP DRAWING** : Draw a map which shows Latin America and explain how the name Latin America derived.
5. **MAP DRAWING** : Mark the nations which were ruled by the Britishers on the world map. Comment on British Colonialism.
6. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

18. Impact of Colonialism in India

1. **INTERVIEW:** Hold an interview with a forest officer on how they protect forests with special reference with red sandal.
2. **FIELD WORK:** Visit a nearby factory and collect information regarding changes in technology and problems of labour.
3. **FIELD WORK:** Are there any child labourers working in your area? If so, find out the type of work they are doing and their problems. Suggest some facilities provided by Government to eradicate child labour system.
4. **TIMELINE CHART :** Prepare a timeline chart about the Impact of Colonialism in India.
5. **ROLE PLAY:** Prepare a role play / Monoaction on National movement against the British Rule.
6. **INFORMATION COLLECTION:** Prepare or collect a song which promotes the feeling of patriotism against Britishers.
7. **SLOGAN:** Write slogans against the colonial rule.
8. **GROUP DISCUSSION :** Conduct a discussion on addressing labour's problems.
9. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

19. Expansion of Democracy

1. **INFORMATION COLLECTION:** Collect in paper clippings on struggles for democracy across the world and make a file. Ex: Egypt, Libia and Myanmar.
2. **DEBATE :** Hold a debate on Dictatorship Vs Democracy.
3. **MAP DRAWING :** Locate a few countries in the world map that have become democratic after 1950.
4. **INFORMATION COLLECTION:** Collect the information about various incidents from your village and school how far the democratic principles followed.
5. **CARTOON :** Draw a cartoon on present political trends in Myanmar.
6. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

20. Democracy an Evolving India

1. **MOCK ELECTIONS :** Conduct Elections for SPL and other leaders in your school taking guidelines from your teacher concerned.
2. **INFORMATION COLLECTION:** Collect the paper clippings an General Election and prepare a report about the election procedure.
3. **INTERVIEW:** Invite your MRO to your school and conduct an interview on how elections are conducted at various levels.
4. **MODEL MAKING:** Prepare your model voter identity card. With the model voter identity card avail your right to vote in the school/class mock elections.

5. **INFORMATION COLLECTION:** Collect the various symbols of political parties in India. Comment on “why the Election Commission of India using the symbols in elections”.
6. **INFORMATION COLLECTION:** Find the changes between 1952 elections and 2014 elections.
7. **INFORMATION COLLECTION:** Compare the democracies of Srilanka, Belgium and India.
8. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

21. Human Rights & Fundamental rights

1. **INTERVIEW:** Hold an interview with legal personality regarding with violation of children’s rights.
2. **FLOW CHART:** Prepare a chart on Fundamental duties, Hang it in your classroom.
3. **INFORMATION COLLECTION:** Preserve the clippings on child labour, low pay, exploitation of others.
4. **INFORMATION COLLECTION:** List out a few points about different fundamental rights.
5. **INTERVIEW:** Invite a senior advocate to your classroom and interview him. Collect information about “fundamental rights and its violations”.
6. **INFORMATION COLLECTION:** Define what type of rights / Freedom do you wish in your school.
7. **MAKING REPORT:** Is there any child labour in your location? If yes, prepare a report on child labour. Suggest to prevent child labour.
8. **POSTER :**Prepare a poster or cartoon on Secularism
9. **SLOGANS :**Prepare slogans to follow moral duties. What are the effects, If we would not follow moral duties.
10. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

22. Women Protection Acts

1. **FLOW CHART :**Prepare a chart on “Child Rights” with legal protection.
2. **GROUP DISCUSSION :** Hold a discussion on disadvantages of child- marriages.
3. **INFORMATION COLLECTION:** Collect various laws which intended for protection of women and Girl Child.
4. **INFORMATION COLLECTION:** What facilities does the Govt. Provides to the poor for seeking judicial justice?
5. **INTERVIEW:** Consult a lawyer and get the information.
6. **SLOGANS :** Prepare slogans on Women Protection Acts – Women Rights.
7. **PHALMPLET :**Prepare a pamphlet on child marriages.
8. **LETTER :**Write a letter to the police on harassment and violence done to women and girls.
9. **INTERVIEW :**Invite a Judge or lawyer to discuss on domestic violence.
10. **DEBATE :**Conduct a debate on dowry system.
11. **INFORMATION COLLECTION:** Collect the information about Key Words and draw the pictures.

