

A 10x2 grid of 20 nature photographs. The images are as follows:
Row 1: A close-up of a brown monkey's face with its mouth open, showing its teeth and tongue. A kingfisher with a brown back and white underparts perched on a branch.
Row 2: A large brown monkey sitting on a wire mesh fence with a small baby monkey clinging to its chest. A green tree with many small green fruits.
Row 3: Two white birds with long necks and orange beaks. A black and white bird perched on a branch.
Row 4: A brown bird with a black head and back perched on a branch. A black and white bird perched on a branch.
Row 5: A yellow birdhouse with a black roof. Two black birds with yellow beaks perched on a branch.
Row 6: A green parrot perched on a tree trunk. A kingfisher with a brown back and white underparts perched on a branch.
Row 7: A purple lotus flower in bloom. A bare tree against a blue sky.
Row 8: A young monkey sitting in a tree, eating a piece of fruit. A squirrel holding a piece of food.
Row 9: A close-up of a red flower. A squirrel holding a piece of food.
Row 10: A close-up of a red flower. A squirrel holding a piece of food.

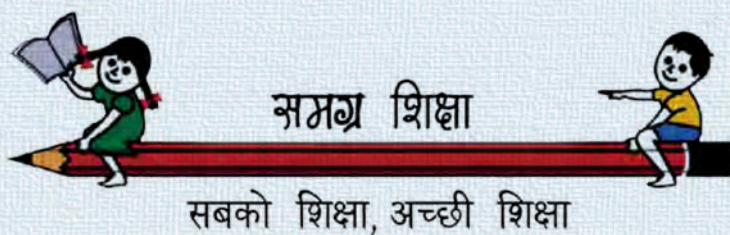
स्वाध्यायान्मा प्रमदः



समग्र शिक्षा



सबको शिक्षा, अच्छी शिक्षा



UTKARSH

Science Activity Book for Class VII

State Council of Educational Research and Training
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MESSAGE

The Government of Delhi has been putting up various efforts to provide universal access to quality education to the children studying in the schools of the Directorate of Education, Delhi. We have implemented many programs to ensure equitable and inclusive education in our schools.

The corona virus pandemic has affected the school education immensely in the last two years. Due to the closure of the schools, the students were confined to their homes. We introduced and managed online learning successfully. The teachers were constantly connected with the students through online classes and kept assessing their progress. But during this time, children who had continuously been in difficult circumstances could not join online classes, lagged behind and a great need was felt to connect them to the mainstream school education.

Taking these aspects into account, to encourage children for learning and to ensure their active participation in learning, 'Utkarsh' book series has been created with the joint effort of State Council of Educational Research and Training, New Delhi and Samagra Shiksha to bridge the gap in education.

This series contains activities based on practical learning which will enable the students to read, write, and perform basic numerical operations and to develop basic competencies in school subjects. The books in this series will also act as an effective medium for their physical, cognitive, social, emotional, moral and cultural development.

The books are based on the concept of play-based, multi-dimensional and discovery-based learning for Hindi, English, Social Science, Science, Urdu, Punjabi, and Mathematics books of activities have been designed for Classes 6 to 8 (Middle Level). Social Science, Science and Mathematics books have been created in both Hindi and English language for achievement of better learning outcomes. Students will learn about human sensitivities, group work, mutual cooperation, courtesy through play and activities and will be able to imbibe these qualities in them to become ideal citizens. It is hoped that a new educational revolution will be ushered in through these books. Students will develop conceptual understanding and the tendencies of creative and logical thinking. Based on empirical pedagogy, these books incorporate diversity of local contexts, multilingualism and respect for the local environment.

I am sure that these books will provide a strong foundation to the students for equitable and inclusive education, and will prove to be a milestone in the world of education.


(MANISH SISODIA)

**H. RAJESH PRASAD
IAS**



सत्यमेव जयते

प्रधान सचिव (शिक्षा/प्रशिक्षण व तकनीकी शिक्षा/ उच्च शिक्षा)

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MESSAGE

Recent times have been extremely challenging for people all over the world. Now, after two formidable years of corona times, we are again moving towards normal life.

In the field of education in Delhi, though various successful efforts were made to keep students engaged in learning through online teaching, worksheets and online assessment for the last two years, but due to the lack of face-to-face mode of teaching- learning process or a direct contact and communication with students or due to some family and financial reasons there was a gap in the process of learning.

Keeping this new scenario in mind, 'Utkarsh' book series has been prepared under the Learning Enrichment Program to rise up from the challenge of this learning gap. There are many activity sheets in these books which have been developed on the basis of context specific learning outcomes. Activities have been designed around the social context of learning, taking into account the culture, multilingualism, and environment of the students. These activities are designed according to the emotional and intellectual level of the students so as to ensure active participation of the students in the learning process.

We aim to initiate the all-round development of the students through our efforts.

We hope that the students will become active participants in the process of knowledge creation through these activities.

With best wishes,

(H. Rajesh Prasad)



MESSAGE

“It is said that when the going gets tough, the tough get going.”

COVID Pandemic was one such trying time. Although as country, India, tried to deal with this time in a multipronged manner, we are still trying to rise above its negative effects in various aspects of life.

Education sector also saw its negative impact especially in school education. So it has become extremely important to bridge the gap of expected learning outcomes and the current status of learning outcomes. To achieve the goal of providing high quality education to all students we have developed ‘Utkarsh’ series. These books have been created for students of classes 6 to 8 and have interesting activities which will develop curiosity, zeal to search, experience and create various opportunities for dialogue, which in turn will provide them a strong foundation for all aspects of life.

In the changing situations it is really important for students to master 21st century skills along with ethics, rationality, empathy and sensitivity so that in future they move towards an enriched life ahead. The ‘Utkarsh’ series books written on subjects of Mathematics, Science, Hindi, English, Social Science, Urdu and Punjabi will develop the creative abilities of the students and they will be able to connect to their environment and establish coordination.

These books have been designed keeping in view the goal of multidisciplinary and holistic education, in which ample opportunities for learning have been provided. Self-instructional activities like colourful pictures, songs, poems, puzzles, stories, cartoons, posters, games, puppets will attract the attention of the students and motivate them for self-assessment and will further pave the way for effective learning.

I firmly believe that learning difficulties of the students will be catered to and desired learning outcomes will be achieved through the ‘Utkarsh’ series. These books will prove to be an effective medium in the attainment of desired goals and will contribute directly to build an inclusive, egalitarian and just society.

With best wishes.

(HIMANSHU GUPTA)

Rajanish Singh
Director



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MESSAGE

Dear students,

The last two years have been challenging due to the COVID pandemic for all of us. This pandemic impacted nearly every dimension of life, be it health, employment, economy or livelihood of human life. Even the education sector has not been left untouched by it because of the closure of schools. It not only affected the teaching-learning process, it also had a formidable impact on the possibilities of learning for students, limiting the opportunities of peer learning and directs guidance of teachers. Although online classes helped to maintain the continuity of the teaching-learning process but there were numerous challenges related to the accessibility of online education for students studying in the government schools of Delhi.

This context led to the development of the 'Utkarsh' series to cater to the new learning needs of the students. This series is a compendium of the worksheets which aim to provide opportunities to the students for self-learning. These worksheets are child-centered and activity-based and they reflect regional, social and cultural domains of the students. These worksheets help the students to explore their environment as a learning resource, as they have many activities that require them to interact with and learn from family members, neighbours, community members, locality and nature.

I am hopeful that this initiative of State Council of Educational Research and Training would play a significant role in inspiring the students of classes 6 to 8 to take ownership of their learning process and to provide the opportunity of accessing quality education.

With best wishes.

(Rajanish Singh)



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Message

It is said that the trying times test out mettle the best. The corona period brought many challenges for us, but these challenges also changed our perspective and inspired us to adopt patience, indomitable courage and self-reliance. During the lockdown for some time, school education could not be done smoothly, due to which the learning process of the children was hampered. In this context, it is important to ask whether children studying online at home are able to acquire knowledge, skills and competencies according to their prescribed class and development level? In the present context, it is relevant that meaningful efforts should be made in the direction of reducing this gap of learning.

To bridge this gap in the level of learning, special course material, in the form of **Utkarsh** series, has been created for students with the combined effort of State Council of Educational Research and Training, New Delhi and Samagra Shiksha. This text material is interesting, responsive, informative and engaging for students. I am hopeful that it will be effective for self-development and will provide students the required competencies. These activities are designed to engage students in observation, critical thinking, creative thinking, questioning, problem- solving, effective communication, decision making, empathy and contemporary problems using play- based, story-based, art integrated and child- centered learning methods.

With best wishes for the bright future of our students.


(Dr. Nahar Singh)

For Teachers...

Respected teacher fellows,

Every book that is meant to provide learning experiences has some unique features which determine its usage. This book has been developed as a learning enrichment material for students with a purpose of ensuring the achievement of learning outcomes. The theme under which the book interacts with learners is activity-based learning, followed by ‘assessment as learning’. This means that each chapter has some activity sheets which begin with some activity and then some questions follow, through which learners enrich their learning in science. Each question has some cues/clues in the form of pictures, examples and hints so that the learners are tempted to find answers through the available resources. The learners may take help from their teachers, NCERT textbook, internet or family members to quench the quest. The answers of the questions have not been provided in the book deliberately, to maximize the opportunity to think critically.

Another important feature of this book is the integration of social life of learners with science. Utmost care has been taken that the context of the book relates with the real-life experiences of learners so that the application of conceptual understanding becomes easier. For this purpose, the commonly available material has been used/suggested for doing science activities. Also, the examples and illustrations that have been used are from the surroundings of learners. Some of the tools that are generally considered subject specific like, maps, graphs, stories etc. have been used to make the content interesting as well as integrated.

Each activity sheet entertains one to two learning outcomes only to easily monitor their fulfillment. Efforts have been made for the gamification of the process of assessment. These efforts include riddles, crossword puzzles, word-grids, tail the donkey, odd one out, snake and ladder, picture identification etc. It is hoped that these unique characteristics of the book would make the learning process joyful and interesting even for the low achieving group of students. This would also be helpful in developing interest among learners towards science and its applications.

The language that has been used in the book is contextual and in common usage. This makes the content easy to grasp and comprehend. Besides making the learning process interesting, this book will also help in fulfilling the goals envisaged in ‘Mission Buniyad’.

For Students...

Dear students,

This book has been developed to enrich your learning after getting learning experiences from regular classroom interactions. Efforts have been made to align the chapters with the list of class-wise learning outcomes (developed by SCERT, Delhi) as well as the chapters of NCERT textbook. You are expected to perform the activities suggested in these activity sheets and then try to answer the questions. This process has been designed in such a way that it would prompt you to learn actively and find answers. The illustrations, exemplar answers and clues would help you to understand the concept and think critically. At certain times, you may need help in doing some activity, to respond to a particular statement or in obtaining an answer. In such situations you must approach your teachers, family members or NCERT textbook as guides and instead of asking for the answers, you must ask them to direct you so that you may find the answers yourself.

It is hope that this book will help you all to inculcate a habit of self-learning.

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Learning Outcomes

After learning the different chapters, the students will develop certain skills, which are being shown here in the form of learning outcomes. By reading these students themselves or their parents/teacher can monitor their learning process.

Chapter 1: NUTRITION IN PLANTS

1. Classifies different modes of nutrition in plants.
2. Explains the process of photosynthesis.
3. Explains the process of nutrients replenishment in soil.
4. Investigates the conditions necessary for photosynthesis.

Chapter 2: NUTRITION IN ANIMALS

1. Explains digestive system in humans.
2. Identifies types of teeth on the basis of their functions.
3. Draws labelled diagram of Human digestive system.
4. Conducts simple activities to test for the presence of starch.
5. Shows awareness about dental hygiene.
6. Describes the process of digestion in amoeba.
7. Describes the process of digestion in ruminants.

Chapter 3: FIBRE TO FABRIC

1. Identifies animal fibres on the basis of appearance and texture.
2. Differentiates between natural and man-made fibres.
3. Explains processing of fibres to wool.
4. Explains and draws the life cycle of silk moth.
5. Describes the process of silk production.

Chapter 4: HEAT

1. Identifies hot and cold objects.
2. Differentiates between Heat and Temperature.
3. Differentiates and explains clinical and laboratory thermometer.
4. Draws and explains process of reading of clinical and laboratory thermometer.
5. Explains the process of transfer of heat i.e. conduction, convection and radiation.
6. Investigates why we wear different kinds of clothes in summer and winter.
7. Observes carefully reading in a thermometer and takes necessary precautions.

Chapter-5: ACIDS, BASES AND SALTS

1. Identifies acids and bases on the basis of their taste and chemical nature.
2. Differentiates between natural and synthetic indicators
3. Investigates the nature of various substances as acids and bases using indicators.
4. Conducts simple investigation to understand neutralisation reaction.
5. Writes word equation of neutralisation reaction.
6. Describes importance of neutralisation reaction in everyday life.

Chapter 6: PHYSICAL AND CHEMICAL CHANGES

1. Identifies changes taking place in day-to-day life.
2. Classifies physical and chemical changes.
3. Classifies changes as reversible and irreversible changes.
4. Explains the process of rusting.
5. Explains prevention of rusting by Galvanisation.
6. Describes crystallisation of copper sulphate.
7. Applies various ways of preventing rusting in day-to-day life.

Chapter 7: WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

1. Explains the elements of weather.
2. Relates adaptation of animals with climate.
3. Explains various adaptations in animals of polar region and tropical rainforests.
4. Identifies the type of climate in areas like Jammu & Kashmir, Kerala, Rajasthan and North-East India.
5. Interprets weather reports from newspaper.

Chapter 8: WINDS, STORMS AND CYCLONES

1. Relates wind speed with air pressure
2. Explains the formation of cyclone with the help of labelled diagram
3. Applies scientific learning while taking measures during and after disasters like cyclone and tornadoes

Chapter 9: SOIL

1. Investigates different samples of soil.
2. Describes uses of soil.
3. Investigates soil profile of local area.
4. Classifies soils on the basis of particles of various sizes.
5. Conducts simple activities to ascertain properties of soil.
6. Relates the types of crops grown with types of soil.

CHAPTER 10: RESPIRATION IN ORGANISMS

1. Explains the process of respiration.
2. Differentiates between inhalation and exhalation.
3. Relates processes and phenomenon with causes for example formation of lactic acid in muscles after heavy workout.
4. Conducts simple investigation to seek answers to queries like, why lime water turns milky when exhaled air passes through it.
5. Draws well labelled diagram of human respiratory system.
6. Explains the mechanism of breathing in aquatic organisms.

Chapter 11: TRANSPORTATION IN ANIMALS AND PLANTS

1. Explains the composition of blood in humans.
2. Differentiates between arteries and veins
3. Explains the working of heart in human circulatory system with the help of diagram
4. Draws labelled schematic diagram of circulation in humans
5. Constructs a model of stethoscope.
6. Conducts simple activities to measure pulse rate during resting and after running.
7. Explains excretion in humans with the help of labelled diagram.
8. Describes transportation of substances in plants.

Chapter 12: REPRODUCTION IN PLANTS

1. Explains asexual modes of reproduction in plants with examples.
2. Differentiates between Unisexual and bisexual flowers.
3. Explains pollination and fertilization in plants.
4. Identifies and draws reproductive parts of flowers.
5. Describes fruit and seed formation.
6. Explains seed dispersal and its importance.

Chapter 13: MOTION AND TIME

1. Differentiates between slow and fast moving objects.
2. Draws / plots distance time graph.
3. Explains the process of measurement of time and expresses with examples.
4. Measures and calculates time period of simple pendulum and speed of moving objects.
5. Measures time period/distance travelled by a moving object.

Chapter 14: ELECTRIC CURRENT AND ITS EFFECTS

1. Identifies symbols of electric components.
2. Constructs models of electric circuit and electromagnet by using materials from surroundings and explains their working.
3. Explains heating effects and magnetic effect of electric current.
4. Applies learning of flow of electric current in making cell connections in different ways.

Chapter 15: LIGHT

1. Explains the process of reflection of light.
2. Differentiates between virtual and real images formed by an object.
3. Constructs model of Newton's colour disc by using material from surroundings and explains it's working.
4. Differentiates images formed by mirrors and lenses
5. Conducts simple investigations for white light composed of many colours.
6. Explains the nature of image formed by a plain mirror.

Chapter 16: WATER: A PRECIOUS RESOURCE

1. Explains in his/her words the importance of water.
2. Identifies sources of saline and fresh water.
3. Explains the reason behind appearance of Earth, blue in colour from space.
4. Identifies groundwater sources in different areas.
5. Explains water table and reasons behind its depletion.
6. Suggests ways of water harvesting.
7. Draws and explains labelled diagrams and processes like water cycle, drip irrigation and rain water harvesting.

Chapter 17: FORESTS: OUR LIFELINE

1. Explains importance of forests for life.
2. Identifies various types of plants and their produce.
3. Differentiates between different plants on the basis of shapes like crown, cone and circular etc.
4. Explains interrelationship between plants, soil and decomposers in a forest.
5. Shows awareness towards conservation of forests.

Chapter 18: WASTEWATER STORY

1. Explains the process of cleaning of water.
2. Identifies fresh water and waste water on the basis of observable features like odour and appearance.
3. Suggests ways towards alternative arrangements for sewage disposal.
4. Applies learning of scientific concepts in day-to-day life for example water filtration, sewage disposal etc.
5. Constructs model showing sewage treatment and explains it's working.
6. Classifies common contaminants in water.
7. Shows awareness towards waste water treatment and sanitation at public places.

Content

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CHAPTER-1: NUTRITION IN PLANTS

Nutrition

ACTIVITY SHEET-1

Learn with fun:

Locate algae in your surroundings and discuss about its mode of nutrition with your friends. Do you think algae prepare their own food? Express your views in the given below.



Q.1 Fill in the blanks (food, organs, nutrients)

- (a) Components of food that are necessary for our body are called _____.
- (b) All living organisms require _____ to survive.

Q.2 What seems more nutritious to you and why?





Q.3 Read the below statements carefully and write 'I agree' in the bracket if you agree with the statement and 'I disagree' if you disagree with the statement.

(a) Plants are called heterotrophs. ()

(b) Nutrition is the mode of reproduction. ()

Q.4 Match the following columns:

Column (A)

Leaf

Sun

Chlorophyll

Cell

Column (B)

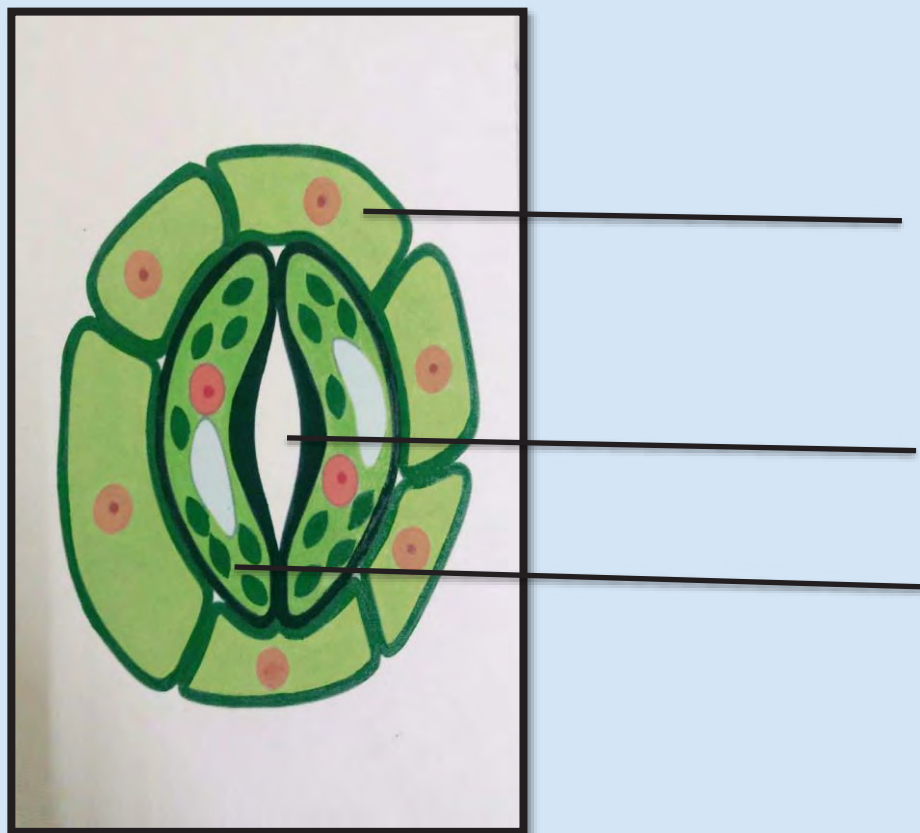
Ultimate energy source

Stomata

Cytoplasm

Green pigment

Q.5 Label the diagram of stomata.



Nutrition

Photosynthesis

ACTIVITY SHEET- 2**Learn with fun:**

Raju saw a yellow wiry branched structure twining around the branches of a tree. He also noticed that the host plant is malnourished. He discussed the whole matter with a gardener and concluded that the yellow wiry structure is Amarbel (cuscutea). Do you think Raju identified it correctly? Could you guess the reasons behind its yellow colour and the malnourished host? Write down your views below.



Q.1 Photosynthesis takes place in

- a) Green stem
- b) Green branches
- c) Leaves
- d) All of them

Q.2 Collect leaves of different colours (atleast three). Dry them and paste them below. Why all these leaves are not green in colour?



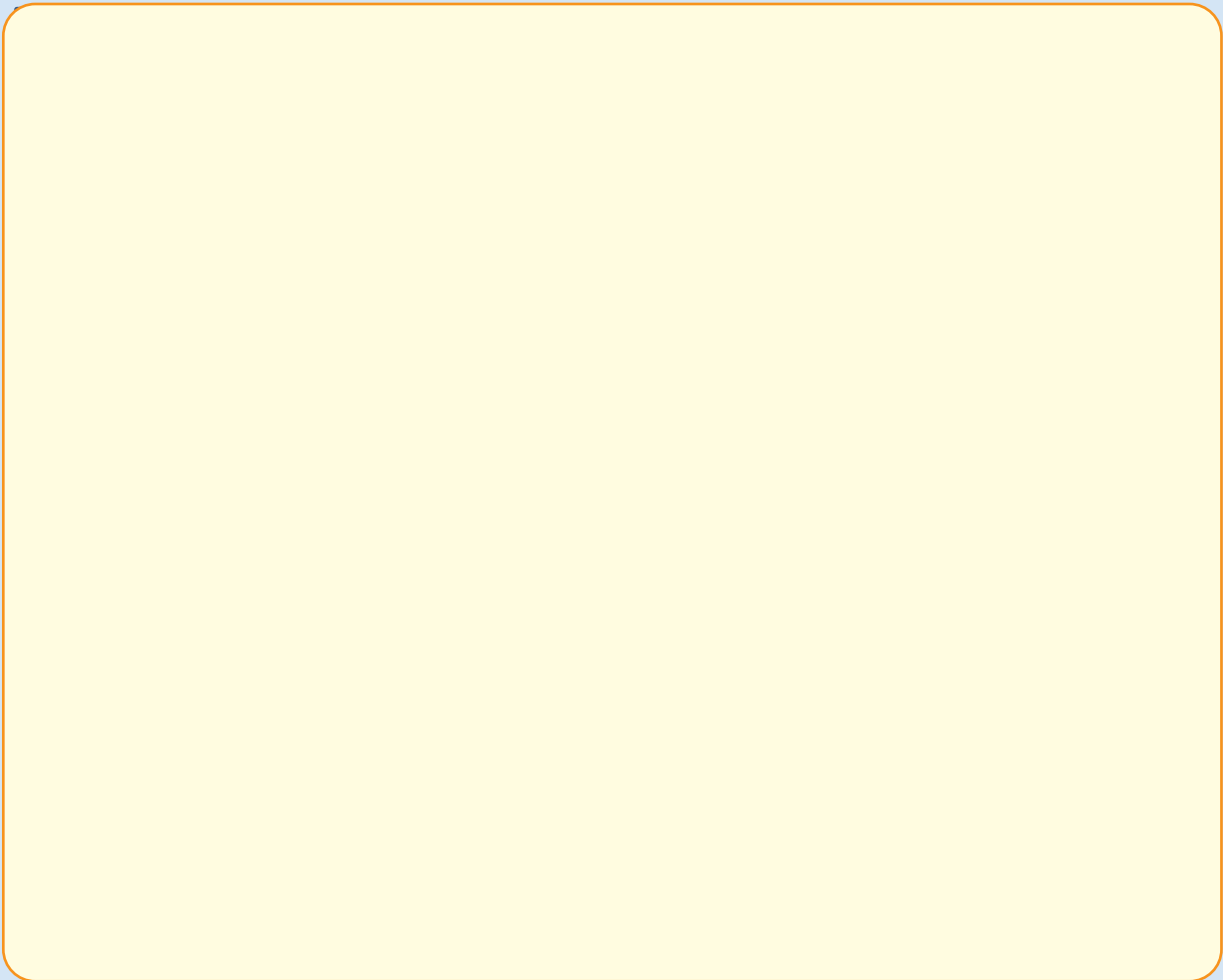
Q.3 Identify the odd one out

- (a) Light energy (b) Carbon dioxide (c) Chlorophyll (d) Magnet

Q.4 State 'true' or 'false'

- (a) Leaves other than green also have chlorophyll. ()
- (b) Oxygen is released during photosynthesis. ()
- (c) Algae do not contain chlorophyll. ()
- (d) Carbohydrates are made of carbon, hydrogen and oxygen. ()

Q.5 Draw a labelled diagram showing the process of photosynthesis.



ACTIVITY SHEET- 3**Learn with fun:**

Take a piece of bread and moisten it with water. Leave it in a moist warm place for 2-3 days or until fluffy patches appear on it. What is the colour of these patches? Observe the patches carefully and write down your observations in the given below.



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Q.1 Identify the heterotrophic plant shown below and write down the process by which it captures the prey (food)?



Q.2 Identify the below organism that collects its vital body nutrition from dead and decaying matter. Name the mode of nutrition associated with it.



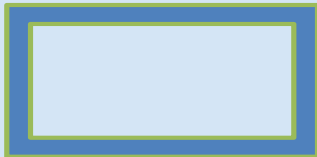
Q.3 Symbiosis is an interaction between two different organisms for mutual advantage. Is the picture given below an example of symbiosis? Write down your views in the space provided.



Q.4 Draw a star under the true statement.



Tree in this picture is an autotroph



Spider prepares its own food



Q.5 Read the below passage carefully and answer the question that follows:

Just like human beings, plants also need mineral nutrients to grow. Plants take their mineral nutrients from the soil and hence their amounts in the soil keep on declining. Fertilizers and manures contain plant nutrients such as nitrogen, potassium and phosphorous. Hence, they are added to the soil from time to time to enrich the soil. Rhizobium, a bacterium converts the atmospheric nitrogen to soluble form so that plants can consume it. Crop rotation is also an effective way to replenish the soil nutrients.

- (a) Why mineral nutrients decline in the soil?
- (b) Why manures a fertilizers are added to the soil from time to time?
- (c) Which bacterium converts nitrogen to soluble form?
- (d) Name an effective way to replenish the soil nutrients ?

Q.6 Colour the emoji/smiley containing the correct answer:-

An Association of algae and fungus is called-



Date _____

CHAPTER-2: NUTRITION IN ANIMALS



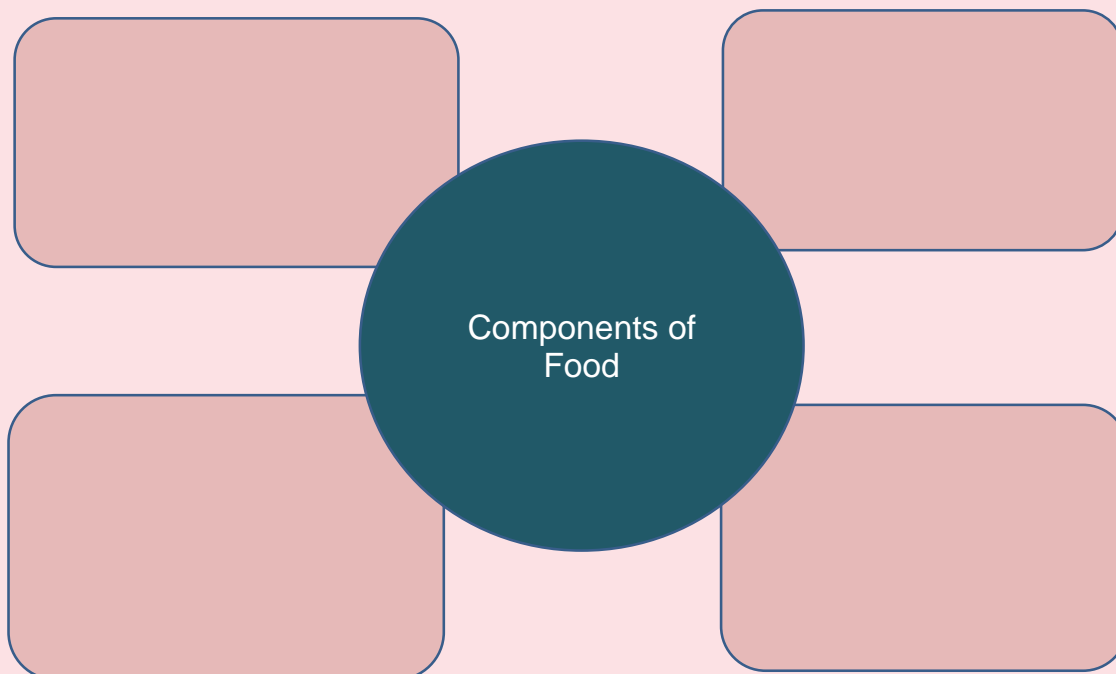
ACTIVITY SHEET- 1

Learn with fun:

Observe a few organisms (animals or birds) in your surroundings. Write their names and the type of food they eat.

Sr. No.	Name of the organism	Food they eat

Q.1 Fill appropriate words in the spaces provided.



Q 2:
Look at the pictures given on your right side. Identify the mode of taking food by these organisms and write in the spaces given.



Honeybees_____
the nectar

Snake_____
the animals they prey upon.



Amoeba_____
captures food with the help of _____

Q.3 Amoeba is a single celled microscopic organism found in pond water. Draw a diagram of an amoeba in the box provided and label any three parts.



Mode of taking food

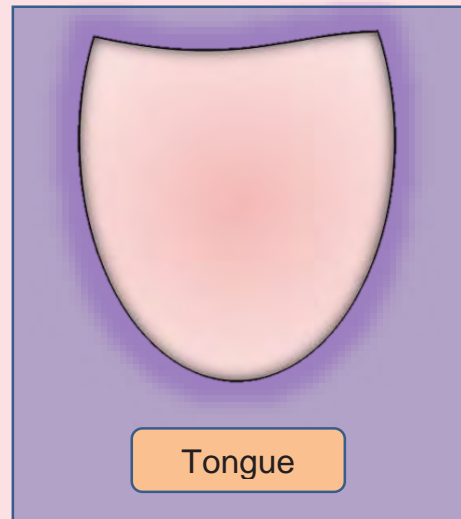
Human digestive system

ACTIVITY SHEET - 2**Learn with fun:**

Materials required: Paper cups, lemon juice, honey, salt water, juice of bitter gourd/coffee powder, water, paper, crayons etc.

Method: Pour all the above substances (lemon juice, honey, salt water, bitter gourd juice) into paper cups. Drink from each cup, identify the part of the tongue on which the taste was felt the strongest and colour the area on the tongue shown in the adjacent picture. Use different colours for different tastes.

Note: Do remember to clean your palette with a sip of water after each tasting.

**Q.1 Fill in the blanks using the words given in the box below:**

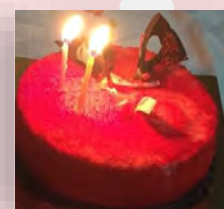
decay

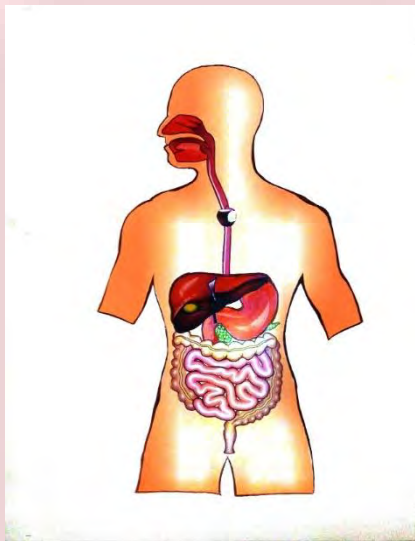
mouth

tongue

teeth

- We take in food through the _____.
- We chew food with the help of our _____.
- Chocolates, sweets and soft drinks cause tooth _____.
- We taste food with our _____.

Q.2 Our tongue detects different types of taste. Look at the pictures and mention the taste of these substances.



Q.3 The diagram shown in the picture on the left side represents human digestive system. Write any three organs that you can identify in the given diagram in the spaces given below:

1. _____
2. _____
3. _____

Q.4 Match the following columns:

Column A

Molars
Incisors
Canines
Pre molars

Column B

Tearing food
Largest teeth
Grinding and crushing food
Biting the food

Q.5 Classify the following statements as True or False and write in the appropriate space given below:

- 1) Tooth decay can be prevented.
- 2) Toothpaste does not clean your teeth.
- 3) Brush your teeth only in the morning.
- 4) Sweets are good for your teeth.
- 5) A dentist helps take care of your teeth.
- 6) Small cavities do not harm your teeth.
- 7) You will have your permanent teeth the rest of your life.
- 8) Fruits are healthy snacks to eat.

TRUE



True/False

FALSE



Mode of taking food

Human digestive
systemDigestion in
humans**ACTIVITY SHEET- 3****Learn with fun:**

Materials required: Small bowls, boiled rice, water and betadine (iodine) solution.

Method: Take two small bowls and label them as A and B. Put one teaspoon full of boiled rice in bowl A. Take another teaspoon full of boiled rice and chew them properly. Now add the chewed rice in bowl B. Add 3-4 ml of water in both the bowls. Now add 4 – 5 drops of betadine solution to both the bowls.

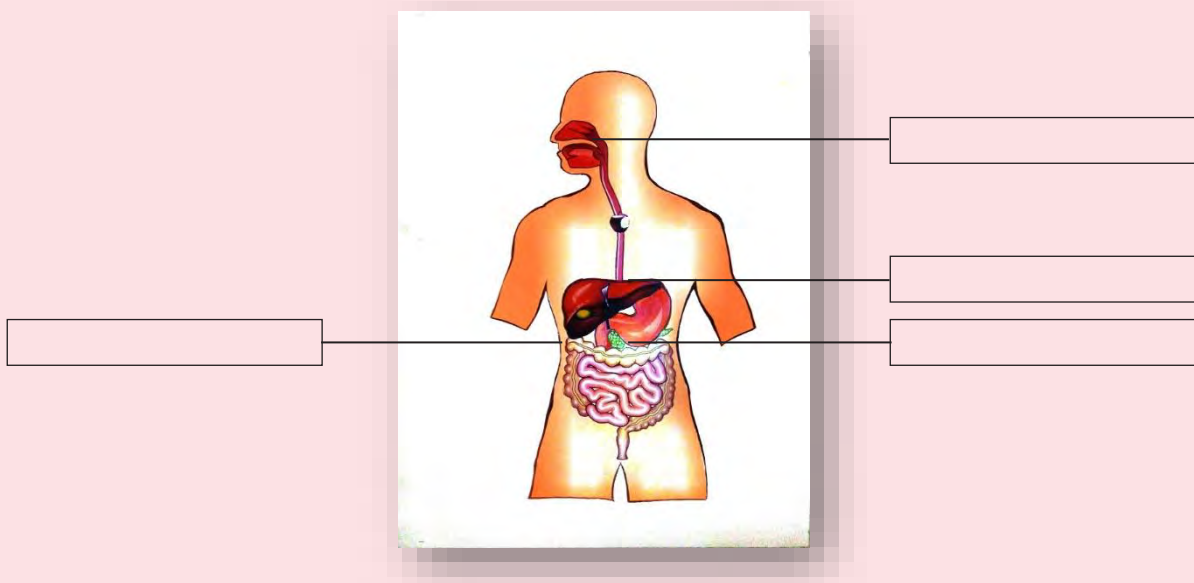


Write your observations in the following table.

BOWL A	BOWL B

Conclusion: Since bowl B had chewed boiled rice, so no change in colour appeared as the _____ present in the rice had been broken down to sugars. While we observe change of colour to _____ in bowl A which showed the presence of starch.

Q.1 Identify the organs and write in the spaces given.



Q.2 Fill in the blanks by choosing the right answer from the given options:

- (a) The saliva breaks down the starch into _____ (amino acids/ glucose / fatty acids).
- (b) _____ acid is secreted by the stomach (acetic acid/hydrochloric acid/formic acid)
- (c) Bile juice is secreted by the _____ (liver/gall bladder / salivary gland)
- (d) Finger-like outgrowth present in the inner wall of small intestine are known as _____ (fibres/villi/strings)
- (e) _____ intestine absorbs water and salts from the undigested food material (small /large)

Q.3 During digestion, the complex food substances are broken down into simpler substances. Identify the food components and their simpler broken down parts and write in the spaces given below. One example has been done for you.

1. _____	→	_____
2. Proteins	→	Amino acids
3. _____	→	Fatty acids

**ACTIVITY SHEET- 4**

Learn with fun:

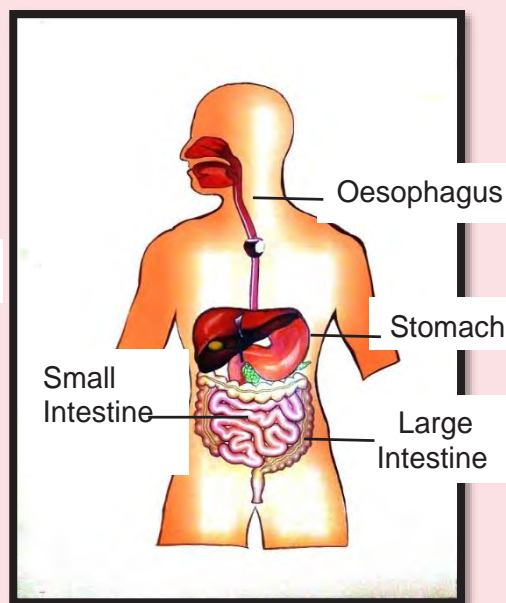
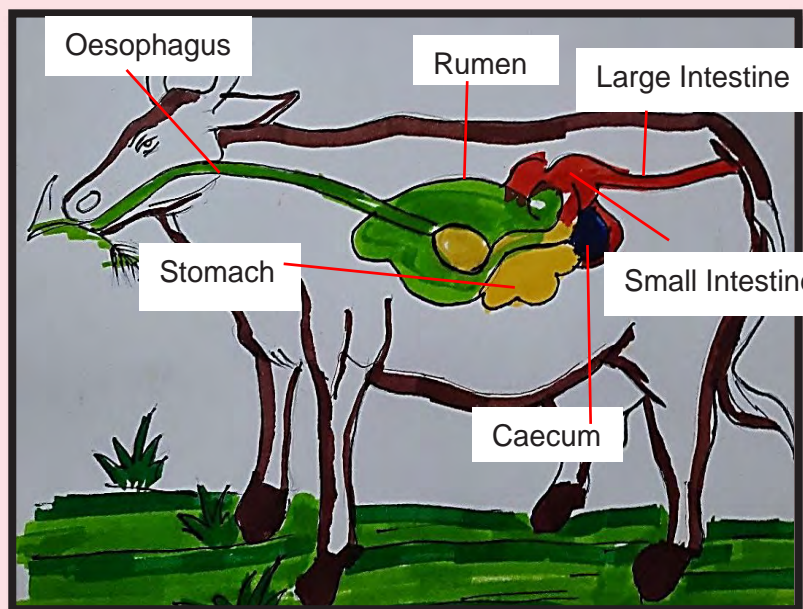
Have you been to a village recently? You might have seen various animals over there. Name a few of those animals and also write the foods that they eat in the table given below.

ANIMALS	FOODS THAT THEY EAT

Q.1 Choose the correct answer and fill in the blanks in the spaces given below:

- (a) The animals like cow, buffalo, goat etc. are called _____ (omnivores/ruminants). They swallow the grass and store it in a part of the stomach called _____ (rumen/rectum).
- (b) The cud keeps on returning to the mouth and the animal chews it. This process is called as _____ (absorption/rumination).
- (c) The grass is rich in _____ (cellulose/glucose) which is a type of carbohydrate.
- (d) The _____ (protozoa/bacteria) present in the rumen helps in the digestion of cellulose.

Q.2 Given below are the diagrams of digestive system of humans and ruminants. After observing both the digestive systems carefully, compare both the digestive systems by writing any two points of differences and any two points of similarities between them.



Sr. No.	Similarities between digestive system of humans and ruminants
(a)	
(b)	

Sr. No.	Differences between digestive system of humans and ruminants
(a)	
(b)	

CHAPTER-3: FIBRE TO FABRIC**Animal Fibres****ACTIVITY SHEET- 1****Learn with fun:**

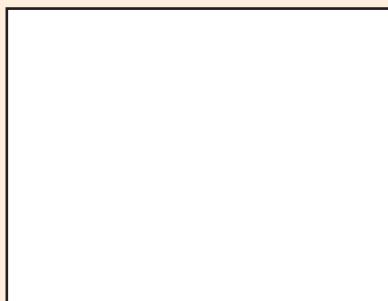
You come across different types of fabrics from which different types of clothes are made that you use throughout the year. Collect a few samples of these different fabrics and paste them here in the box given below. Also mention the name of the fabric that you are pasting.



.....

.....

.....



.....

.....

.....

Q.1 Which of the following animals do not yield wool?

(a) Yak

(b) Camel

(b) Dog

(c) Sheep

Q.2 Match the following Columns:

Column A

Kashmiri goat

Yak wool

Angora goat

Llama & Alpaca

Column B

South America

Pashmina

Ladakh

Mohair

Q.3 Identify the animal and write its name in the box given with the picture:



Animal Fibres

Fibre to

ACTIVITY SHEET- 2**Learn with fun:****Q.1 Arrange the following steps of processing fibre into wool in correct sequence and write in the appropriate blank.****Rolling, Scouring, Shearing, Cleaning of burrs, Dyeing, Sorting**

(1) (2) (3) Sorting (4)
 (5) Dyeing (6)

Q.2 Define the following terms.

(a) Shearing-

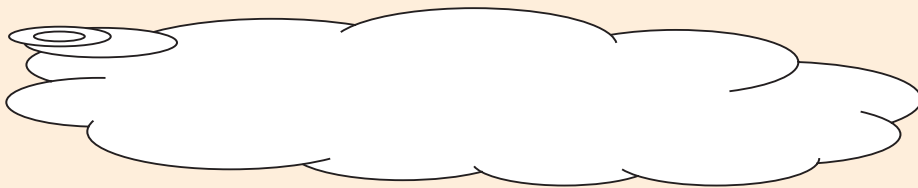
(b) Rearing-

Q.3 Which of the following statement is incorrect-

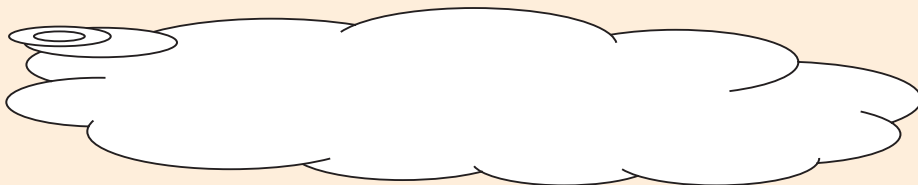
- (a) Sheep are herbivores and prefer grass and leaves.
- (b) Wool is obtained from hair of sheep.
- (c) Fleece of Sheep is the only source of wool.

Q.4 Write one word for the following in the given clouds-

- (a) Washing sheared skin to remove grease, dust and dirt.



- (b) Straightening of fibres and converting them into yarn -



Animal Fibres

Fibre to

Cocoon to

ACTIVITY SHEET- 3**Learn with fun:****Q.1 Match the following columns****Column A**

Sericulture

Cocoon

Mulberry leaves

Tussar Silk

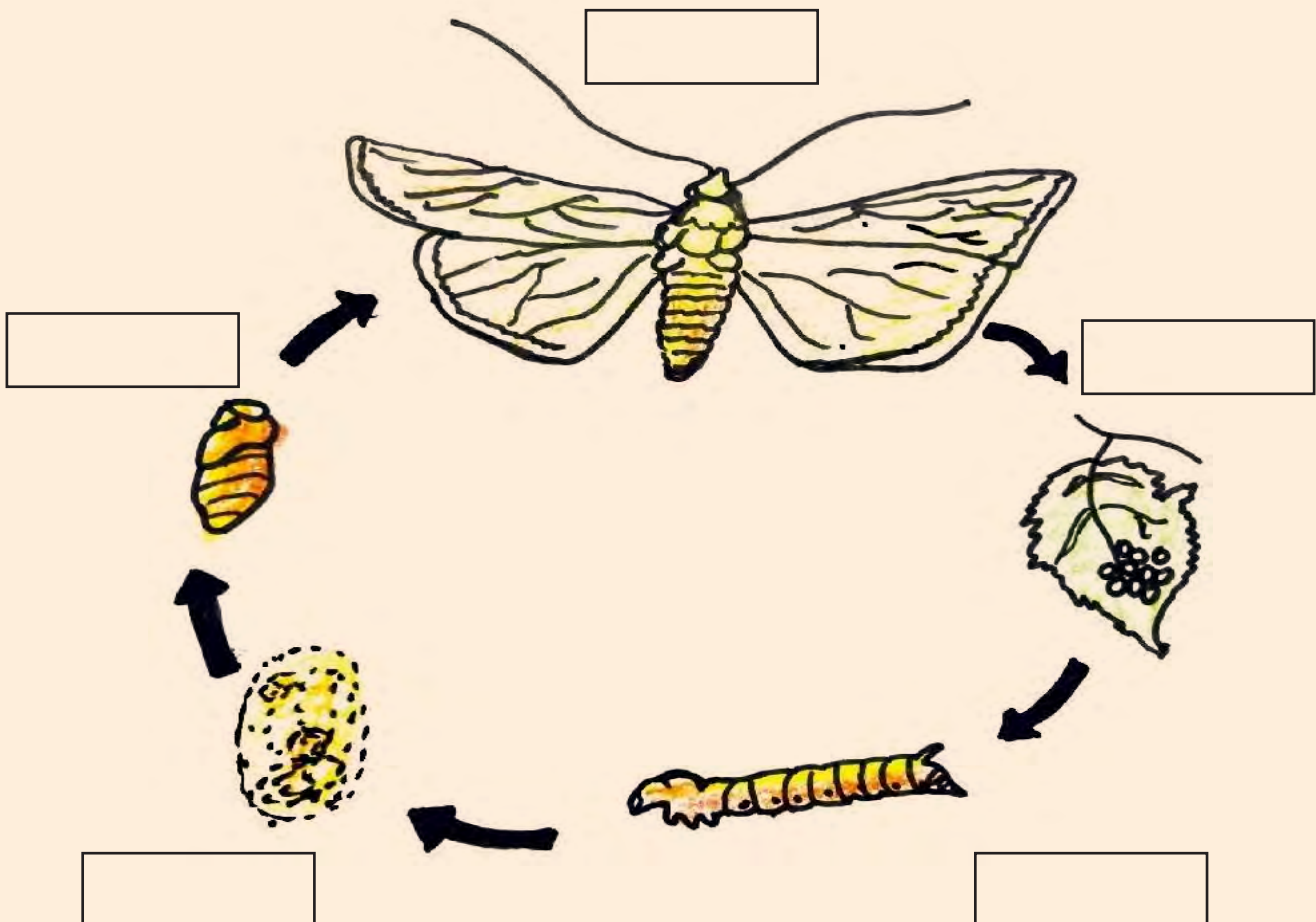
Column B

Artificial silk

Food of silk worm

Produces silk fibres

Rearing of silk worms

Q.2 Label the different stages in the life cycle of silk moth in the diagram given below:

Q.3 Look at the pictures given below and try to identify them as woollen or silk cloth



Q.4 Encircle the odd one out:

(a)



Silk Moth



Mulberry



Larva

(a)



Sericulture



Sheep



Cocoon

CHAPTER-4: HEAT

Temperature

ACTIVITY SHEET-1

Learn with fun:

Have you seen a thermometer?

When you feel unwell due to fever, the temperature you measure is by a clinical thermometer which is also used by a doctor. We need to take some precautions while measuring temperature through clinical thermometer.

Write answers to the following questions:

Q.1 Write the name of the thermometer shown in the picture.



Q.2 Take thermometer and measure body temperature of your family members.

[Note:- All readings should be done under supervision of elders.]