23. Disaster Management

1. **DEBATE** :Conduct a debate on Human induced disaster and make a search for remedies.
2. **INFORMATION COLLECTION**: List out the various losses incurred due to terrorism.
3. **INFORMATION COLLECTION**: Collect information from newspapers and magazines about the human induced disaster that has taken place in the past few years in your state.
4. **INFORMATION COLLECTION**: Find out what measures are being taken in your area to reduce such risks in future.
5. **INFORMATION COLLECTION**: If you are the witness of any accident. How can you respond on the particular accident.
6. **SPEECH**: Give a speech on “Do’s and Don’ts in the train journey / Railway stations.
7. **POSTER**: Prepare a poster on “Prevention of Accidents”.
8. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

24. Traffic Education

1. **INTERVIEW**: Hold an interview with traffic inspector, highway officers who ever available on Fatal accidents that we notice every day.
2. **INFORMATION COLLECTION**: Collection of paper clippings on major mishaps from various Journals and make a file and hold a discussion.
3. **CHART**: Draw a chart of traffic signals (or) prepare a working model of traffic signals. Materials used : Thermocol, glass, paper, small bulbs, battery and wire etc.
4. **INFORMATION COLLECTION** Collect the date from the traffic police / RTA officials who are nearest to you.
5. **SLOGANS** : Prepare slogans on traffic education.
6. **CELEBRATIONS**: Celebrate road safety week in your school.
7. **GROUP DISCUSSION**: Bring a driving license from your elders & discuss the importance of it in the classroom.
8. **INFORMATION COLLECTION**: Collect paper clippings of accidents in your area. What is the main reason behind it.
9. **INFORMATION COLLECTION**: Collect the information about Key Words and draw the pictures.

SOCIAL STUDIES ASSIGNMENTS

Class – IX

ASSIGNMENTS

Sl. No.	LESSON	ASSIGNMENTS
1.	Our Earth	<ol style="list-style-type: none"> 1. Make a chart on parallel lined and longitudes on the globe. 2. Give the pupil different placed on Eastern & Western hemispheres and ask them to calculate lines of each place by considering meridians. 3. Clearance of key words in the lesson 4. Draw the 'solar system'.
2.	The Natural realms of the Earth`	<ol style="list-style-type: none"> 1. Collect the information about the waterfalls in A.P. in a tabular form. 2. Make note on River garland scheme is a boon to peasants. 3. Prepare a model for structure of the Volcano. 4. Why glaciers are not found in your area? Conduct a discussion and present a report.
3.	Hydrosphere	<ol style="list-style-type: none"> 1. Draw the picture of Hydrological cycle on a chart. 2. Prepare a pie diagram on "Sources of Water on planet earth with distinct share. 3. Write a note on "Advantages of oceans for human.
4.	Atmosphere	<ol style="list-style-type: none"> 1. Draw a chart on pressure belts and planetary winds. 2. Prepare a chart on various types of rains with illustrations. 3. Make a note on "climate change influences the human life"
5.	Bio-sphere	<ol style="list-style-type: none"> 1. Make an album with pictured of various kinds of forests and its fauna. 2. Hold a group discussion on "How the forests considered as breath of life" make a note. 3. Collect the paper clippings on Environmental issues at global summits like Reodegenero, Kyoto etc.
6.	Agriculture in India	<ol style="list-style-type: none"> 1. Classification of various agricultural products and mention the favorable conditions for each crop. 2. Collection of the information regarding various phrases of green revolution. 3. "Agriculture in India is a gambling with monsoon".
7.	Industries in India	<ol style="list-style-type: none"> 1. Make a note on "Importance of industries in Indian Economy". 2. A note may be prepared on "Inter relations among three sectors in our Economy". 3. Why did Mahatma Gandhi Lay emphasis on spinning your and weaving Khadi? 4. Make a note on key words in the lesson.