1. **Father** _____
2. **Mother** _____
3. **Self** _____
4. **Brother** _____
5. **Grand-mother** _____
6. **Grand-father** _____

temperature, 37°C , thermometer, 35°C to 42°C ,
- 10°C to 110°C , clinical thermometer, Heat

Q.1 Fill in the blanks:-

- (a) Temperature is measured by a device called _____
- (b) A _____ is used to measure our body temperature.
- (c) _____ is a form of energy while _____ is the degree of hotness or coldness of an object.
- (d) Normal Temperature of a healthy person is _____
- (e) The range of a clinical thermometer is _____ and the range of a laboratory thermometer is _____

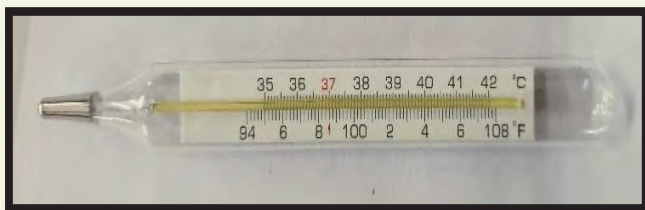
Q.2 Temperature is measured in.

- (a) Joule (b) Calories
- (c) Celsius (d) None of these

Q.3 What is the use of the kink in the thermometer?



Q.4 Identify clinical and laboratory thermometer in the given pictures.

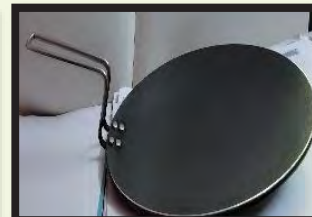
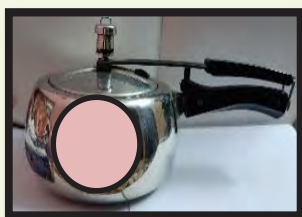


Temperature

Conductors and
Insulators**ACTIVITY SHEET-2****Learn with fun:****Students, have you seen different types of utensils in kitchen?**

Have you observed that a tava, pressure cooker becomes hot when kept on a flame? But pressure cooker and tava slowly cools down or in other words we can say that their temperature becomes low after removing from the flame you must have observed that the metallic tava used for cooking has a wooden handle and pressure cooker has a plastic handle.

Collect some utensils having wooden and plastic handle and write your observations in the table below.



Utensils	Plastic handle	Wooden handle
Pressure cooker		
Kettle		
Tava		
Wok (kadai)		

Q.1 Choose conductors and insulators of heat from the following items:-

Conductors	Insulators



Q.2 Fill in the blanks :-

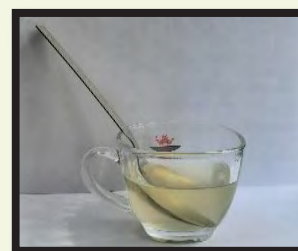
Air, water, colder, conduction

(You can choose words from the box)

- (a) The heat flows from a hotter object to a _____ object.
 (b) In solids, the heat is transferred by the process of _____.
 (c) _____ and _____ are poor conductors of heat.

Q.3 A steel spoon is dipped in a cup of hot water. Its other end becomes hot by the process of

- (a) Conduction. (b) Radiation.
 (c) Convection (d) All of these



Q.4 Which one is a good conductor of heat?

- (a) Aluminum (b) Plastic
 (c) Wood. (d) Rubber

Q.5 Differentiate between conductors and insulators.

Conductors	Insulators

Temperature

Conductors and
Insulators

Convection

ACTIVITY SHEET-3**Learn with fun:**

During cooking, the temperature of the kitchen rises. This is because the heat coming out from the gas stove heats all the air in the kitchen. The air is heated near the gas stove and rises. The gas stove transfers heat by convection. As the cold air is heavier than the hot air. Hot air rises above the top and cold air from above sinks downwards.



Q.1 Write your observation, while your mom is cooking in kitchen.

Q.2 Tick (✓) mark the correct answer in each of the following:

A. Heat travels in air through

- | | |
|----------------|------------------------------|
| (a) convection | (c) conduction |
| (b) radiation | (d) convection and radiation |

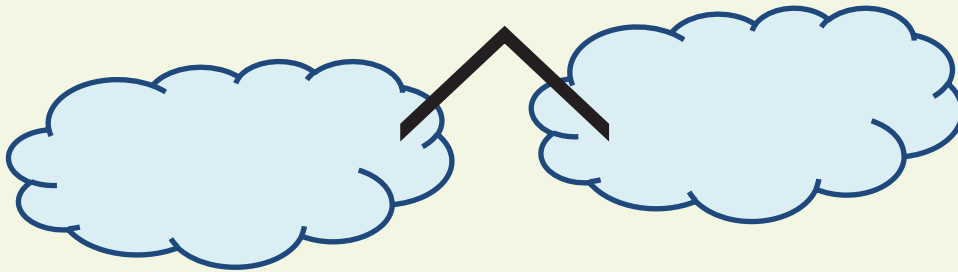
B. In liquids heat is transferred by

- | | |
|----------------|-------------------|
| (a) conduction | (c) radiation |
| (b) convection | (d) none of these |

Q.3 Fill in the blanks :-

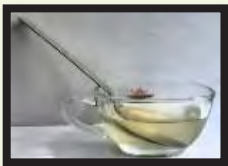



1. Sea breeze and land breeze are the examples of _____.
(convection/ conduction)
2. Cool air moves from the land towards the sea is called _____.
(land breeze/ sea breeze)
3. When air moves from the sea towards land is called _____.
(land breeze/sea breeze)
4. In sea breeze, during the day the land gets heated _____ than the water.(faster/ slower)

Q.4 Write two examples of heat transfer by convection.



Q.5 Melting of ice is an example of convection. Give reason.

Q.1 Match the pictures with method of heat transfer

	From hot lemon tea to spoon dipped in it	<ul style="list-style-type: none">• Conduction• Convection• Radiation
	From flame of gas stove to the surrounding	
	From gas flame to tava	
	From Sun to surroundings	

Q.2 Mark 'T' if the statement is true and 'F' if it is false.

- (a) We received heat from the Sun by the process of radiation. (T/ F)
- (b) The process of radiation does not require any medium. (T/ F)
- (c) Dark coloured objects absorb less amount of heat than coloured objects. (T/ F)
- (d) Wool is a poor conductor of heat. (T/ F)

Q.3 Make a list of the different types of clothes worn by family members and categorize them in accordance with the season. For example your Mother chooses to wear cotton suit in summers, while she prefers to wear woollen kurtas in winter. Think of the reason behind this and ask her why she wears a cotton suit in summer.

	Mother	Father	Brother	Sister	Grandfather	Grandmother
Summer season	Cotton Suit					
Winter season	Woolen Kurtas					

Q.4 It is better to wear two thin layers of clothes in comparison to only one thick layered cloth in winters. Why?

Q.5 Why do we use an umbrella while going out in Sun?



CHAPTER-5: ACIDS, BASES AND SALTS**Acids and bases****ACTIVITY SHEET- 1**

Learn with fun:

Let us make a turmeric greeting card.

Materials required- A tablespoon of turmeric powder, water, filter paper/ blotting paper/handmade paper, Soap solution.

Make a paste of turmeric and water. Apply turmeric paste on a sheet of white paper and dry it. Draw a flower on it with soap solution with the help of cotton bud. You will get a beautiful turmeric greeting card.



Picture-1 Turmeric paste on white paper



Picture-2 Turmeric paper and soap solution



Picture-3 Thumb print after dipping thumb in soap solution



Picture-4 Thumb painting

Q.1 Renu has three types of soft drinks. She planned to play a game with her friend Shabnam. She called Shabnam to her house. She removed labels from all the three bottles and asked Shabnam to identify their nature as acidic, basic, or neutral. According to you which of the following methods should be used by Shabnam to test the nature of the drinks. Choose from the options given below:

Shabnam can use an indicator like turmeric to test the nature

☐

Shabnam can taste all the three soft drinks

☐

Shabnam can ask Renu to taste all the three soft drinks

☐

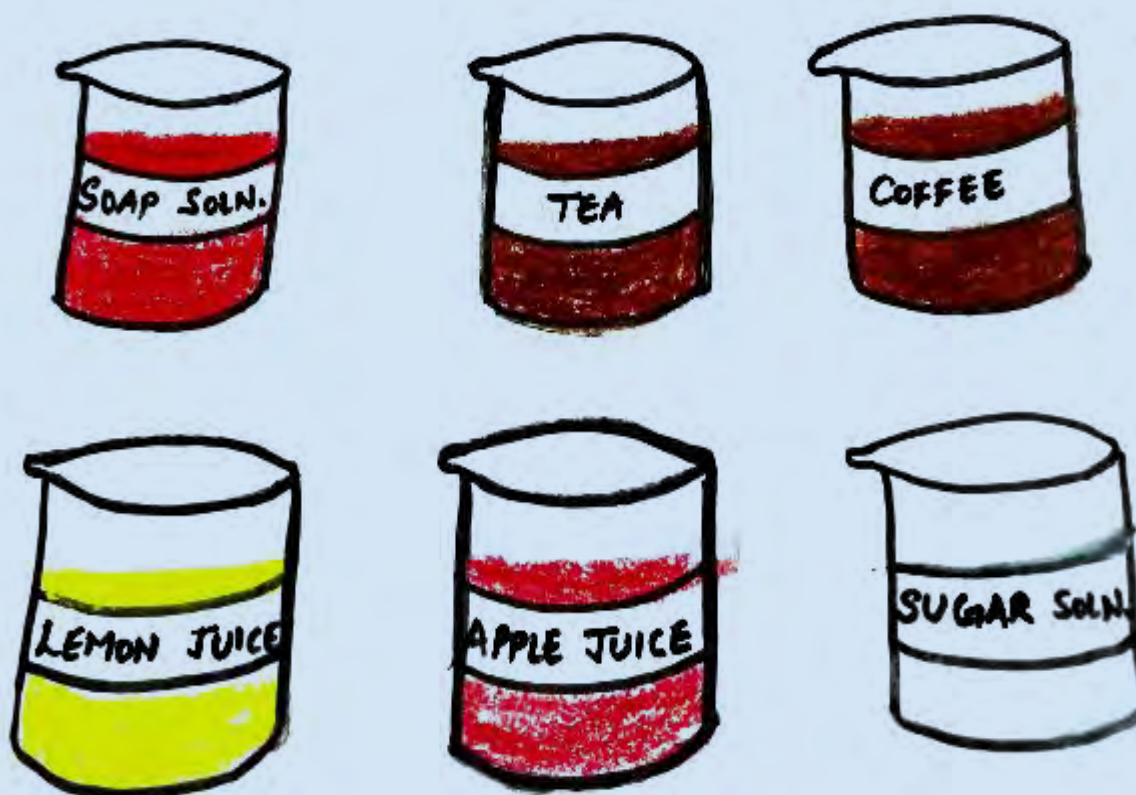
Q.2 Acids are sour in taste, bases are bitter in taste. Given below is a table containing a few substances. Identify the taste of those substances and predict their nature as acidic or basic.

SUBSTANCE	SOUR/BITTER	ACIDIC/BASIC
Lemon Juice		
Amla		
Vinegar		
Tamarind (Imli)		
Unripe Mango		

ACTIVITY SHEET- 2**Learn with fun:****Fun with solutions-**

Materials required- Soap solution, Tea, Coffee, Lemon juice, Apple juice, Sugar solution, red and blue litmus paper.

Procedure- Take six beakers/transparent glasses and label them. Then take six strips of blue and red litmus paper. Pour some amount of the above solutions in their respective beakers/transparent glasses one by one. Take strip of red litmus paper and blue litmus paper and dip them in the beaker or transparent glass one by one. Observe the colour change in both the strips and note down your observations in the table given below:-



SOLUTION	EFFECT ON RED LITMUS PAPER	EFFECT ON BLUE LITMUS PAPER	INFERENCE
Soap Solution			
Tea			
Coffee			
Lemon Juice			
Apple Juice			
Sugar solution			

Q.1 Complete the following table showing differences between Acids and Bases.

ACIDS	BASES
Acids are Sour in taste.	Bases are.....in taste.
Acids are corrosive.	Bases are soapy to
Acids turnlitmus to.....	Bases turn.....litmus to

Q.2 Sana washed her white shirt containing turmeric stain with soap. She noticed that the turmeric stain turned to red. What could be the reason for this?

.....

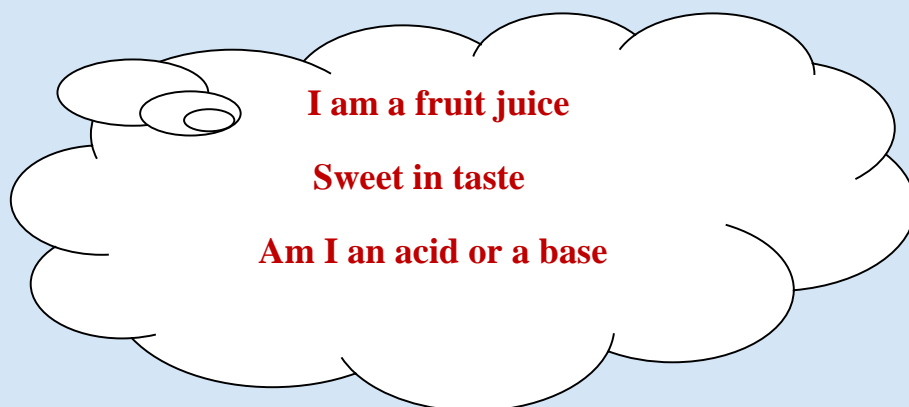
Q.3 Encircle the one which is not a natural indicator-

Turmeric, Methyl Orange, Red Litmus, China Rose, Blue Litmus

Q.4 True or False-

- (a) Sodium hydroxide turns blue litmus red. (T/F)
- (b) Nitric acid turns red litmus blue. (T/F)
- (c) Water is basic in nature. (T/F)
- (d) China rose indicator turns acidic solutions to dark pink. (Magenta) (T/F)

Q.5 Solve the following riddle-



ACTIVITY SHEET-3**Learn with fun:**

One day Raghu was playing in sand, suddenly he cried with pain. His friend Shyam was near him, he immediately rushed to him and noticed that he got an ant bite. Raghu ran to the kitchen and brought baking powder, he rubbed moist baking powder on the area of ant bite. Raghu immediately got relief and thanked Shyam for his prompt action.



Put (✓) or (×) against the statements given below-

Raghu got relief from pain as-

(a) Ant bite injected acid in the skin of Raghu.

☐

(b) Ant bite injected base in the skin of Raghu.

☐

(c) Shyam applied a base to the ant bite on skin.

☐

(d) Shyam applied an acid to the ant bite on skin.

☐

Q.1 Complete the following statement-

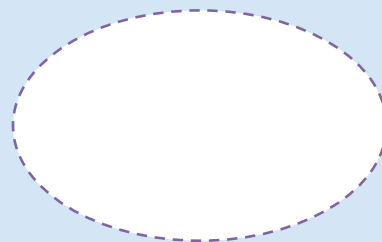
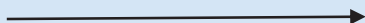
The reaction between an acid and a is known as Neutralisation.

Q.2 Fill the bubbles-

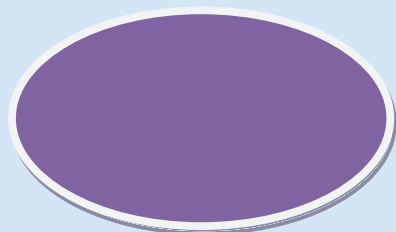


+

Neutralisation



+



Q.3 Read and correct the following statements-

A. An antacid tablet is taken when we suffer from fever.

B. Litmus is an artificial indicator.

Q.4 Excessive use of chemical fertilizers makes the soil acidic. Plants do not grow well when the soil is either too acidic or too basic.

Choose the correct answer-

When the soil is too, it is treated with bases like Quick lime. (acidic/basic)

When the soil is, organic matter is added to it as it releases acids into soil. (acidic/basic)

CHAPTER-6: PHYSICAL AND CHEMICAL CHANGES**ACTIVITY SHEET- 1****Learn with fun:**

Take a paper and cut it into four square pieces. Then, cut each square piece further into four square pieces. Now, lay all the 16 pieces on a table and arrange them into the shape of the rectangle shown below & paste them.



Q.1 Could you join the pieces back to the original one?

.....

Q.2 Is there any change in the physical property of the paper? If yes, name it.

.....

.....

.....

Q.1 Choose the correct option-

The process in which a substance undergoes a change in its physical properties is called-

- (a) Chemical Change
- (b) Physical Change

Q.2 Insert the correct physical property which undergoes a change in the statements given below-

size, shape, colour, state

- (a) Cutting a piece of paper and rearranging it. (_____)
- (b) Crushing a piece of chalk into dust and rolling it into a new piece of chalk by adding water. (_____)
- (c) Melting ice into water and freezing it again to make ice. (_____)
- (d) Heating the tip of a *chimta* (tongs) on flame to see any change and then cooling it to see any new change. (_____)

Physical change

Chemical
change**ACTIVITY SHEET- 2****Learn with fun:****Materials required-** Vinegar, Baking Soda, Freshly prepared Lime Water**Method:** Take a teaspoonful of vinegar in a test tube. Add a pinch of baking soda to it. You will hear a hissing sound and see bubbles of a gas coming out. Pass this gas through lime water and note down your observations.**1. What change do you see in the lime water?**

.....

2. Do you think any new substances are formed in the above activity?

.....

3. Which gas is produced in the above activity?

.....

4. The person in the picture given below is blowing air into the lime water and he finds that the colour of lime water changes to white. What could be the reason behind it?


Q.1 Which among the following does not indicate a chemical change?

- (a) Evolution of heat and light
- (b) Production of sound
- (c) Change in smell
- (d) Change in colour
- (e) Change in state

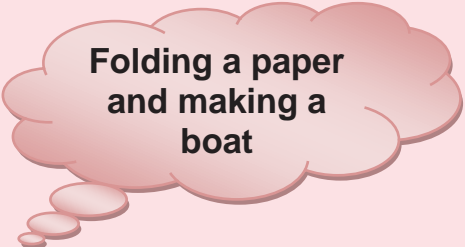
Q.2 Identify physical and chemical change among the following-



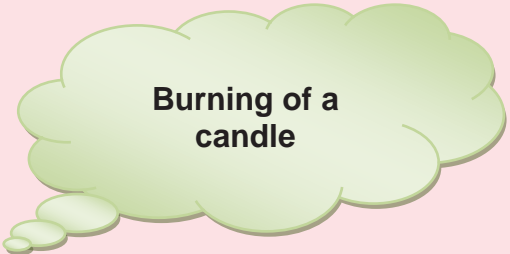
Spoilage of food



Change in the colour of slice of apple



Folding a paper and making a boat

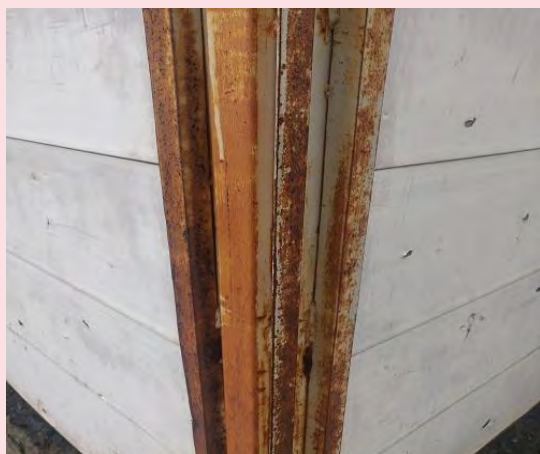


Burning of a candle



ACTIVITY SHEET- 3

Q.1 Look at the pictures given below carefully and answer the questions that follow –



(A)



(B)

(a) In which of the two pictures can you see a rusted metal wall?

(b) Name the phenomenon responsible for the colour change in the metal wall shown in Picture A.

(c) Write the conditions necessary for rusting to take place.

(d) Look at the following pictures carefully. Identify the correct mode of rust prevention in the box provided.

Galvanisation, Painting, Electroplating, Oiling



Physical
changeChemical
changeRusting of
iron

Crystallisation

ACTIVITY SHEET- 4**Learn with fun:**

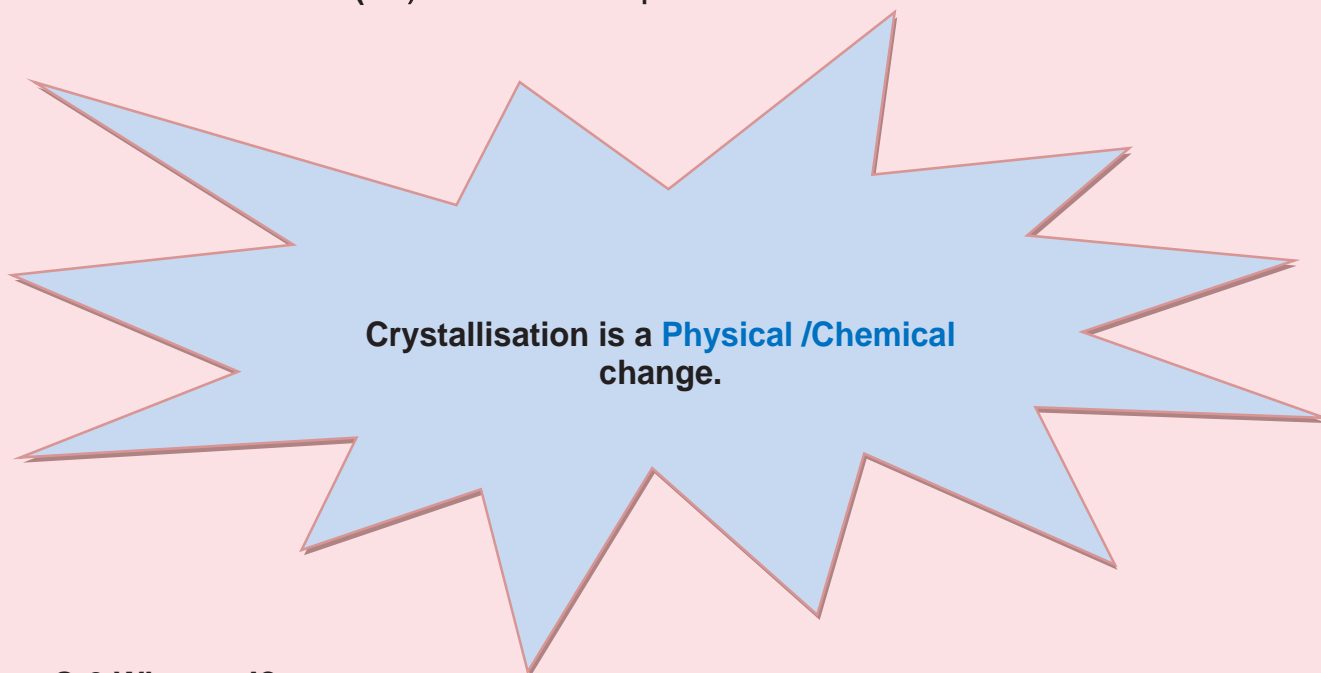
Raju visited Gujarat with his Dada ji. While walking alongside the sea shore, he saw huge heaps of white substance as shown in the picture below. He asked his Dada ji about it. His dada ji told him that they were heaps of salt that we eat in our food. Which is obtained when sea water evaporates due to the sun's heat.



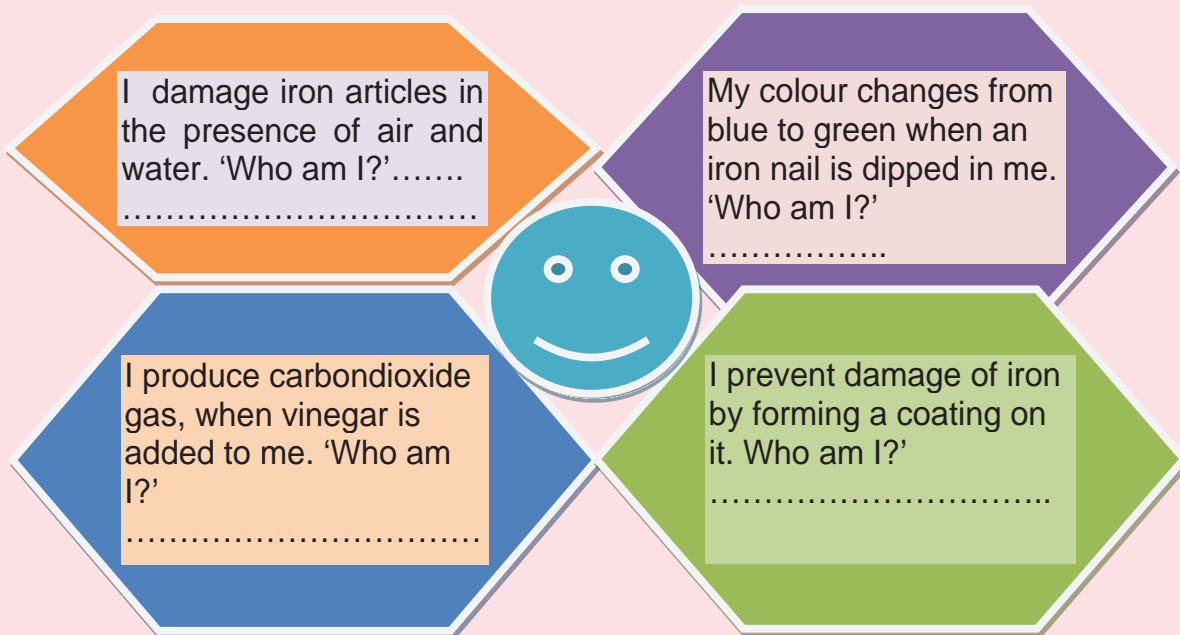
1. Salt is separated from sea water by a process called evaporation. Is that salt pure in nature?

2. Name the process by which we can get crystals of pure substances from their solutions.

Q.1 Put a tick mark (✓) on the correct option-



Q.2 Who am I?



CHAPTER-7: WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

Weather and climate

ACTIVITY SHEET- 1

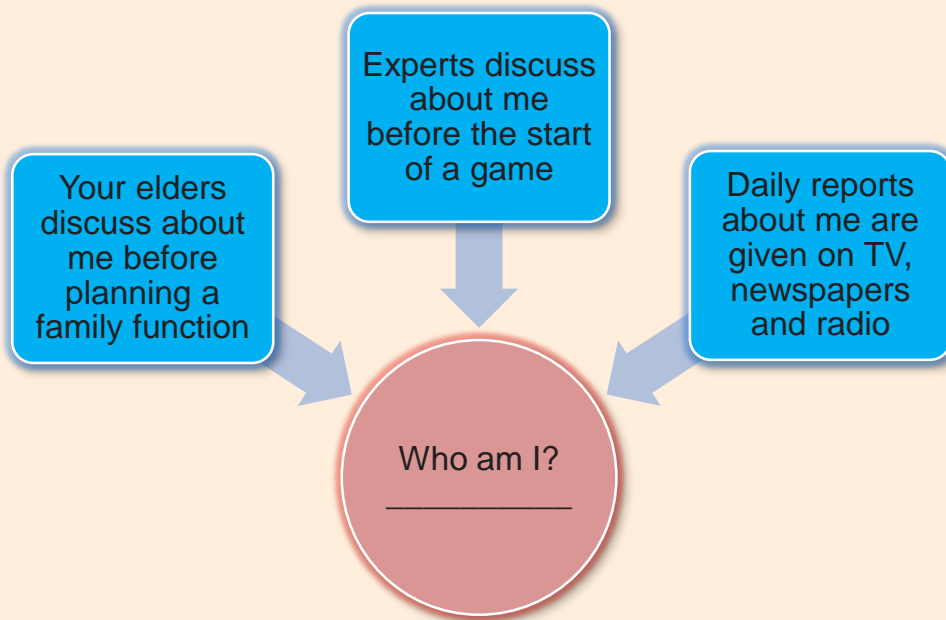
Learn with fun:

Gather newspapers of last 7 days and cut out the weather reports and paste them in the box given below.

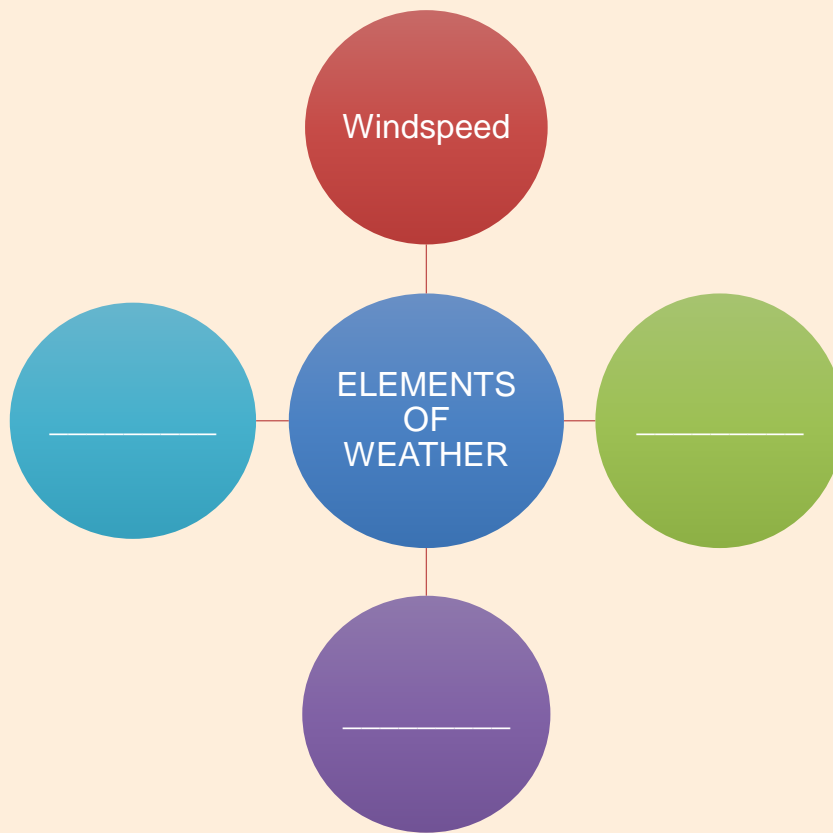
OR

Check any weather app on the mobile phone of your family member or neighbours and write the weather report for the last 3 days and also write the weather prediction for the next 3 days.

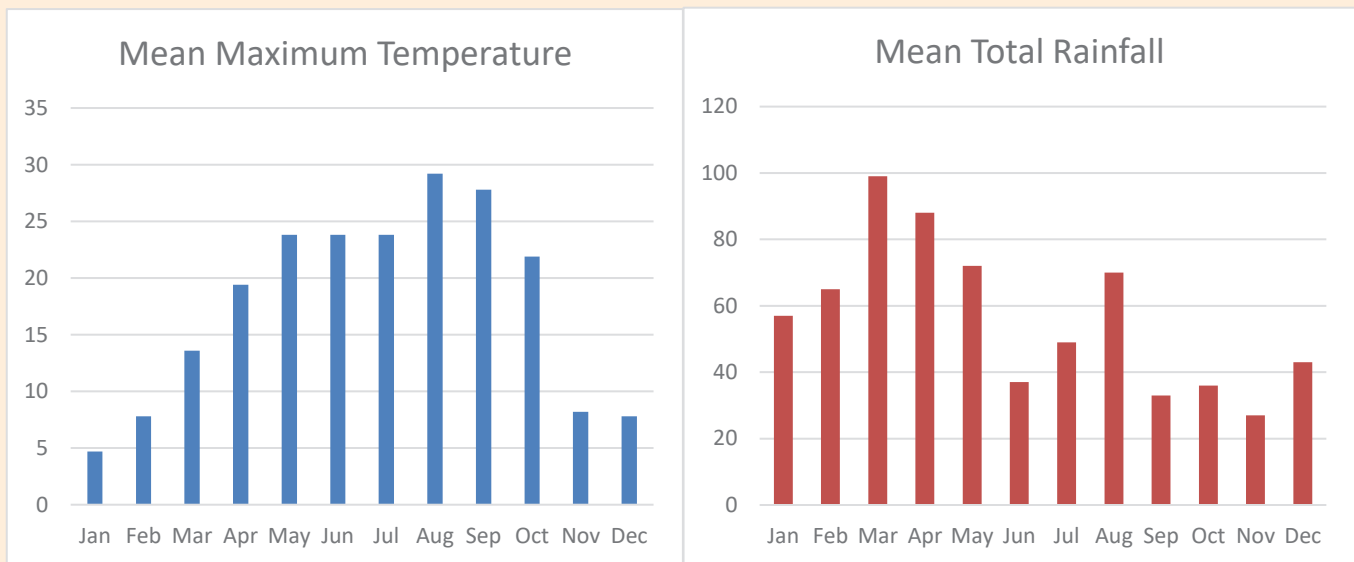
Q.1 After reading about me in the given boxes, write 'who am I', in the circle below-



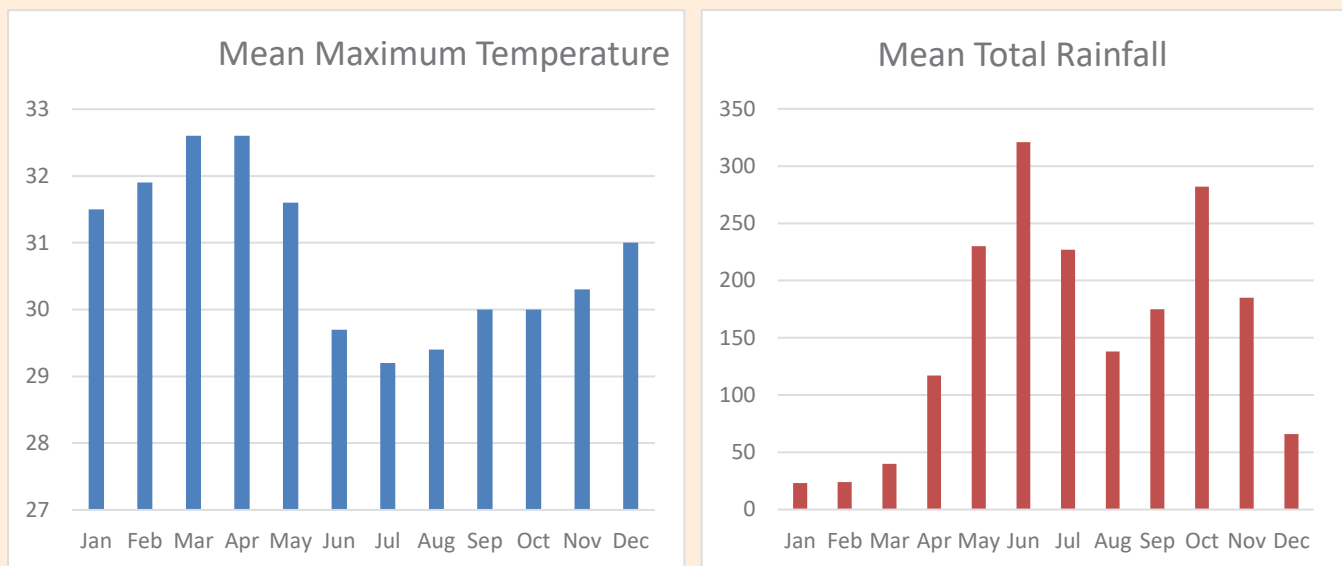
Q.2 Fill appropriate words in the spaces provided. One example has been done for you.



Q.3 Look at these graphs carefully and answer the questions in the blank:



Yearly mean maximum temperature and mean total rainfall of SRINAGAR has been shown in the bar graphs. The temperature is in Celsius. The rainfall is in millimeter.

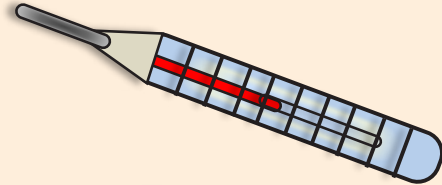


Yearly mean maximum temperature and mean total rainfall of THIRUVANANTHAPURAM has been shown in the bar graphs. The temperature is in Celsius. The rainfall is in millimeter.

- (a) Which city is hotter? _____
- (b) Which city receives more rainfall? _____
- (c) The climate of Srinagar is moderately _____. .
- (d) The climate of Thiruvananthapuram is _____. .

Q.4 Match the following:

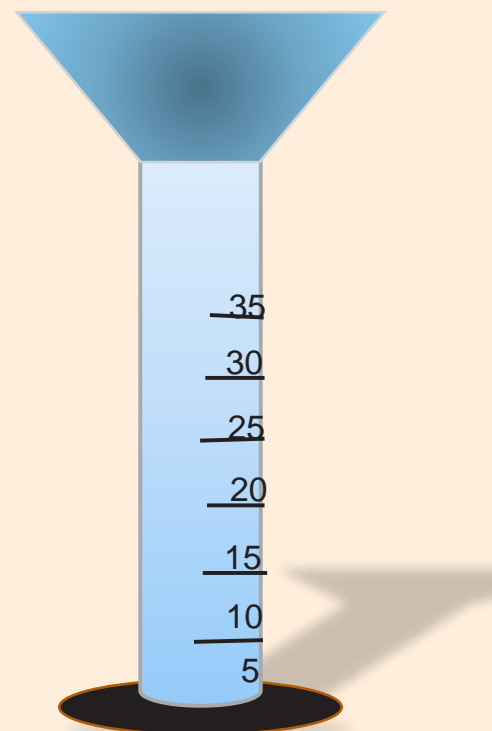
- (a) It causes all the changes in the weather.



- (b) It measures rainfall.



- (c) It measures temperature.



ACTIVITY SHEET-2**Learn with fun:**

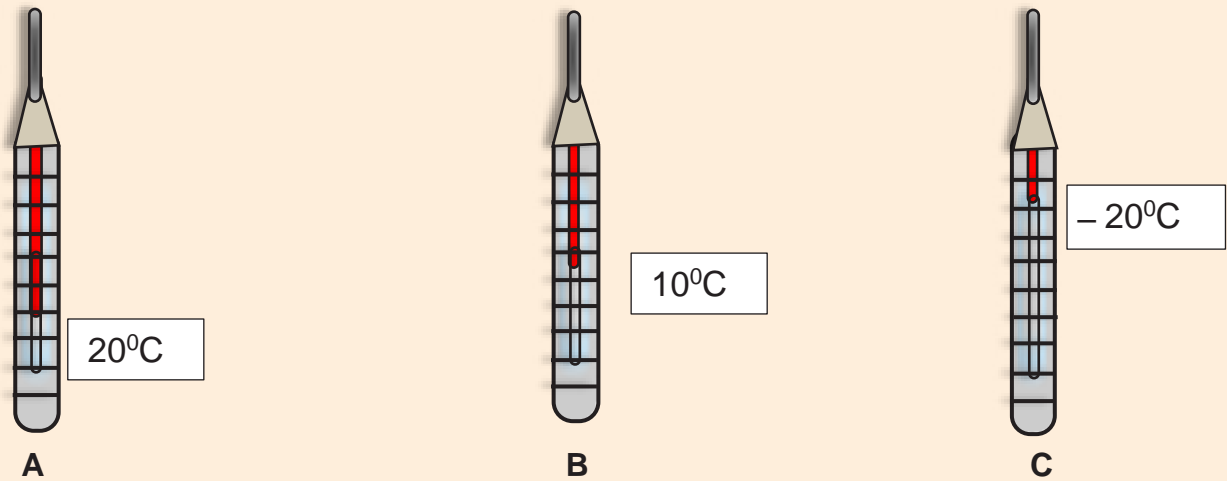
Your parents tell you that you are going to visit a hill station. What kind of clothes and other things will you pack? Write any six items in the box given below:

_____	_____	_____
_____	_____	_____

Q.1 Look at the picture of the polar region of the earth carefully, and answer the questions given below:



Courtesy: Jonatan Pie/Unsplash



- (a) Which of the above reading of the thermometer is most likely to be of the Polar Region? _____.
- (b) From the list of countries given below, encircle the countries that lie in the Polar Region.

1. India 2. Norway 3. Sri Lanka 4. Saudi Arabia 5. Sweden
6. Kenya 7. Finland 8. Malaysia 9. Iceland 10. Japan

Q.2 Match the following columns:

COLUMN A

Polar bear has white fur

Polar bear has two layers of fur

Polar bear moves slowly and rest often

Its paws are wide and large

COLUMN B

so that it can walk easily on snow

so that its predator is unable to see it

to protect itself from extreme cold

to avoid getting overheated

Q.3 Mention the adaptations of penguins that enable it to live in polar regions by choosing the group of words from the box given below:

good swimmers

protect them from cold

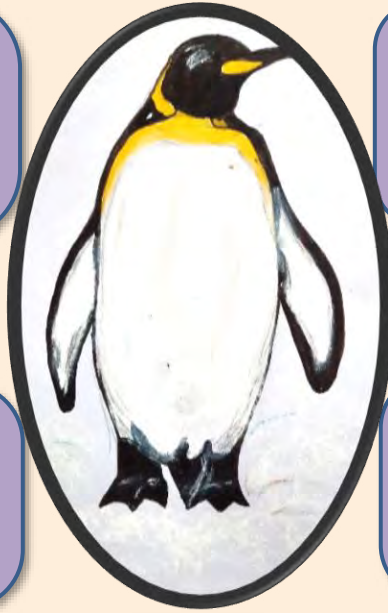
merge well with the white background

keep themselves warm

Penguins are white so
that they

Penguins have thick
skin and a lot of fat to

Penguins are always
seen huddled together
to



Bodies of penguins
are streamlined that
makes them

Q.4 Siberian crane, a migratory bird comes to India to escape the extreme climatic conditions at home. Write two places in India where Siberian crane is found.

(a) _____

(b) _____

ACTIVITY SHEET- 3

Learn with fun:



Given above is the picture of the world map showing tropical rainforests. Look at the map carefully and name any five countries that are home to tropical rainforests and write their names in the spaces given aside.

1. _____
2. _____
3. _____
4. _____
5. _____

Q.1 Fill in the blanks with the words that describe the characteristics of tropical rainforests:

rainfall	equal	warmth	temperature	Equator
----------	-------	--------	-------------	---------

- (a) The tropical region has a hot climate because of its location around the _____.
- (b) During hot summers, the _____ may cross 40 degree Celsius.
- (c) Days and nights are almost _____ in length throughout the year.
- (d) Tropical rainforests get plenty of _____.
- (e) Because of continuous _____ and rain. Tropical rainforests support a wide variety of plants and animals.

Q.2 Look at the pictures and answer the questions given in the box.



1. Identify the animal shown in the picture and write its name.

2. Mention one adaptation that has led this animal to survive in its surroundings.



1. Identify the animal shown in the picture and write its name.

2. Mention one adaptation that has led this animal to survive in its surroundings.

Q.3 Based on the adaptations written in these three boxes, identify 'who am I', and write in the space provided.

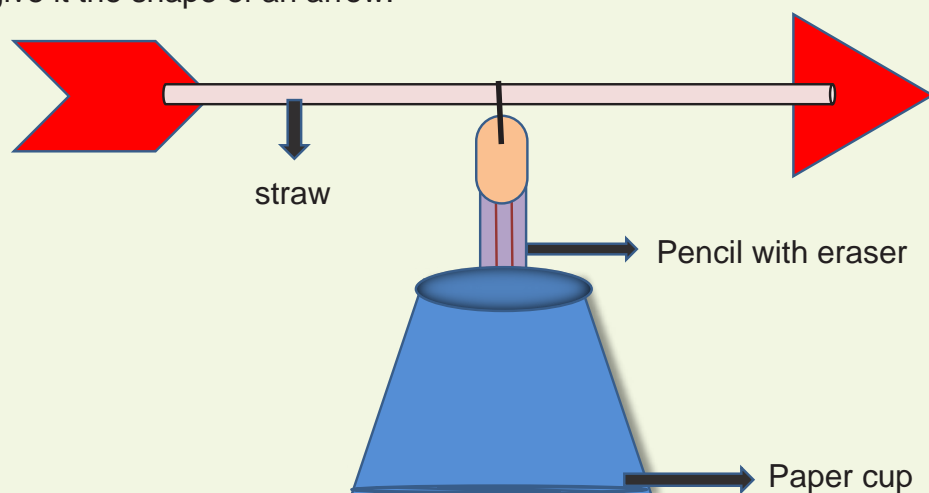


CHAPTER-8: WINDS, STORMS AND CYCLONES**Air and its characteristics****ACTIVITY SHEET- 1****Learn with fun:**

Wind wane is an instrument that tells us about the direction of the wind. Let us build our own wind wane.

Materials required: A paper cup, a thick sheet of coloured paper, one straight pin, straw, a pencil with an eraser, scissors etc.

Method: Make a hole in the bottom of the paper cup. Push a pencil through the hole. Cut 1-cm long slits on both the ends of the straw. Push a straight pin through the centre of the straw and into the eraser of the pencil so that the slits in the straw are vertical. Cut out a pointer and a tail from the coloured paper. Insert the pointer and the tail into the slits of the straw and glue them in place to give it the shape of an arrow.



Place the wind wane outside in your balcony or terrace and note down the directions of the wind/air in your area for 1 week. Record the direction in the table given below. You can take help from your elders to determine the direction of the wind.

DAY	DIRECTION OF THE WIND/AIR
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	
SUNDAY	

Q.1 Which of the given below statements are examples that show that the air exerts pressure. Put a  mark in the box given in front of the statement.

(a) Fluttering of leaves of a tree.

☐

(b) Writing on a paper with the help of a pencil.

☐

(c) Drinking with the help of a straw

☐

(d) Filling air in a bicycle tube to keep it tight.

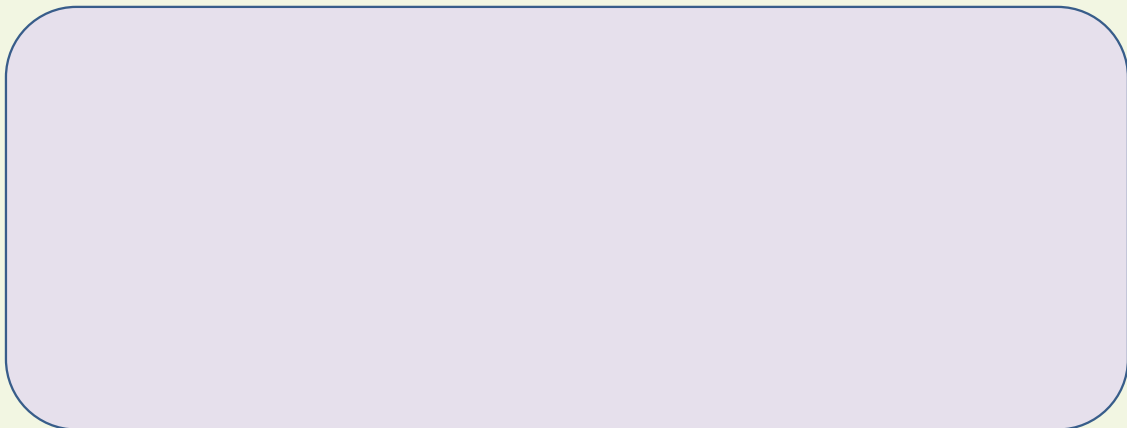
☐

Q.2 Riding a bicycle becomes easy, if we ride the bicycle in the direction of the moving air, but it becomes difficult if we ride it against the direction of the wind.



Name any two other activities that depend upon the direction of the moving wind. Draw the pictures in the boxes provided.

PICTURE 1:



PICTURE 2:



Q.3 Warm air is lighter than cold air and it always rises up. Based on this knowledge, where will you place the air conditioner and a heater in the room. Write your answer in the space provided.

Q.4 Fill in the blanks by choosing the appropriate words from the given box:

low	reduced	high	expands	wind
-----	---------	------	---------	------

- (a) Moving air is called _____.
- (b) High speed winds are accompanied by _____ air pressure.
- (c) Air _____ on heating.
- (d) Air moves from the region where the air pressure is _____ to the region where the pressure is _____.

ACTIVITY SHEET-2**Learn with fun:**

You must have heard about cyclones that hit the coastal areas. Collect pictures related to cyclones from old newspapers and magazines and make a collage in the box given below:



Q.1 Though rains are welcomed after a long spell of dry summers, they often create problems. Write down any three problems that you face when it rains heavily in your area, in the space provided.

1. _____

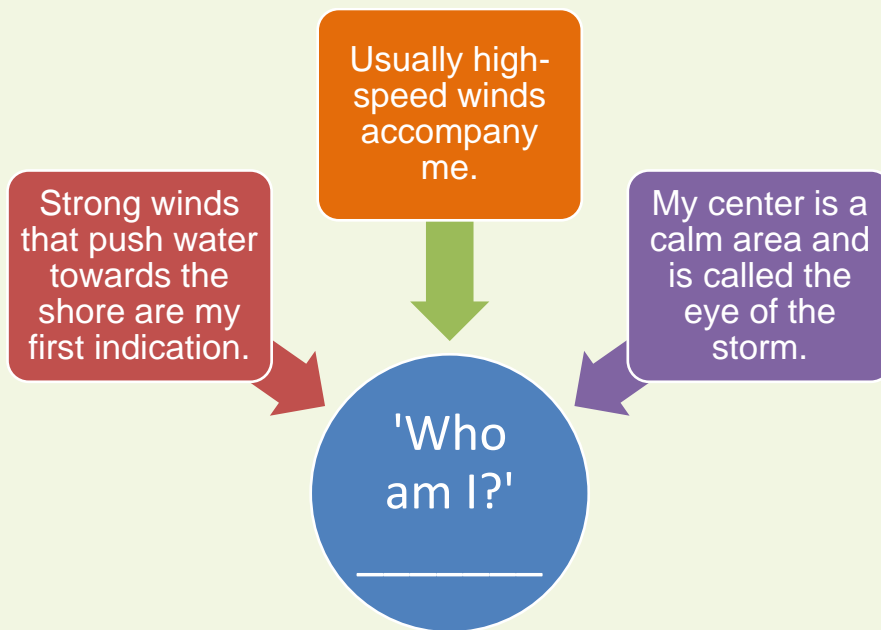
2. _____

3. _____

Q.2 Which of them is *NOT* a precaution that can be followed during a thunderstorm. Put a **X** in front of the wrong suggestion.