Sl. No.	LESSON	ASSIGNMENTS
8.	Service activities in India	<ol style="list-style-type: none"> 1. How can you say that services are unique in an Economy? 2. Prepare a table with two columns and list out the advantages and disadvantages of allowing foreign companies retail stores in India. 3. Conceptual clearance of key words in the lesson. 4. Hold a group discussion on “services are getting importance in India”.
9.	Credit in the Financial System	<ol style="list-style-type: none"> 1. Draw the pie diagram on sources of rural credit. 2. Make a note on SHG (Self Help Group) 3. Classification of key words in the lesson. 4. Preserve paper clippings of RBI initiations for rural credit.
10.	Prices and Cost of Living	<ol style="list-style-type: none"> 1. Write a letter to your Tahsildar on proper maintenance of public distribution system giving your suggestions. 2. Clearance of key words in the lesson. 3. A note on uses of the consumer price index.
11.	The government budget and taxation	<ol style="list-style-type: none"> 1. Classify the sources for public revenue - taxes & not taxes. 2. Collection of articles on central budget. 3. Classify the various taxes. 4. Make a pie diagrams on Incomes and Expenditure of government.
12.	Changing cultural traditions in Europe 1300 – 1800 AD.	<ol style="list-style-type: none"> 1. A time line chart may be prepared for 16th & 17th centuries in Europe. 2. Make an album with collecting pictures related to 16-17th centuries in Europe. 3. Marking of geographical exploration on world map in 16th, 17th centuries. 4. Conceptual clearance of key words in the lesson.
13.	Democratic and Nationalist Revolutions 17 th – 18 th Centuries	<ol style="list-style-type: none"> 1. The declaration of rights of Human and citizens as per French revolution. 2. Clarification of new words and key words. 3. How the French revolution influences the thought of the world” Hold a discussion and make it note.
14.	Democratic and Nationalist Revolutions 19 th Century	<ol style="list-style-type: none"> 1. Prepare a time line Chart on various events that occurred in 19th century. Hang it in the class room. 2. Hold a discussion on revolutions which took place in France. 3. Collect the pictures of leaders who worked for unification of Germany & Italy and make a file. 4. Classification of key words in the lesson.
15.	Industrialization and social change	<ol style="list-style-type: none"> 1. Collect the pictures and profiles of scientists who changed the scenario of Europe and make an album. 2. ‘Industrialization leads to colonial rule’ make a note on the topic. 3. Make a note on Krupp Family. 4. Clarification of key words in the lesson.

Sl. No.	LESSON	ASSIGNMENTS
16.	Social Protest Movements	<ol style="list-style-type: none"> 1. Collect the photos & profiles of eminent leaders who organize social protest movements, file it. 2. Clarification of key words in the lesson. 3. Make a note on "LUDUISM" 4. Conduct debate on capitalism v/s socialism.
17.	Colonialism in Latin America Asia & Africa	<ol style="list-style-type: none"> 1. Collect the names of Latin America countries and locate on world map. Hold a discussion over Latin America. 2. Clearance of key words in the text book. 3. Collection of pictures of ancient sites in Latin America. Ex: Machu, Pichu.
18.	Impact of Colonialism in India.	<ol style="list-style-type: none"> 1. A time line chart on enacted laws for the welfare of labor. 2. Clearance of key words in the text book. 3. Make a list of various revolts against British in India. 4. What industries were established in India during British period.
19.	Expansion of Democracy	<ol style="list-style-type: none"> 1. Clarification of key words in the lesson. 2. What kind of problems do you think there pose for establishing a democratic government? 3. Collection of pictures or portraits who thought for the cause of Freedom in their respective countries.
20.	Democracy an Evolving India	<ol style="list-style-type: none"> 1. Make a note on the pictures on pages 244, and 245 in the text book with regard to democracy on evolving idea. 2. Clearance of key words in the text book. 3. How does democracy provide an accountable, responsive and Legitimate Government? Hold a debate on the issue.
21.	Human Rights & Fundamental rights	<ol style="list-style-type: none"> 1. Hold a debate on "Right and Duties as two faces of the same coin" for better citizenship. 2. Make a list of natural rights. 3. Clarification of key words in the text book.
22.	Women Protection Acts	<ol style="list-style-type: none"> 1. Make a list of children's rights 2. Collection of clippings from Journals. Periodicals, Internet concerned with child abuse, women trafficking and hold a discussion. Make a note on it. 3. List out various laws intended for women and child welfare.
23.	Disaster Management	<ol style="list-style-type: none"> 1. Make a file of paper clippings on disasters and hold a discussion for remedy. 2. Collection of paper clippings on Human induced disasters and display in the class. 3. How can we be protected from terrorist attacked (Conduct an Elocution Programme)
24.	Traffic Education	<ol style="list-style-type: none"> 1. Collect traffic signs and display in the class room. 2. Clarification of key words in the lesson. 3. Mention the rules for motor cycles. 4. Make a note on rules for pedestrians. 5. Why is it needful to have traffic education? Make a note.



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