- (a) Do not take shelter under an isolated tree.
- (b) If you are in water, get out and go inside a building
- (c) Lie down on the ground.
- (d) A car or a bus is a safe place to take shelter.

Q.3 Read about me in the given boxes and tell me 'who am I?'



Q.4: Names of five natural phenomenon are given in the grid below. One example has been done for you. Find out the names of four natural phenomenon from the grid and write down their names in the space provided. One example has been done for you.

A	T	H	U	N	D	E	R	S	T	O	R	M	L
F	L	I	G	D	N	M	Q	E	R	S	T	U	H
G	Y	R	A	I	N	F	A	L	L	F	G	B	I
M	O	L	K	J	O	P	B	T	N	Y	M	U	O
F	G	C	Y	C	L	O	N	E	M	H	I	J	S
B	E	H	S	A	Q	M	D	E	R	F	G	T	H
Y	D	U	E	S	W	N	F	G	H	J	K	L	V
X	F	R	D	D	E	B	T	O	R	N	A	D	O
I	R	R	W	F	R	V	Y	S	W	T	E	Z	W
V	T	I	X	G	T	C	P	X	D	G	D	S	Q
X	H	C	F	H	Y	X	H	D	S	Y	R	X	A
R	U	A	C	J	U	Z	O	C	E	H	F	D	S
S	I	N	G	K	I	A	O	F	R	U	T	C	D
T	K	E	B	L	O	S	N	V	F	J	U	F	E

1. Thunderstorm

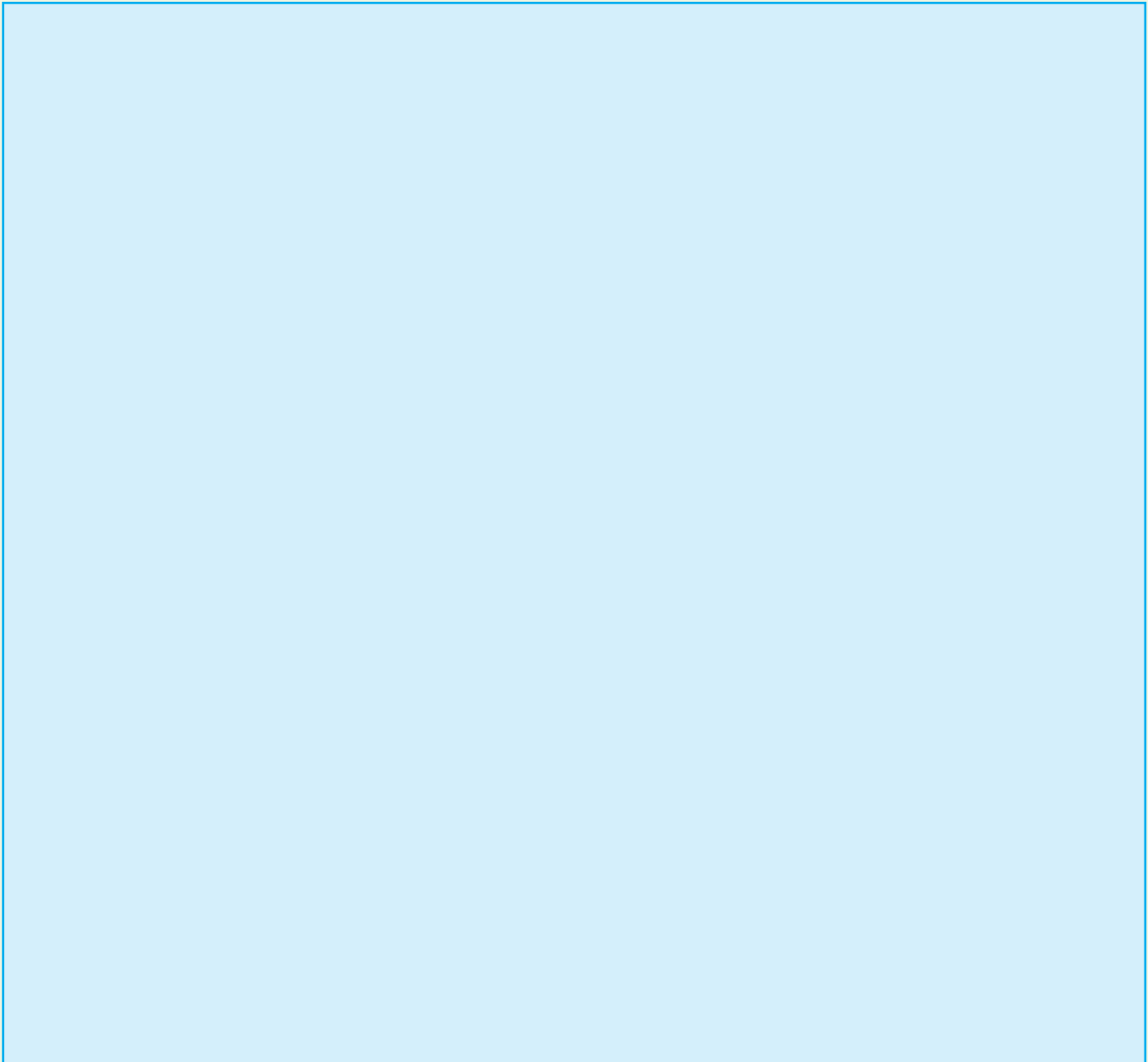
2. _____

3. _____

4. _____

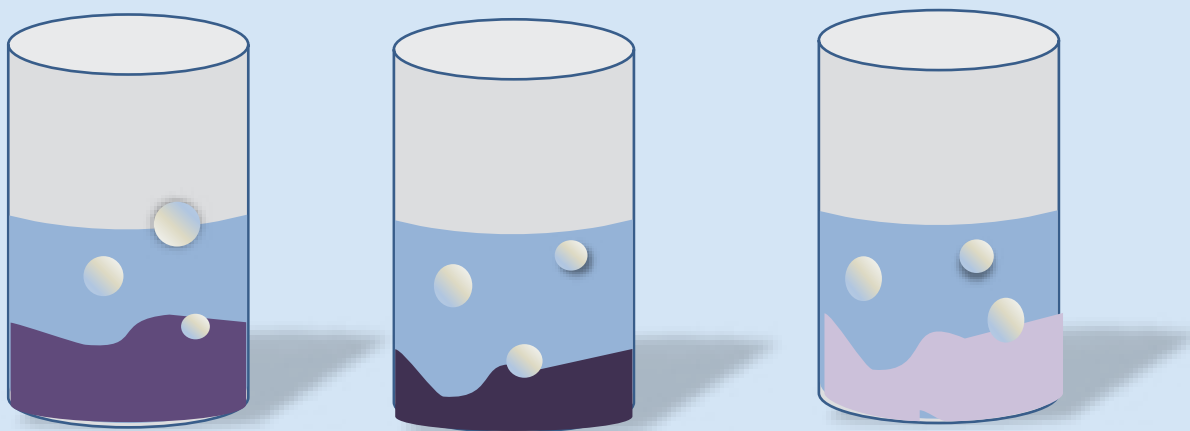
5. _____

Q.5 Draw a labelled diagram showing the formation of a cyclone.



CHAPTER-9: SOIL**Uses of Soil and Soil Profile****ACTIVITY SHEET-1****Learn with fun:**

Collect samples of soil from your flower pot (gamla), nearby park and from roadside. Observe the soil samples carefully and feel the texture. After observing carefully and feeling the texture, dissolve all the samples in three separate glass tumblers. Write down your observations in the table below.



S. No.	Sample of soil	Presence of small plants (if any)	Presence of small insects (if any)	Observation on dissolving in water
1.				
2.				
3.				

Q.1 Look at this picture collage given below and then write down any four uses of soil that you have observed after seeing the collage. One use has been written for you as an example.



Uses:

1. Organisms like earthworm live in the soil.
2. _____
3. _____
4. _____

Q.2 Fill in the blanks by choosing the appropriate words from the brackets

- (a) The rotting dead matter in the soil is called as _____ (gravel/humus).
- (b) Breaking down of rocks by the action of wind, water and climate is called as _____ (weathering/layering).
- (c) A vertical section through different layers of the soil is called as _____ (soil profile/soil tilling).
- (d) The different layers of soil are called as _____ (horizons/positions).



Q.4 Match the columns:

Column A

A Horizon

B Horizon

C Horizon

Bedrock

Column B

Hard and difficult to dig with spade

Made up of small lumps of rock

Compact and hard middle layer

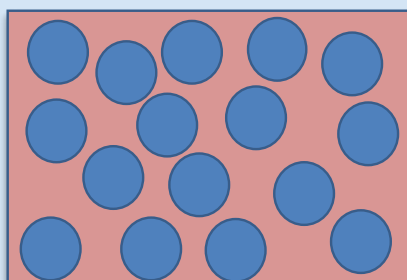
Humus rich fertile layer of soil

ACTIVITY SHEET-2**Learn with fun:**

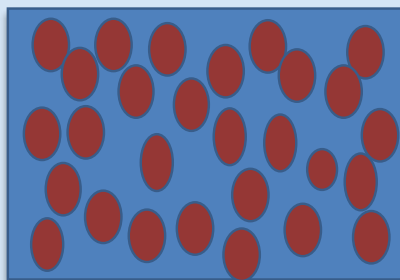
Take two glass tumblers or earthen pots. Put garden soil in one pot and sand in the other. Sow some whole moong seeds in both of them. Water them daily and observe them for 6-7 days. Do not water them in excess. Note your observations daily and write them in the table given below.

S. No.	Observations in pot having garden soil	Observations in pot having sand
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		

Q.1 If picture A represents bigger particles and picture B represents smaller particles then match the type of soil with the correct diagrammatic representation:



PICTURE A



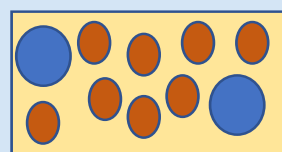
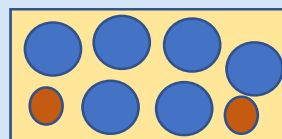
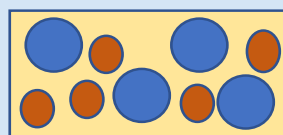
PICTURE B

COLUMN A

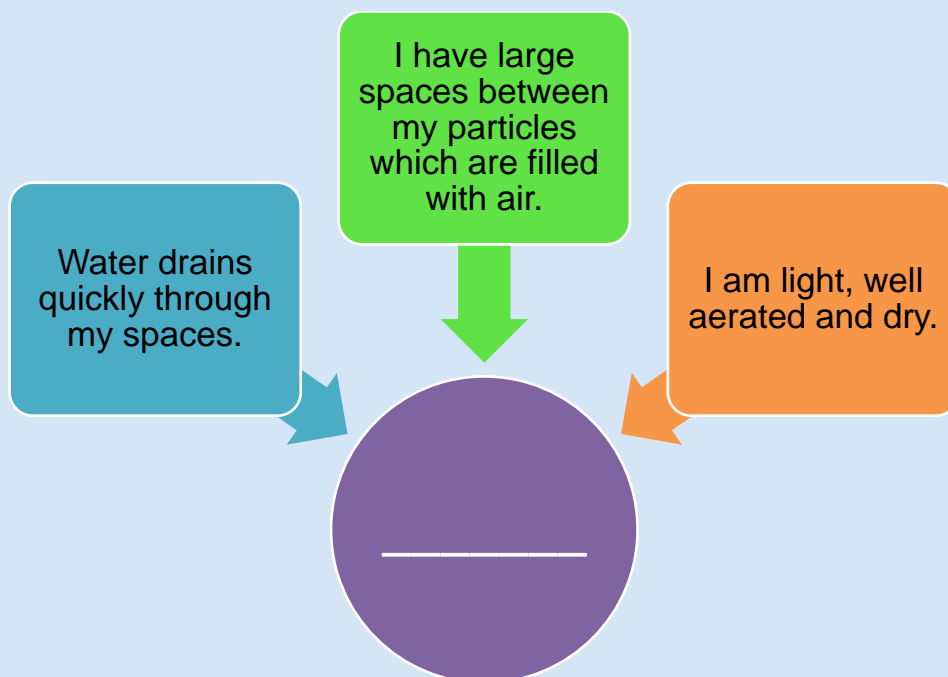
Sandy Soil

Clayey Soil

Loamy Soil



Q.2 Identify which soil type I am and write in the space provided in the circle.



Q.3 It took 30 minutes for a certain sample of soil to percolate 600 mL of water. Calculate the rate of percolation by using the following formula.

$$\text{Rate of percolation} = \frac{\text{Amount of water (ml)}}{\text{Percolation (min)}}$$

Given: _____, _____.

Formula:

Solution:

Answer with units:

Date _____

Uses of Soil and Soil
Profile

Types of Soil

Soil and
Crops

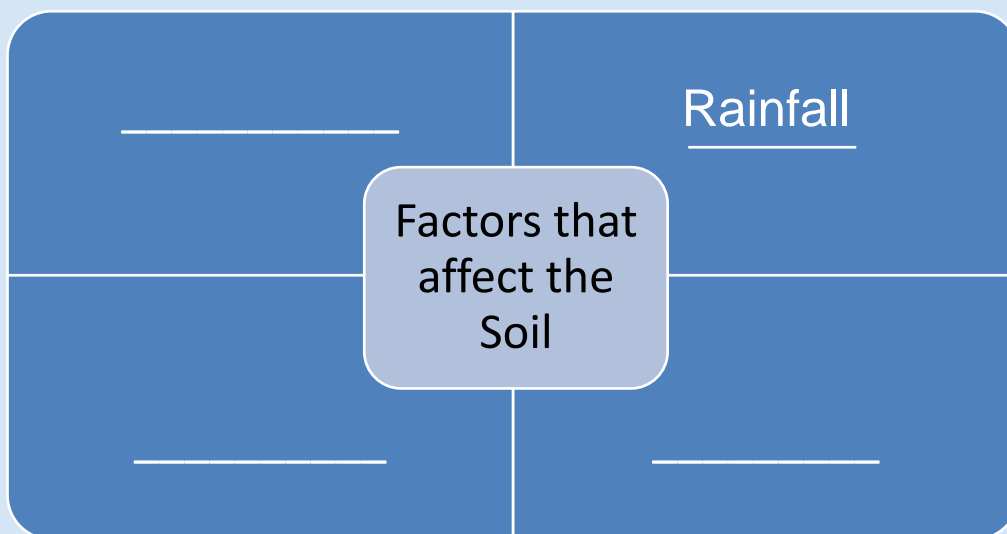
ACTIVITY SHEET-3

Learn with fun:

Name any 4 states where rice/paddy is abundantly grown. Also mention any two food items made of rice that are eaten by the people of these states in the table below.

S. No.	State	Two food items made of rice

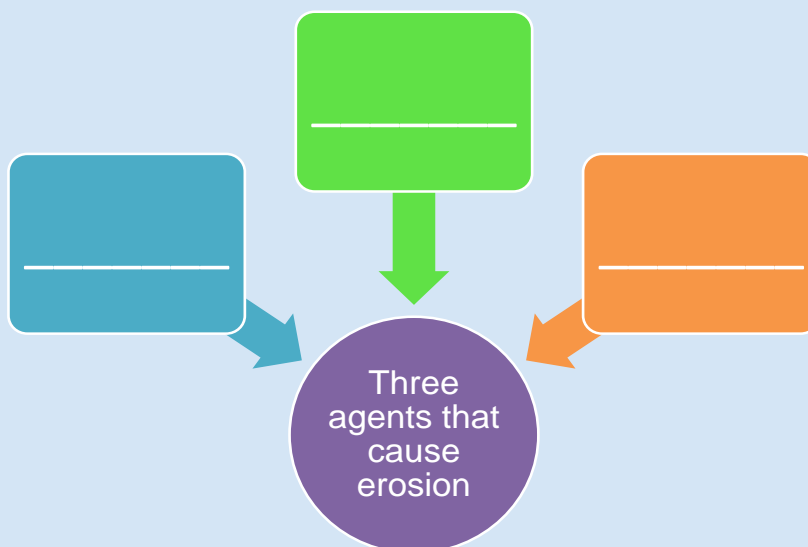
Q.1 Write one word in the spaces given below. One has been done for you.



Q.2 We know that different crops need different types of soil to grow. On the basis of this fill in the spaces given in the table below.

S. No.	Types of Soil	Crops grown
1	Clayey and loamy soils	_____ and _____
2	_____	Paddy
3	Loamy soils	_____ and _____
4		Cotton

Q.3 Removal of the topmost layer of soil is called as Erosion. There are certain factors that are responsible for erosion. Write these factors in the given spaces.



Q.4 Tick (✓) on either True or False against each statement:

(a) Sandy soils are used to make pots, toys, and statues.

True/False

(b) Cutting of trees and deforestation are responsible for soil erosion.

True/False

(c) Soil holds water in it which is called as soil moisture.

True/False.

CHAPTER-10: RESPIRATION IN ORGANISMS**Cellular respiration****ACTIVITY SHEET-1**

Learn with fun:

Yeast fermentation



Inflated Balloon

Conical Flask

Solution of Sugar and Yeast in warm water

Materials required: Water, Sugar, Yeast, Balloon, Two empty bottles

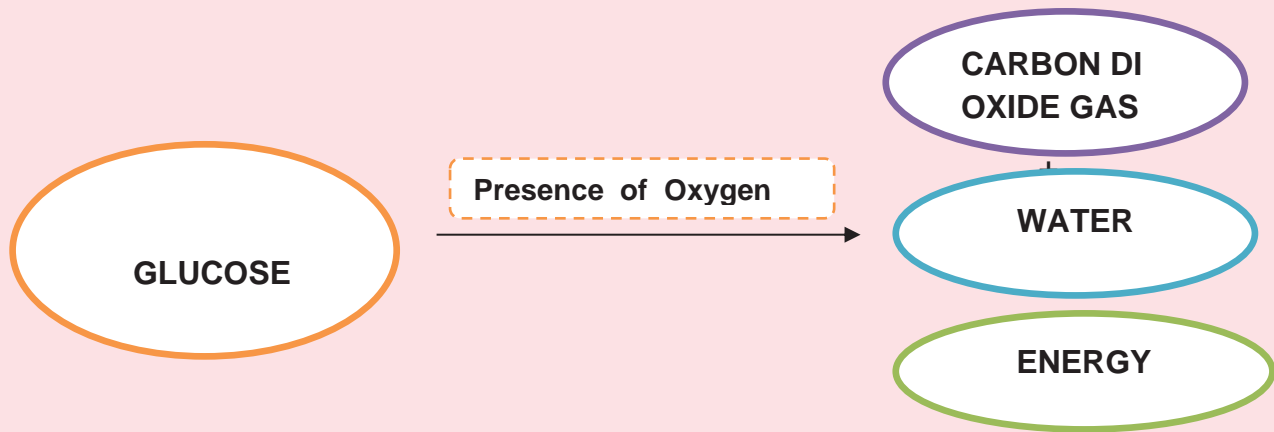
Procedure: Take an empty bottle label it as bottle/flask 1 & add 200 ml of warm water, two tablespoons of sugar and one tablespoon of Yeast powder into it. Label second bottle/flask as 2 & take one tablespoon of yeast powder and add 200 ml of warm water to it. Tightly seal the opening of both the bottles with a balloon. Leave the set up for a few hours, then try to answer the following questions based on your observations.

1. Yeasts are single celled organisms. They respire anaerobically and produce alcohol along with a gas which turns blue litmus red. Which gas is this?

2. In which of the two bottles did you notice inflation of balloon? (bottle 1 or bottle 2)

3. What could be the reason for non-inflation of balloon in one of the bottles?

Q.1 What kind of respiration is seen in the following illustration.



Q.2 Raju was playing badminton with his friend and after an hour he complained of muscle cramps in his arms. His mother gave him a hot water bath after which he felt relief from pain.

(a) Why did Raju get muscle cramps while playing badminton?

(b) How did hot water bath helped him in getting relief from pain?

(c) What Kind of respiration takes place in muscle cells during heavy exercises and sports activities?

Cellular respiration

Breathing

ACTIVITY SHEET-2**Learn with fun:**

Q.1 In the picture given below a student is measuring the chest size of her classmate. You also take a measuring tape and measure the chest size of your family members or friends and compare the size of chest during inhalation and exhalation.



Name of person	Size of chest (in cm) during inhalation	Size of chest (in cm) during exhalation	Difference in size

Q.1 Match the columns:

Column A

Inhalation

Exhalation

One Inhalation plus one Exhalation

Running

Column B

Breath

Fast breathing rate

Taking in of air

Giving out of air

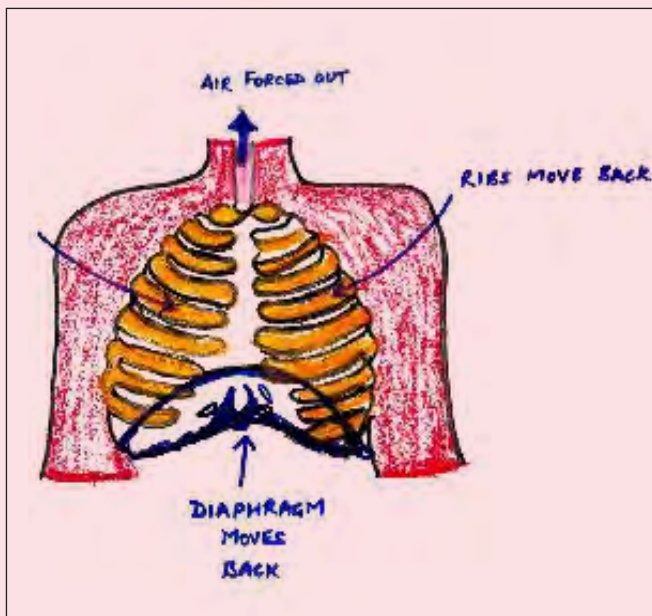
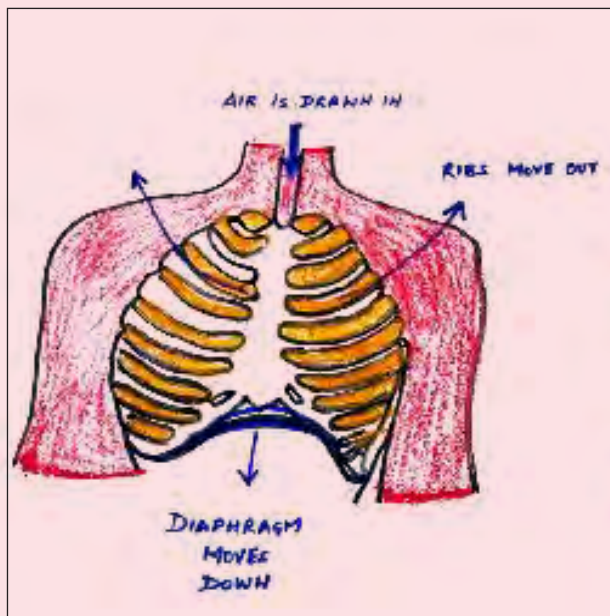
Q.2 Put a tick mark(✓) against the correct sequence of air passage in human body amongst the following.

- (a) Diaphragm → Nasal cavity → Lungs → Chest cavity
(b) Nasal Cavity → Lungs → Chest cavity → Diaphragm
(c) Nasal Cavity → Chest cavity → Lungs → Diaphragm
(d) Diaphragm → Lungs → Nasal cavity → Chest cavity

Q.3 Look at the pictures given below and identify which one of them illustrates inhalation and which one illustrates exhalation.

A

B



Cellular respiration

Breathing

Human
respiration**ACTIVITY SHEET-3****Learn with fun:**

Take a plastic bottle or a transparent glass. Pour some freshly prepared lime water in it. With the help of a straw gently blow air into it few times.

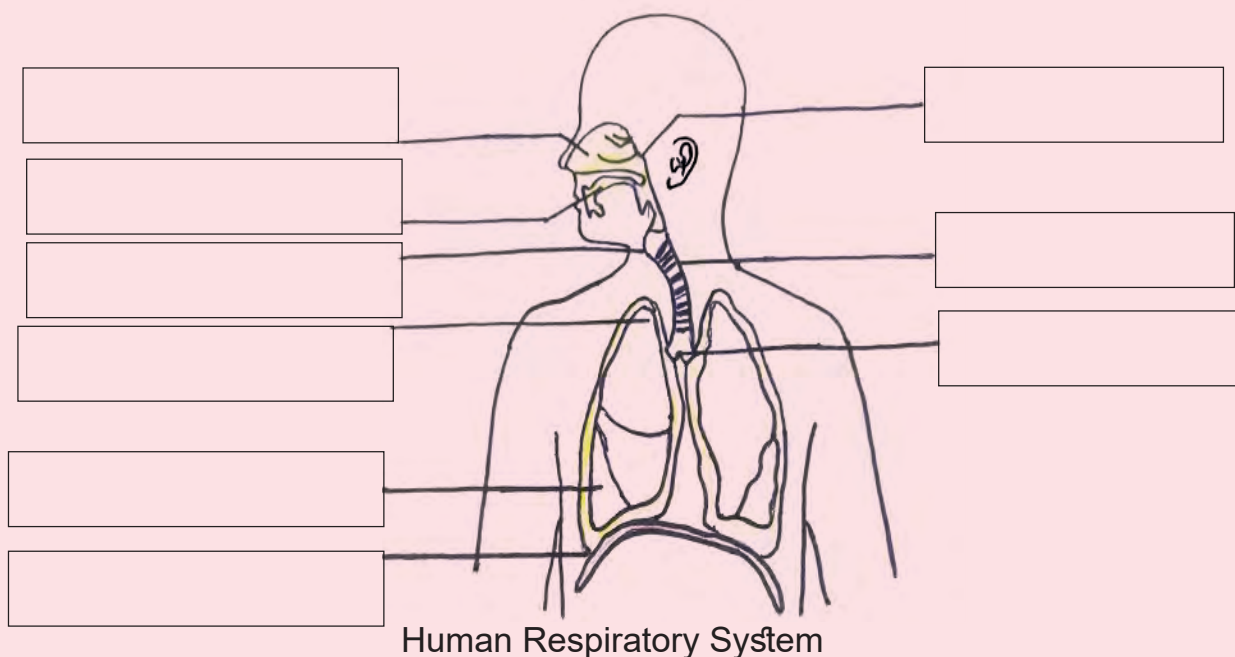
1. Is there a change in the appearance of lime water?

2. Give reason for the change you have noticed?

Q.1 Choose the correct option and put a (✓) mark-

1. We exhale **carbon dioxide only** / **mixture of gases**
2. Inhaled air contains **21 % oxygen** / **16.4 % Oxygen**
3. Inhaled air contains **0.04% carbon dioxide** / **4.4 % carbon dioxide**

Q.2 Label the diagram given below-



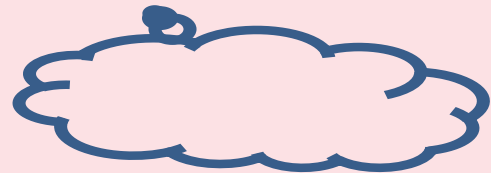
Q.3 Try to find out and encircle the words related to our respiratory system hidden in the given grid of letters below. Words may be present in any direction. Upwards or downwards. Clues about those words are given below the grid. After finding the words write it in the cloud given with the clue.

L	R	I	B	S	F	H	J	K	L	K
A	Y	T	R	A	C	H	E	A	U	I
R	E	O	X	Y	G	E	N	O	N	Y
Y	A	S	T	O	M	A	T	A	G	H
N	S	N	O	S	T	R	I	L	S	J
X	T	D	I	A	P	H	R	A	G	M

(a) The opening through which we inhale.



(b) Gas which we inhale.



(c) Muscular floor of chest cavity.



(d) Skeletal structures surrounding chest cavity.



(e) An anaerobic organism.



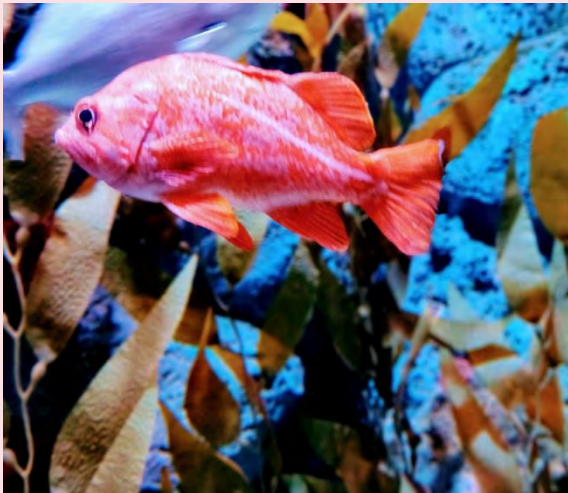
(f) Respiratory organ of human beings.

Cellular
respiration

Breathing

Human
respirationBreathing in
other organisms**ACTIVITY SHEET-4****Learn with fun:**

Renu asked her teacher why could not fishes live out of water. Her teacher showed her an aquarium which had many fish. She told her to observe them carefully. You may also look at the pictures given below. Try to observe their flaps carefully.



1. What is the name of the flap like structure on both sides of the head of fish?

.....

2. Can we also breathe and survive in water?

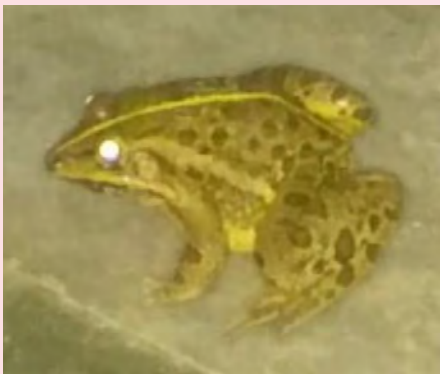
.....

3. Exchange of gases in humans takes place through and through in fish.

Q.1 Write two points of differences between aerobic and anaerobic respiration.

AEROBIC RESPIRATION	ANAEROBIC RESPIRATION

Q.2 Write the name of the respiratory organ of the organism you see in the pictures in the boxes given aside.



Q.3 Choose the correct option-

- (a) Plants take in **oxygen /carbon dioxide** for respiration
- (b) Plant leaves have tiny pores called **stomata/ air spaces**

CHAPTER-11: TRANSPORTATION IN ANIMALS AND PLANTS**Blood and its components****ACTIVITY SHEET-1****Learn with fun:**

You might have seen blood flowing from the wounds. Blood is the red coloured fluid which is present in our body. Do you think all the organisms have blood in their bodies? If your answer is no then find out which organisms do not have blood in their bodies. You can take help of your elders or you can search from online sources. Write the names of a few such organisms in the box provided below.

Q.1 Blood performs various functions in our body. The statements given below mentions the functions of blood. Choosing from the words given in the box below, write the appropriate words in the given blanks.

small

oxygen

blood vessels

waste

- (a) Blood transports substances like digested food from the _____ intestine to other parts of the body.
- (b) Blood transports _____ for removal from the body.
- (c) Blood carries _____ from the lungs to the cells of the body.
- (d) Blood flows in the _____

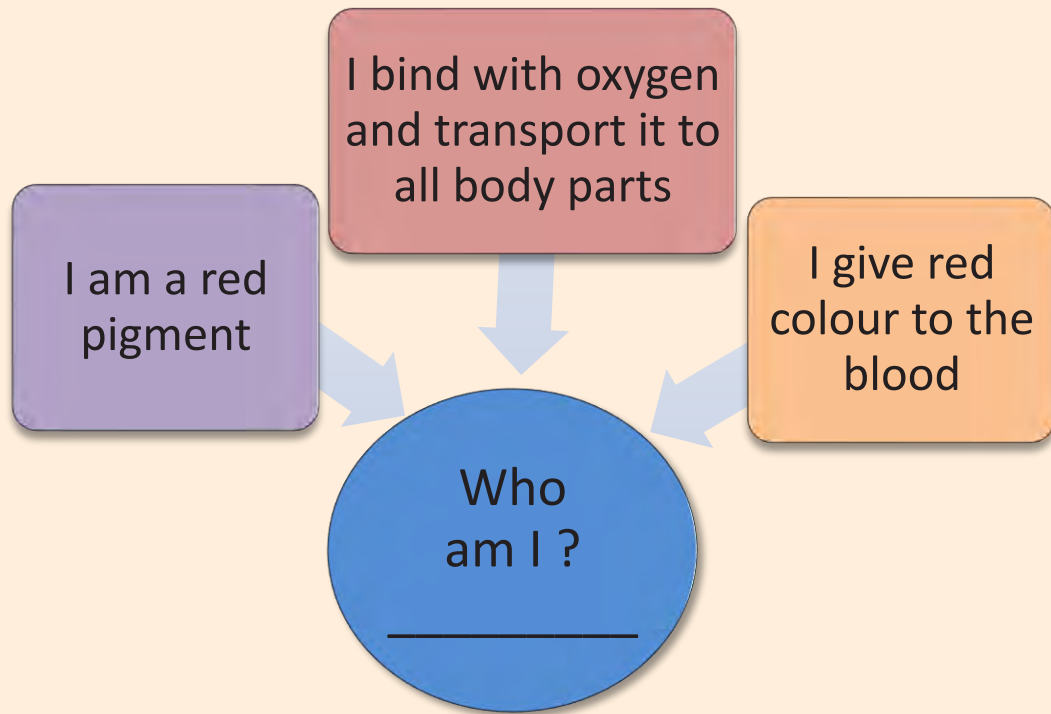
Q.2 Match the following:**Column A**

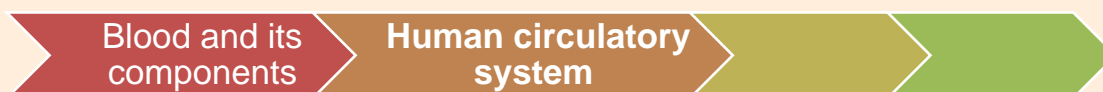
- (a) Plasma
- (b) White blood cells
- (c) Platelets
- (d) Red blood cells

Column B

- Transport oxygen
- Clot the blood
- Fight against germs
- Fluid part of the blood

Q.3 Identify the substance and write its name in the space given in the circle.





ACTIVITY SHEET- 2

Learn with fun:

Materials required: Two small plastic funnels, one balloon, cello tape, scissors, and a small length of plastic pipe.

Method: Attach plastic pipe to the narrow ends of both the funnels with the help of cello tape. Cover the mouth of one funnel tightly with a balloon. This is your home-made stethoscope. You can listen to your heartbeat as well as the heartbeats of your friends or family members by keeping the balloon-covered funnel on the chest.



Source: <https://images.app.goo.gl/4s5yowcN39Mi5pacA>



Source: <https://images.app.goo.gl/PveTPH3p3cr6BZ6MA>

Q 1: Choose the correct answer:

- (a) He discovered the circulation of blood in the human body.
(William James / William Harvey)
- (b) The rhythmic contraction and relaxation of heart muscles.
(pulse rate / heart beat)
- (c) These are present in veins and allow blood to flow only towards heart.
(valves / clots)
- (d) The number of beats per minute in humans.
(72 / 62)
- (e) This instrument is used by doctor to listen to your heartbeat.
(stethoscope / microscope)

Q.2 Place middle finger of your right hand on the inner side of your left wrist. Do you feel any throbbing movement?

- (a) (YES / NO)

.....

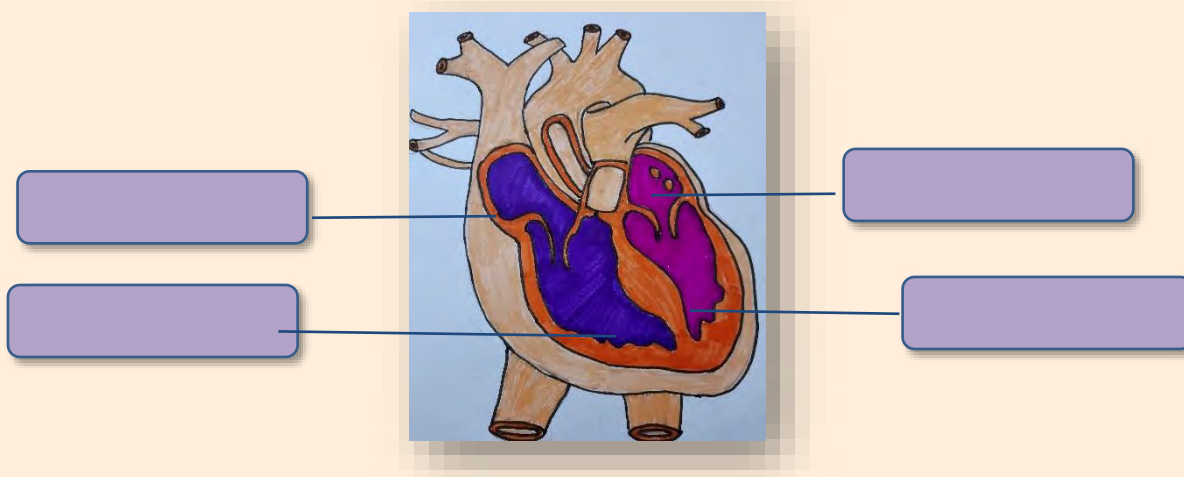
- (b) This throbbing is called the pulse. Count your pulse in one minute during the resting position and after running and write your observations in the table below:

S. No	State	Pulse per minute
1.	Resting	
2.	After Running	

Q.3 Mention the names of three types of blood vessels in human body.

- (a) _____
 (b) _____
 (c) _____

Q.4 Identify the parts in the diagram and write them in the given spaces:



Q.5 Fill in the blanks:

- (a) The heart is an organ which beats continuously to act as a _____ for transport of blood (clock/pump/canal).
 (b) Human heart has _____ chambers (two/ three/ four).
 (c) The size of your heart is roughly the size of your _____ (elbow/ fist/ heel).

Q.6 Differentiate between arteries and veins by filling the blanks.

S.No.	Arteries	Veins
(a)	Arteries have thick walls.	Veins have _____ walls
(b)	Arteries carry _____ rich blood from the heart to all parts of the body.	Veins carry carbon dioxide rich blood from all parts of the body back to the heart.



ACTIVITY SHEET-3

Learn with fun:

A total of five organs that are a part of human excretory system have been given in this puzzle. Find them out and write their names in the box given below the puzzle. (One has been done for you as an example).

Q	E	R	F	G	V	X	Z	C	D	X	O	E	L	U
A	U	A	Z	S	X	D	T	Y	H	D	W	S	O	R
U	R	E	T	E	R	S	F	T	E	E	S	C	P	I
S	I	W	P	O	P	J	K	L	M	R	F	D	K	N
X	N	S	R	F	G	Y	H	J	Y	T	V	F	M	A
D	A	X	E	D	G	Y	H	J	I	Y	B	E	N	R
E	R	E	S	S	A	K	I	D	N	E	Y	R	Y	Y
R	Y	D	E	F	B	H	N	M	J	G	S	T	G	O
F	B	C	T	G	Y	H	U	J	I	H	X	F	R	P
V	L	R	H	R	E	R	E	R	T	B	E	G	S	E
G	A	F	H	I	S	D	F	G	H	F	W	H	A	N
T	D	V	U	R	E	T	H	R	A	T	Q	N	Z	I
H	D	G	N	P	P	O	I	U	Y	F	A	Z	X	N
B	E	V	M	O	Q	W	E	R	Y	D	D	C	Z	G
N	R	B	L	M	Z	X	C	V	B	C	E	X	V	X

1. Ureters

2. _____

3. _____

4. _____

5. _____

Q.1 Who am I?

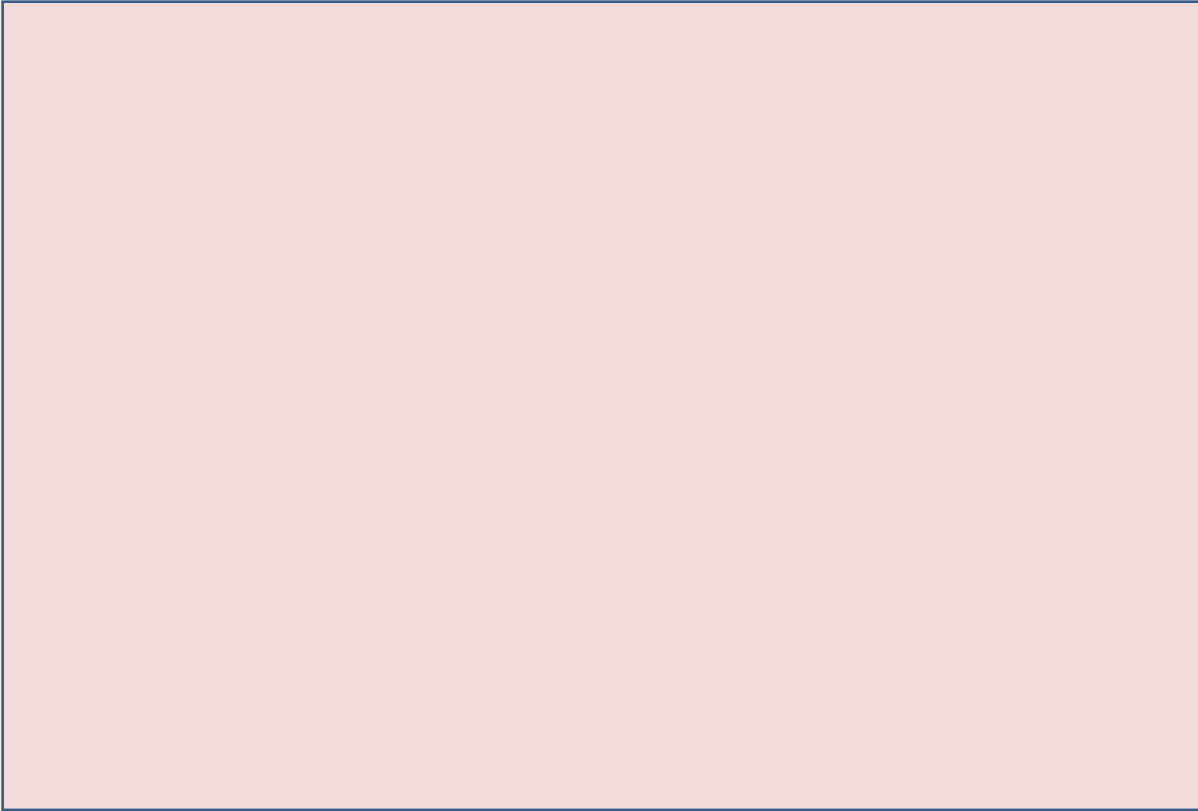
(a) I store urine to be expelled out later.

I am known by the name of _____.

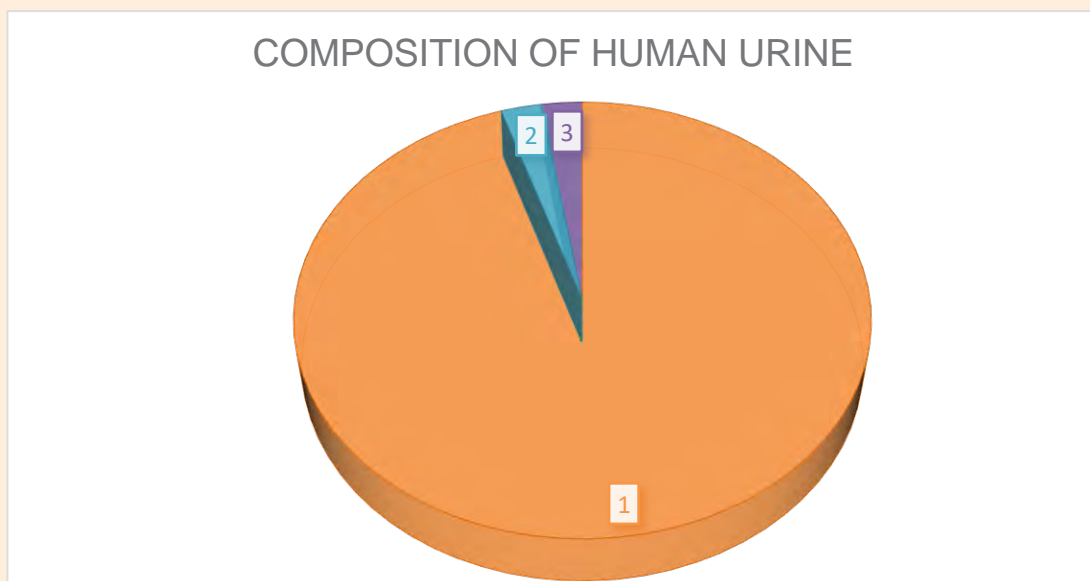
(b) I am two in number and I have a shape of a bean.

Guess my name and be a winner of the team. _____.

Q.2 Draw the diagram of human excretory system in the box given below.



Q.3 Given below is a pie chart showing the composition of human urine. Identify 1, 2 and 3 and write in the spaces provided.



1. _____

2. _____

3. _____

Q.4 Match the following:

Column A

Fishes

Lizards

Humans

Column B

Urea

Ammonia

Uric Acid

Q.5 Fill in the blanks from the words given in the box below:

cooling

urethra

sweat

urine

(a) We _____ on a hot summer day.

(b) The wastes dissolved in water are removed as _____.

(c) Water evaporates from the pores of the pot, which causes _____.

ACTIVITY SHEET-4**Learn with fun:**

Materials required: Three glass tumblers, water, cabbage, yellow, red, green food colours.

Fill all the three glass tumbler A, B and C with water. Add different food colour dye to each one of them. Add separate cabbage leaves to each tumbler. Leave them overnight in the water.

Check the cabbage leaves the following day. What do you observe? Write your observations in the box given below:

**A****B****C**

S. No.	Observations in each tumbler
Tumbler A	
Tumbler B	
Tumbler C	

Q.1 Fill in the blanks:

- (a) Plants absorb water and minerals by the _____ (roots/shoots).
- (b) The root _____ (villi/hair) increase the surface area of the root for absorption of water.

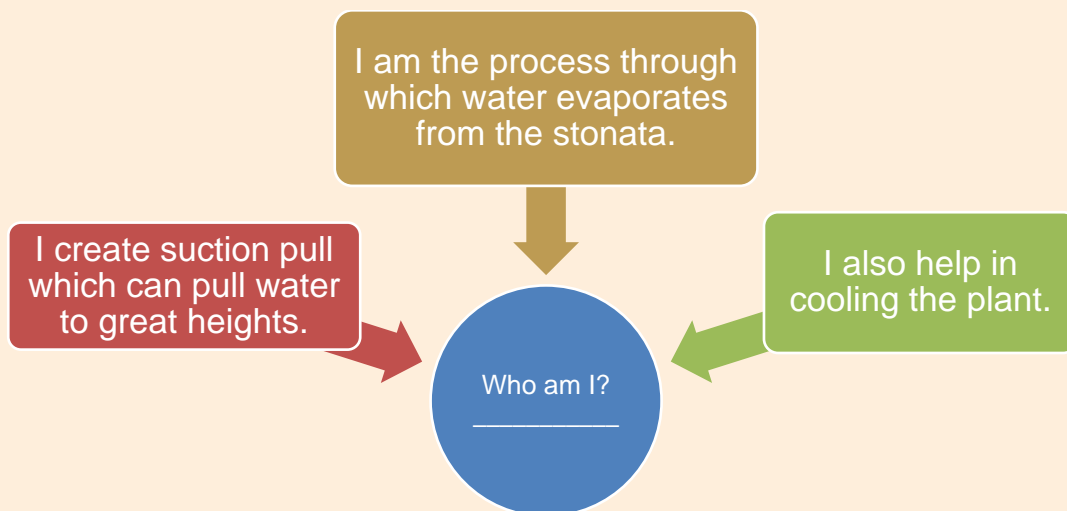
- (c) A _____ (organ/tissue) is a group of cells that performs specialised function in an organism.
- (d) The food is transported to all the parts of the plant by _____ (xylem/phloem).
- (e) The vascular tissue that transports water and nutrients in the plants is called the _____ (xylem/phloem).

Q.2 Identify the diagram given below and write its name in the space provided. Also write one function performed by this structure.



Function performed:

Q3: Read the information about me in the boxes, identify 'who am I' and write in the space given in the circle.



CHAPTER-12: REPRODUCTION IN PLANTS**Modes of
reproduction****ACTIVITY SHEET -1****Learn with fun:****Eyes of Potato**

Observe the picture given below and try to answer the questions following it.

**Do you know potatoes have eyes?**

Take a fresh potato and with the help a magnifying glass try to observe the scars on it. These scars are called Eyes. Now, Cut the potato into pieces in such a way that each piece contains an eye. Bury the pieces into soil and water them daily for a few days. After 12-16 days dig out the potatoes and observe changes in them.

1. What changes do you see?

2. Write the reason for the changes mentioned above by you?

Q.1 The production of new individuals from their parents is known as reproduction. The two modes of reproduction are-

(a)

A				U		L
---	--	--	--	---	--	---

(b)

S		X		A	
---	--	---	--	---	--

Q.2 Encircle the part of the plant that does not take part in Vegetative Propagation.

Roots

Stems

Leaves

Buds

Seeds

Q.3 Have you seen the seeds of the following Plants?

SUGARCANE

YES/NO

WHEAT

YES/NO

POTATO

YES/NO

APPLE

YES/NO



ACTIVITY SHEET-2

Learn with fun:

Let us grow Yeast

Materials required- Yeast Powder, water and sugar

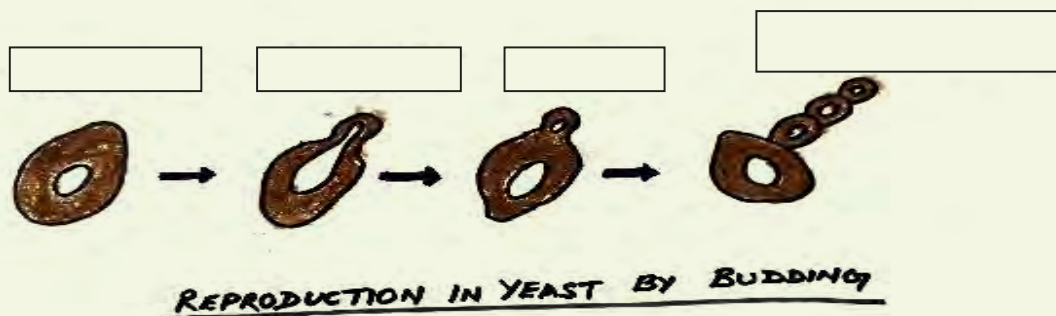
Procedure – Take some yeast powder from a chemist shop and place it in a container with some water. Add a spoonful of sugar and shake to dissolve it. Keep it in a warm place. After an hour put a drop of this liquid on a glass slide and observe under a microscope.

Q.1 Fill in the blanks

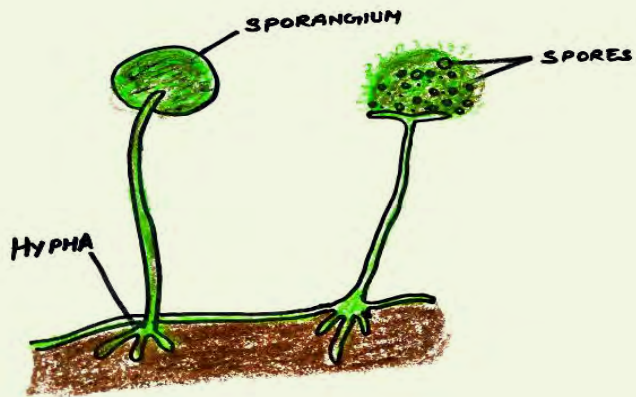
- The small bulb like projection coming out from the yeast cell is called a.....
- New yeast cells are produced from oldcells.

Q.2 Name the process by which Yeast reproduces.

Q.3 Label correctly the diagram showing reproduction in yeast.



Date _____



.....

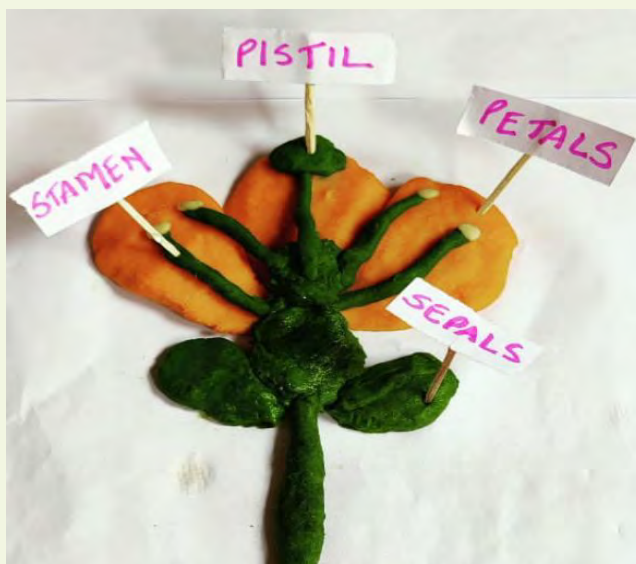


LEAF OF BRYOPHYLLUM WITH BUDS IN THE MARGIN

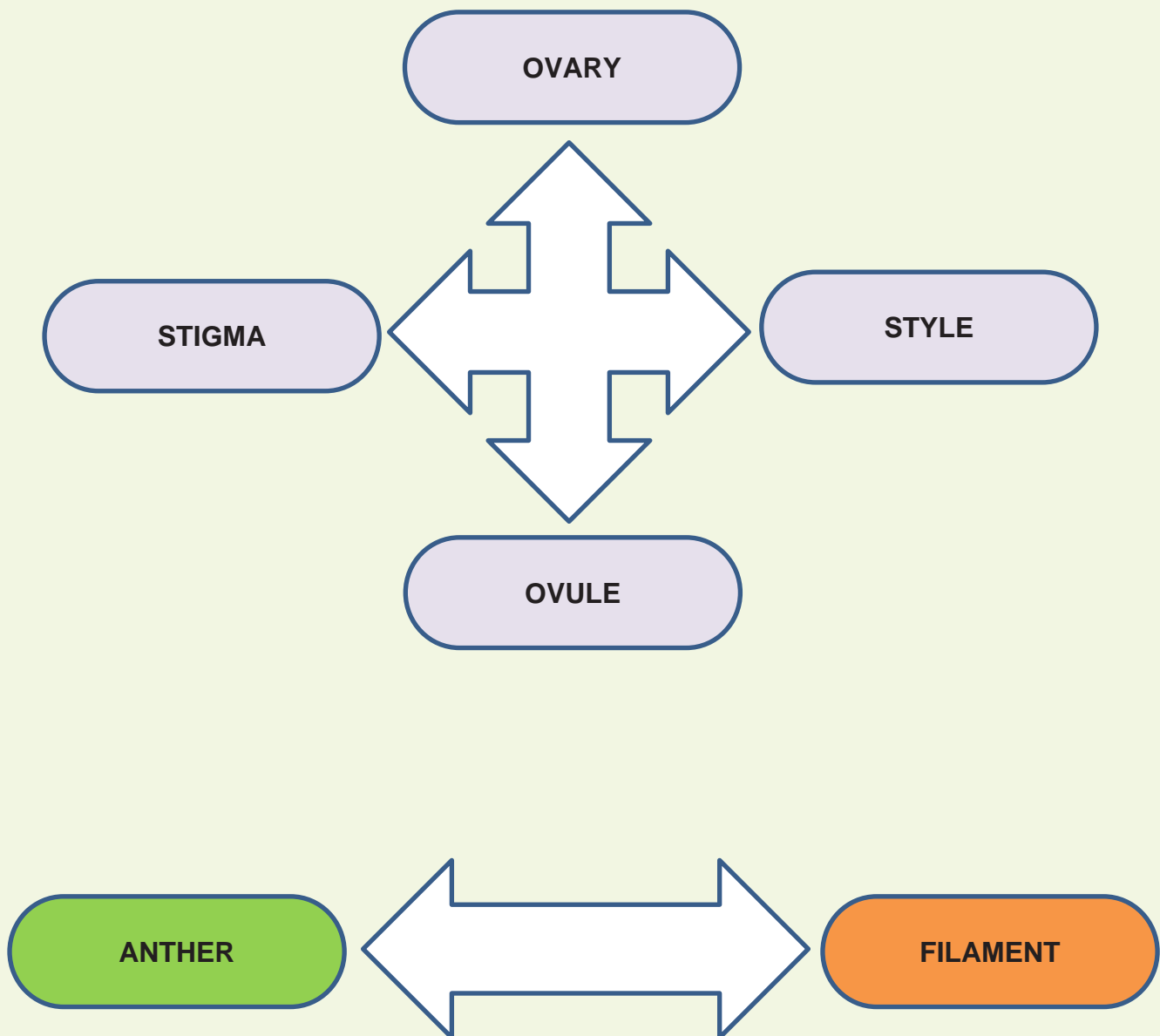
.....

Modes of
reproductionAsexual
reproductionSexual
reproduction**ACTIVITY SHEET-3****Learn with fun:**

Flowers are the reproductive parts of a plant. Below you can see a China rose flower and a hand made labelled model of the flower. Find the same flower in your locality and take out its all reproductive parts carefully. Paste them in the space provided below.



Q.1 Colour the arrow representing male reproductive parts with blue. Colour the arrow representing female reproductive parts with pink.



Q.2 Read the statement, think for a while and write down your answer in the box.

Flowers which contain either only pistil or only stamens are called




Flowers which contain both stamens and pistil are called




Q.3 Draw the odd one out in the below space with respect to natural pollinators.

a) Butterfly 

b) Bird 

c) Balloon 

d) Bat 





ACTIVITY SHEET-4

Learn with fun:

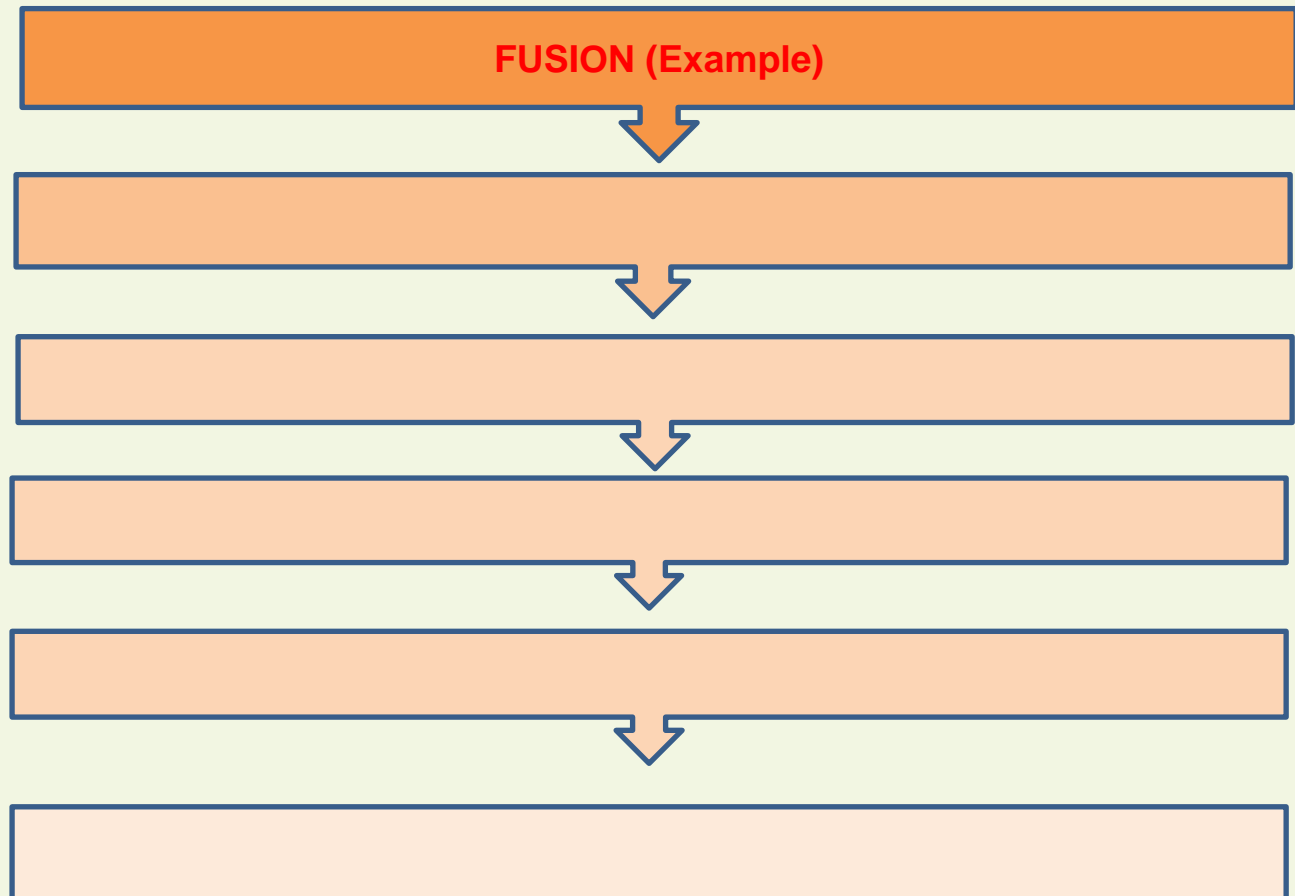
Correct the print mistakes (**highlighted in red**) and rewrite the paragraph in the space provided below.

The transfer of pollen from the **stigma to the anther** of a flower is called pollination. If the pollen lands on the stigma of the same flower or another flower of the same plant, it is called **cross pollination**. When the pollen of a flower lands on the stigma of a flower of a different plant of the same kind, it is called **self pollination**.

Q.1 Anther contains pollen grains which produce

- a) Female gamete
- b) Embryo
- c) Male gamete
- d) Seed

Q.2 Arrange the following in correct chronological order:
(Zygote, Fertilisation, Embryo, Fruits, Seed)



Q.3 Put the name of the seeds (Drumstick, Maple, Sunflower, Aak (madar), Xanthium, Urena, Coconut) to the column they belong and draw figures of there seeds also.

Hairy Seeds	Winged Seeds	Hard Seeds	Spiny Seeds

CHAPTER-13: MOTION AND TIME



ACTIVITY SHEET-1

Learn with fun:

Look at the pictures and identify the type of motion (straight line/ circular/periodic) in each case.

1. The motion of the second hand of clock _____



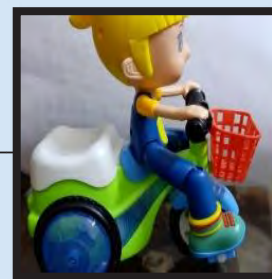
2. Motion of blades of fan _____



3. The motion of a toy car _____



4. Motion of pedals of a toy bicycle _____



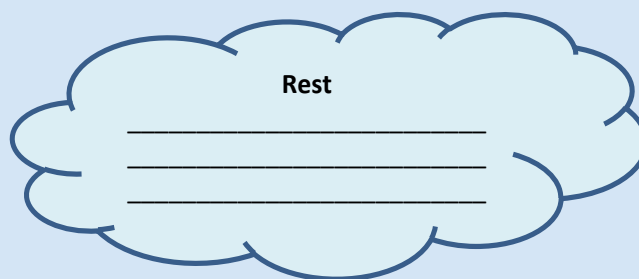
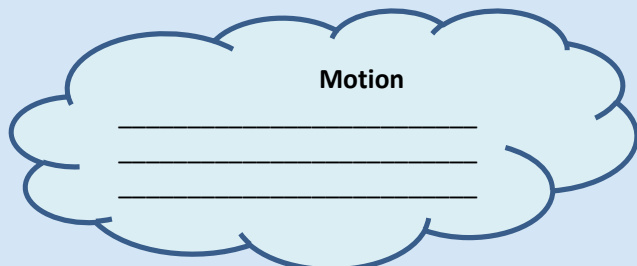
Q.1 Find and colour the answer for the given below clues in the word grid below (one has been done for you as an example):

- (a) The interval between two events
- (b) S.I. unit of distance is
- (c) Total distance covered by an object in a unit of time is
- (d) When an object changes its position with time, it is in

K	I	L	O	M	E	T	R	E	A	C	T
O	H	W	B	M	S	P	E	E	D	G	I
P	E	A	Z	W	X	Y	F	D	J	V	M
L	M	O	T	I	O	N	M	S	A	K	E

Q.2 Put objects in motion in the first cloud and those at rest in the second cloud.

Table, minute hand of a clock, book, of the earth, tree, school building, soldiers in a march past.



Q.3 Differentiate between uniform and non-uniform motion with the help of examples.

Uniform Motion	Non- Uniform Motion

Q.4 Tick the correct formula -

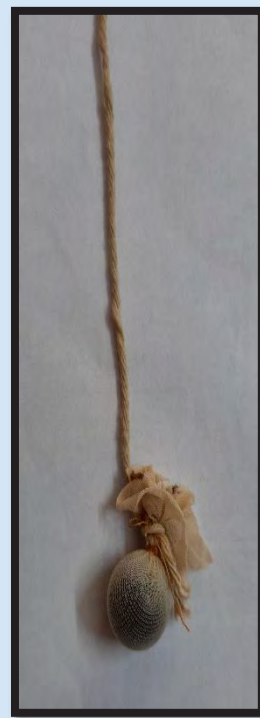
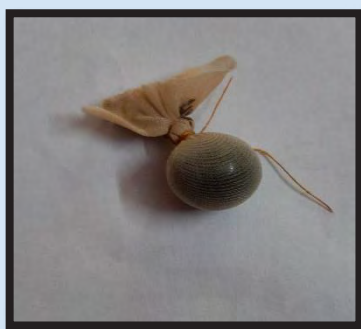
- (a) Speed = Distance / Time
- (b) Speed = Time/ Distance
- (c) Speed = Time X Distance
- (d) none of these

Motion and
restMeasurement of
time**ACTIVITY SHEET-2****Learn with fun:**

To make a Simple pendulum as shown in the given picture.

Materials required:- A strong thread, a marble, piece of cloth and watch/clock

Procedure:- Take a marble, wrap it in a piece of cloth and tie it with the help of a thread.



Set up a simple marble pendulum with a thread of 1 m length. Now hold the marble and move it slightly to one side and then release. Note down the time in the stopwatch or clock when the marble moves from one point to another point.

The time taken to complete one oscillation is called the time period of the simple pendulum.

Write down the examples of pendulum seen in your daily life.

Q.1 Fill in the blanks :-

- (a) The time between one sunrise and the next is called a _____ (day/ night).
- (b) _____ are the most common time measuring devices (Clocks/ Time).
- (c) S.I. unit of time is _____ (sec/ hour).
- (d) The metallic ball used in the simple pendulum is called _____ (bob/ stone).
- (e) The to and fro motion is an example of _____ (oscillatory motion/ circular motion).
- (f) Symbols of all units are written in _____ (singular/ plural).
- (g) We need a _____ to measure the time period of a simple pendulum (stop watch/ wrist watch).



Q.2 Write and explain the parts of a simple pendulum.

Q.3 Draw the pictures of 3 ancient time measuring devices which were used in different parts of the world.

--	--	--

Motion and
restMeasurement of
timeMeasuring
speed**ACTIVITY SHEET-3****Learn with Fun:**

'A' and 'C' are neighbours, who study in the same school. 'A' reaches school by bicycle and 'C' by car. 'A' takes 25 minutes to reach school from home and 'C' takes 10 minutes.



Q.1 Who will reach school early? 'A' or 'C'

Q.2 Whose vehicle is faster?

Q.1 Express each of the following speeds in meters per second.

(a) 18km/ h

(b) 54km/ h

Q.2 Calculate the number of seconds in 2 days.

Q.3 A device which is used to measure the distance covered by a moving vehicle is _____.

- | | |
|----------------------|-------------------|
| (a) speedometer | (b) odometer |
| (c) both 'a' and 'b' | (d) None of these |

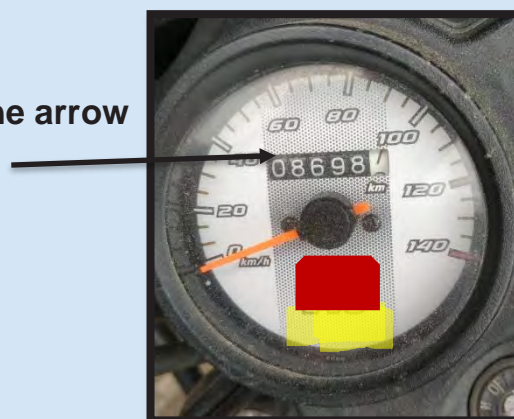
Q.4 A device which is used to measure the speed of a moving vehicle is _____

- | | |
|----------------------|-------------------|
| (a) speedometer | (b) odometer |
| (c) both 'a' and 'b' | (d) None of these |

Q.5 S.I. unit of speed is

- | | |
|------------|-------------|
| (a) Km/h | (b) Km/ sec |
| (c) m/ sec | (d) m/ h |

Q.6 Identify the name of the device shown by the arrow in the picture.



Motion and
restMeasurement of
time

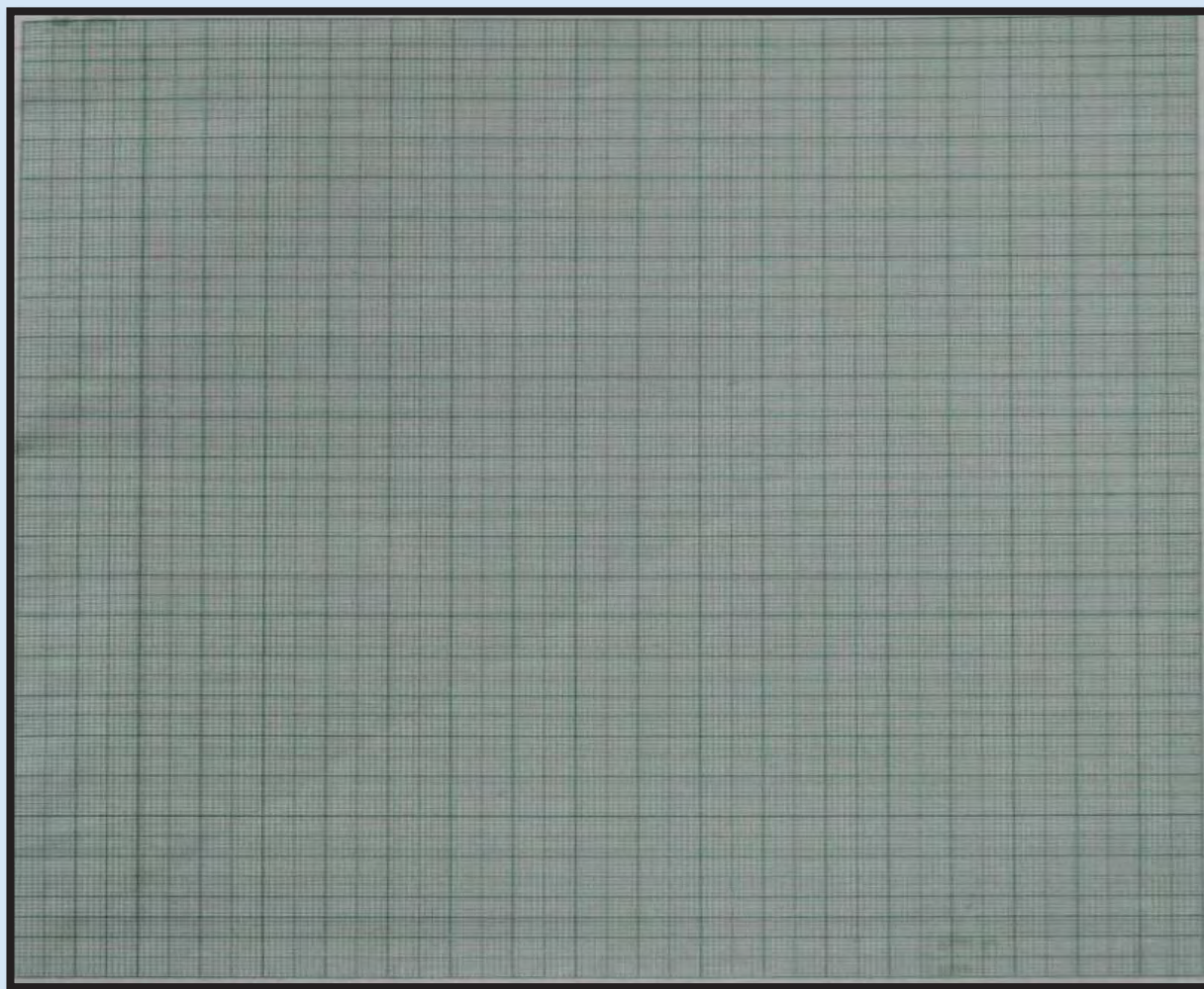
Measuring speed

Distance
time graph**ACTIVITY SHEET-4****Learn with fun:**

A distance-time graph is a line graph. It shows how far an object has travelled in a given time. Distance is plotted on Y-axis and time is plotted on X-axis.

The data of distance covered by a car at different time interval is given below. Plot a distance-time graph in the graph given below.

Time (in seconds)	0	2	4	6	8
Distance (in meters)	0	2	4	6	8

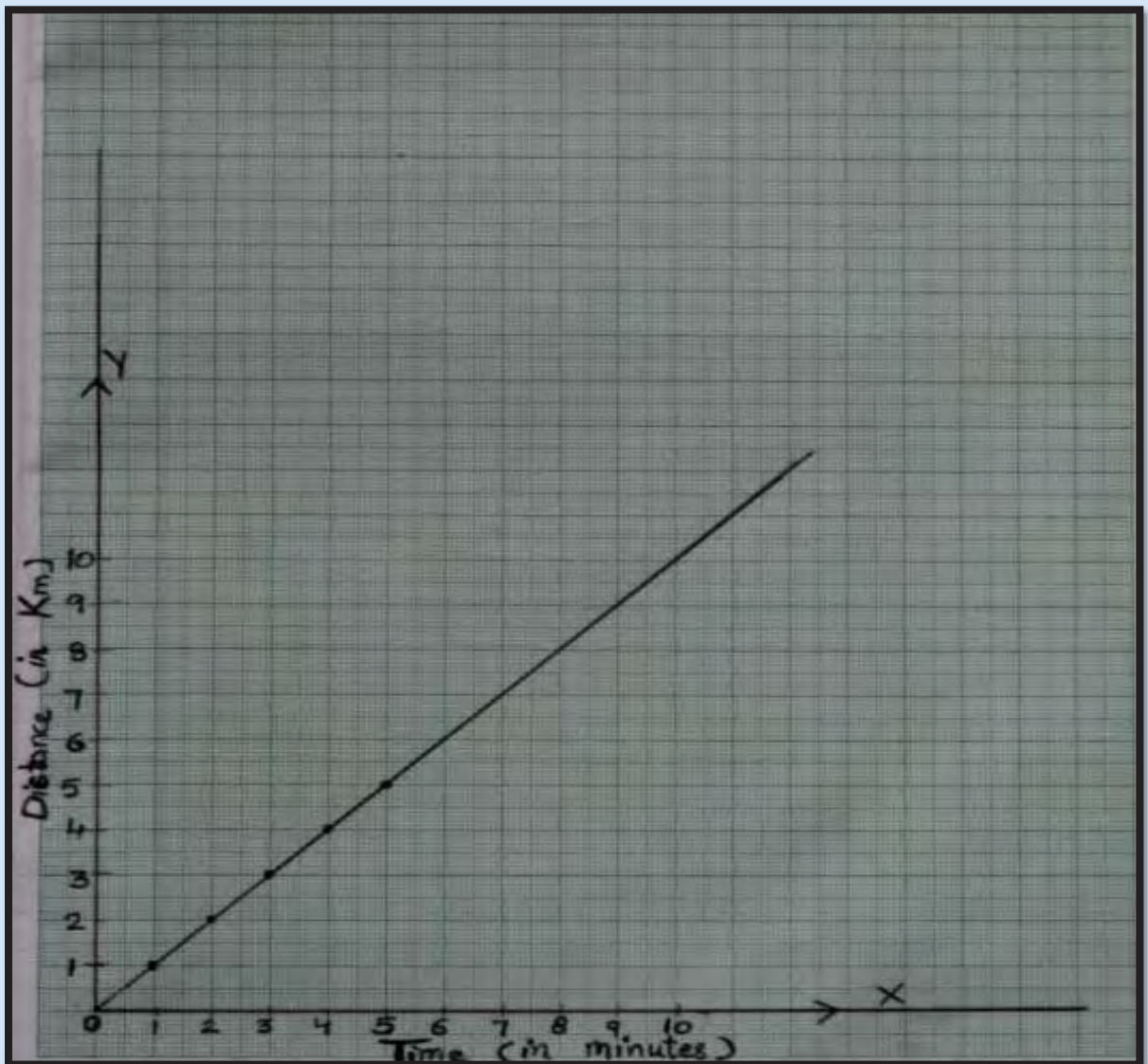


Q.1 The slope of the distance-time graph is

- (a) acceleration
- (b) speed
- (c) distance
- (d) time

Q.2 The distance-time graph of an object moving with a constant speed is a

- (a) circle.
- (b) straight line
- (c) horizontal line
- (d) curved line



Q.3 If a distance-time graph slope is a straight line then the motion of the object is-

- (a) uniform motion
- (b) non-uniform motion
- (c) periodic motion
- (d) none of these

Q.4 The distance time graph is a

- (a) pie chart
- (b) line graph
- (c) bar graph
- (d) none of these

Q.5 Fill in the blanks :-

1. The pictorial representation which shows relationship between two objects is known as _____ (graph/ time).
2. The point of intersection of two axes is known as _____ (origin/ intersection point).
3. Motion of objects can be represented in pictorial form by their _____ (distance-time graph/pie chart).

CHAPTER-14: ELECTRIC CURRENT AND ITS EFFECTS

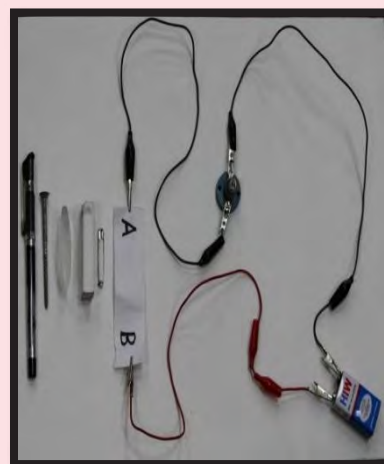
Electronic Components and Electric Circuit

ACTIVITY SHEET-1

Learn with fun:

Look at the picture and identify by those objects/items which when placed in between the terminals 'A' and 'B' terminal will complete the Electric circuit. Write your observations in given table (one has been clear for you as an example).

Objects/ items	Circuit is complete	Circuit is not complete
Safety pin	✓	
Eraser		
Glass		
Iron nail		
Pen		

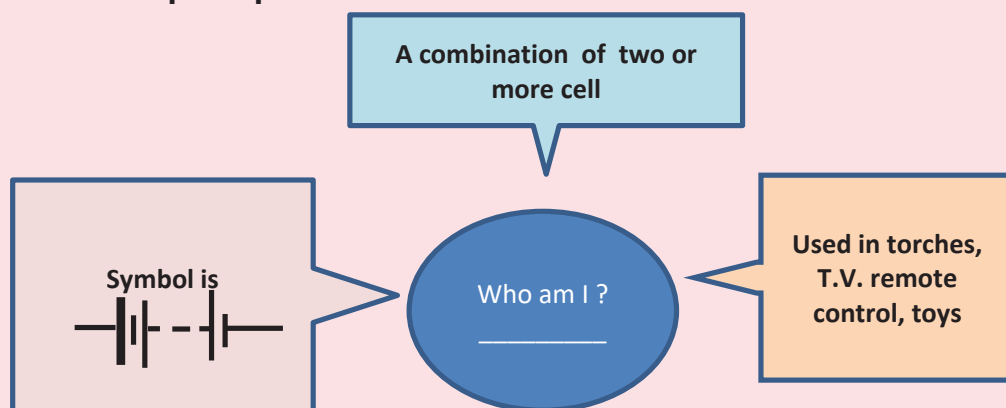


Use some more articles / objects from your surroundings and check if the circuit gets completed. Fill your observations in the above table.

Q.1 Match the following pictures with their names:-

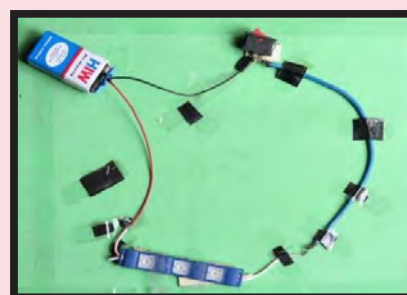
Cell holder			
Battery			
Bulb			
Electric cell			
Wire			

Q.2 Based on the clues written in the box ,solve the riddle ‘Who am I’ and write in the space provided.

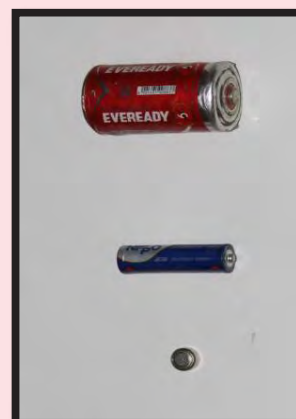


Can you create your own riddle? Let’s try in the space given below.

Q.3 Draw the circuit diagram of electric circuit shown in the given picture.



Q.4 Look at the following cells carefully and write down the uses of each type of cell you see in the picture.



Electronic
Components and
Electric Circuit

Heating effect
of Electric
Current

ACTIVITY SHEET-2

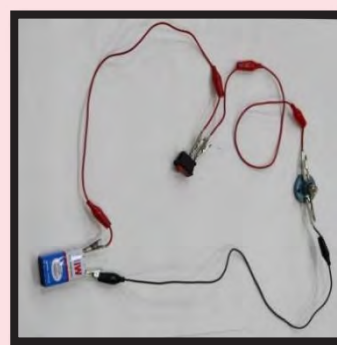
Learn with fun:

When electric current passes through a wire of electric circuit the wire becomes hot.

Materials required: A Bulb, switch, battery / cell and connecting wires.

Procedure:-

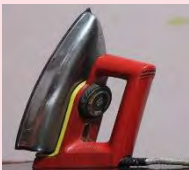
Take a battery / cell, a bulb, switch and connecting wire.
Make an electric circuit as shown in picture when the switch is in OFF position, Now switch 'On' the bulb and touch it after a few seconds. Write your observations in the given table.



	Switch OFF	Switch ON
Bulb		

Can we use other materials like laminated copper wire, nichrome wire in place of Bulb? Write your observations in the above table.

Q.1 Make a list of the devices whose working depend on the heating effect of electric current and also paste/ draw their pictures (one has been done for you as an example).

Name of the device	Picture
Electric Iron	

Q.2 The safety device based on heating effect of electric current is called

- (a) Fuse
- (b) Battery
- (c) Bulb
- (d) Cell

Q.3 When a large amount of current passes through a Bulb, then bulb becomes

- (a) hot
- (b) cold
- (c) remains same
- (d) none of these

Q.4 Choose odd one out and circle it.

- (a) Loudspeaker, electric motor, microphone, magnet
- (b) Electric Iron, toaster, electric geyser, cell
- (c) Electric Iron, heater, tube light, electric motor

Q.5 Identify the pictures below. Write the name of the devices and their uses.



Electronic
Components and
Electric Circuit

Heating Effect of
Electric Current

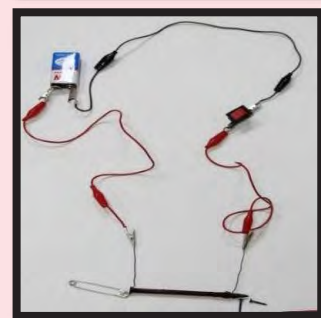
Magnetic Effect of
Electric Current

ACTIVITY SHEET– 3

Learn with fun:

Materials required for making electro-magnet: Iron nail, insulated copper wire (1mtr.), battery, connecting wire and switch.

Process: Take an iron nail and wrap the insulated copper wire around it in the form of a coil. Connect the independent ends of the insulated wire to a battery/cell through a switch. Put some small iron nails or safety pins near the ends of coiled iron nails and observe what happens. Write your observations in the table given below:



	Switch OFF	Switch ON
Iron nail		
Safety pin		

Can we use material other than small iron nails and safety pins in the above activity? If yes, then do this activity with some more material and write your observations in the above table.

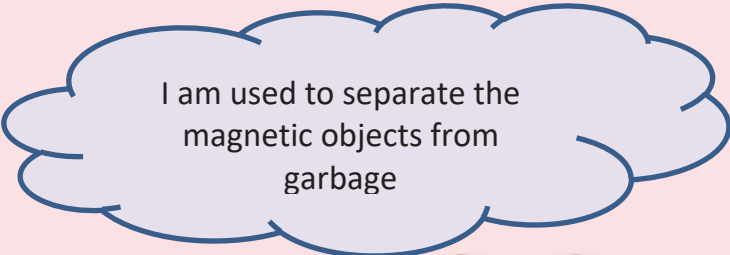

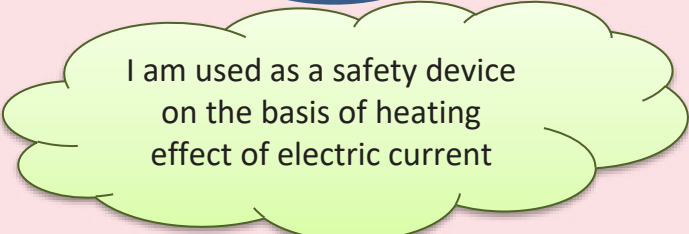

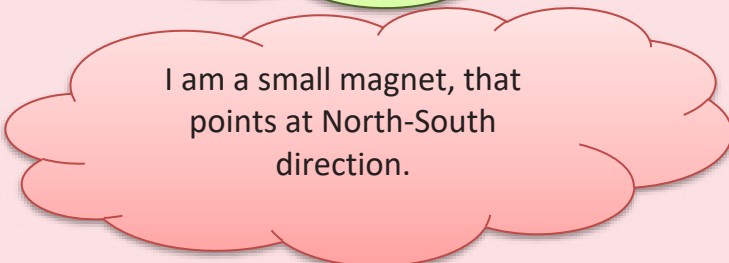

Q.1 Put circle around the correct word to complete the given sentences:

- (a) Magnetic needle is a **rod / U-shaped** magnet.
- (b) Magnets are used to separate the **magnetic / plastic** material from the garbage.
- (c) The inner rod placed in the electro-magnet must be made up of **soft iron / plastic**.
- (d) When electricity flows through a wire, then it acts as a **magnet / battery**.
- (e) The power of electro-magnet **increases / decreases** with the increase in number of coils of wire.
- (f) The electric bell works on the principle of **heating / magnetic** effect of electric current.

Q.2 Put (✓) mark for the correct statements and (X) mark for the wrong:

- (a) When the flow of electric current through an electro-magnet stops, the coil loses its magnetism. (____)
- (b) An electro-magnet with a soft Iron core is a permanent magnet. (____)
- (c) Flow of electric current can be used to make a magnet. (____)

Q.3 'Who am I', solve the riddles:

- (a)  
- (b)  
- (c)  

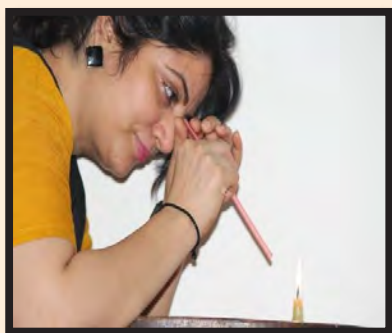
CHAPTER-15: LIGHT**Reflection of light****ACTIVITY SHEET-1**

Learn with fun:

To know about that Light travels along a straight path perform the following activity:

Material required: Straw, candle and matchstick

Procedure: Light a candle first. Try to see the flame of the candle through a straight straw and then through a bent Straw as shown in given pictures.



Write your observation in the table given below:

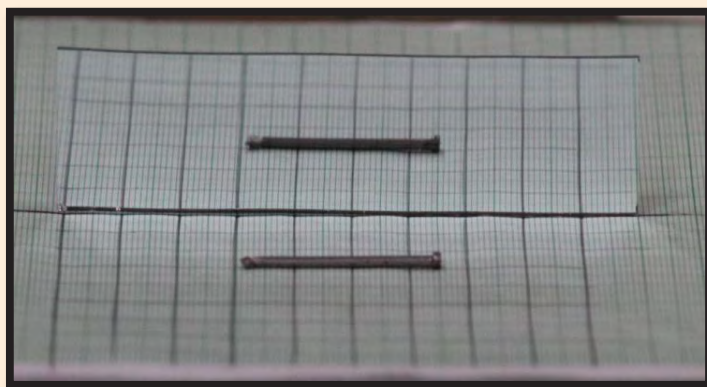
S. No.	Observation	Flame of Candle seen/ not seen
1.	Straight straw	
2.	Bent straw	
3.		
4.		
5.		
6.		

Try this activity through rolled chart and rubber pipe. Add your observation in the above table. (S. No. 3-6)

Q.1 We know that mirror has a reflecting surface and we can see our image in it. Try to find some other materials in which you can see your images.

S.No.	Object	Image can be seen	Image can't be seen
1.	Water surface	Yes	
2.	Wall		No
3.	Stainless steel spoon		
4.	Stainless steel plate		
5.	Tree		
6.			
7.			
8.			

Q.2 Observe the picture and answer the following questions.



(i) On which block iron nail is seen in the mirror?

(ii) Write your observations in the given space when iron nail is placed in different boxes on the graph paper.

S.No.	Position of iron nail	Position of iron nail image seen in the mirror
1.	on 5 th block	
2.	on 7 th block	

Also observe and comment on the size of image (small, large, same size of the object).

Q.3 A candle is placed in front of a plane mirror. The distance between the mirror and image of the candle is 5 cm. Find out the distance between the candle and the mirror.

Reflection of light

Lateral inversion

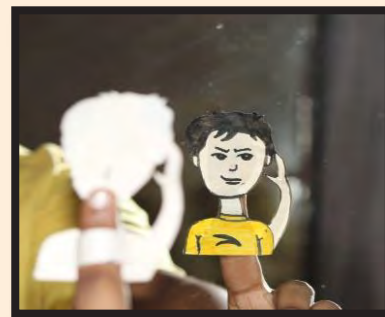
ACTIVITY SHEET-2**Learn with fun:**

When you see your image in a plane mirror, have you noticed any difference between you and your image in mirror?

To know the difference let us perform an activity:

Play Mirror game with your partner or family members.

Stand straight and raise your right hand straight up. Now ask your partner to be your Mirror image. You can try different postures like touching your right eye with your right hand and think about more such positions.



Have fun!

Q.1 Write AMBULANCE and MOM on a paper strip. Put these paper strips in front of a plane mirror one by one and write your observations in the table given below.

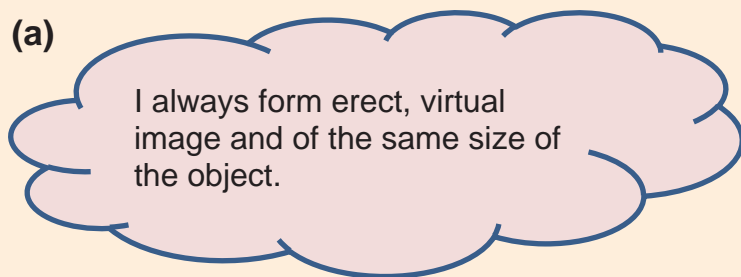
Word	Image seen in the plane mirror
AMBULANCE	
MOM	

Think about more words and add your observation in the space above.

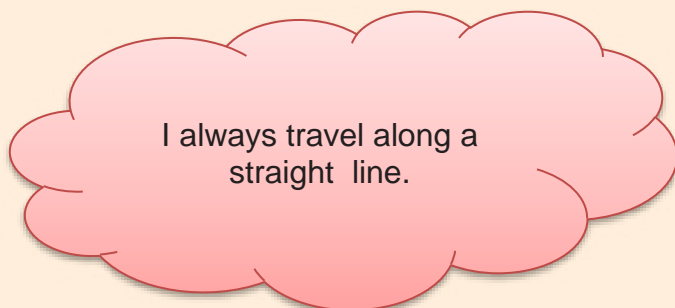
Q.2 Stand in front of a plane mirror and touch your right ear with your right hand and observe which ear is touched by your hand in your image in the plane mirror and write your observation in the given space.

Q.3 Solve the riddle 'Who am I' and write their answers in the given space.

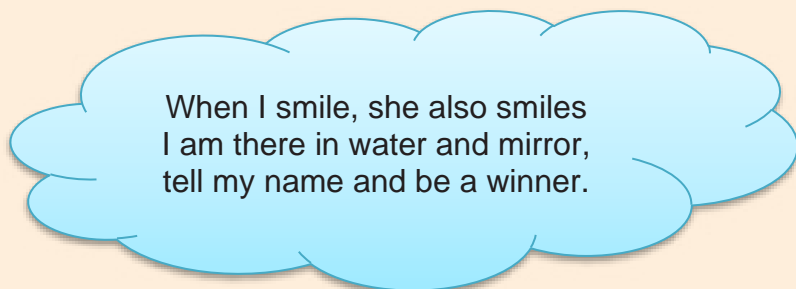
(a)



(b)



(c)



Reflection of light

Lateral inversion

Spherical mirror

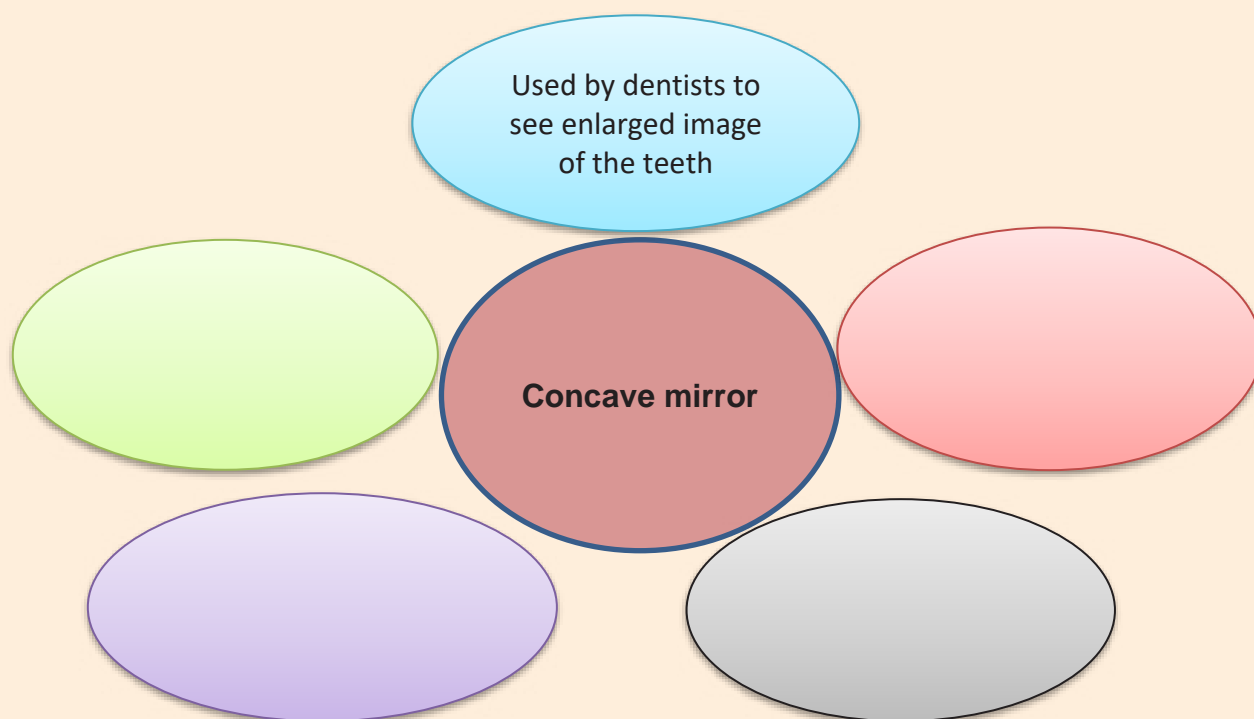
ACTIVITY SHEET-3**Learn with fun:**

You must have visited Metro station and have observed a large size mirror hanging at the corners. List the characteristics of your image in that mirror.

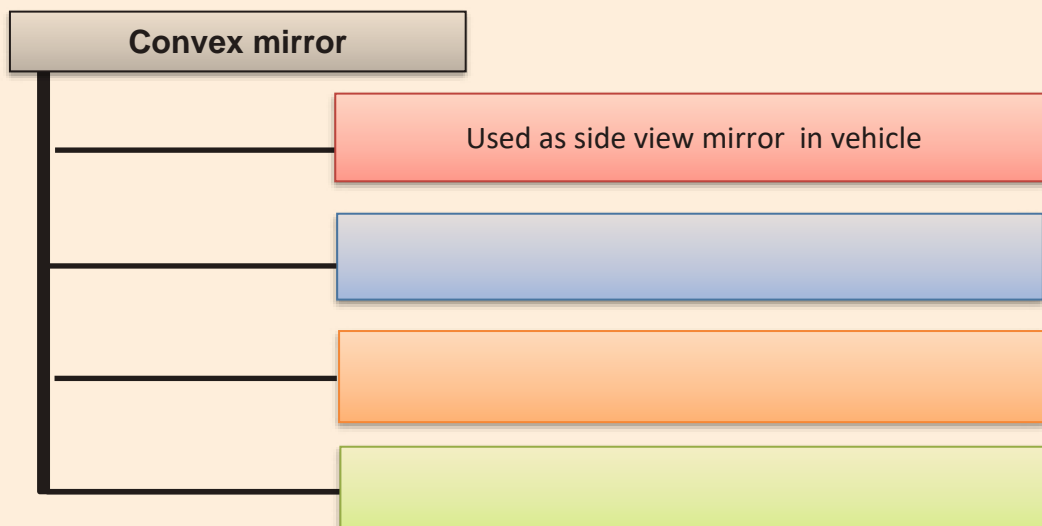


Where else have you seen such mirror?

Q.1 Write the uses of a concave mirror.



Q.2 Write the uses of a convex mirror.



Q.3 Take a new stainless steel spoon. View candle in both the surfaces (inner and outer) of the spoon. Move the candle closer and far away from the spoon and observe the changes in the nature and size of the images formed by the spoon. Record your observations in the table below:



	Inner surface of the spoon	Outer surface of the spoon
Flame of the candle		

Replace candle with other objects and write your observations in the above table.

Q.3 Observe the inner surface of a Dish antenna and identify the inner reflecting surface of Dish antenna. Also write where else you have seen similar reflecting surfaces.

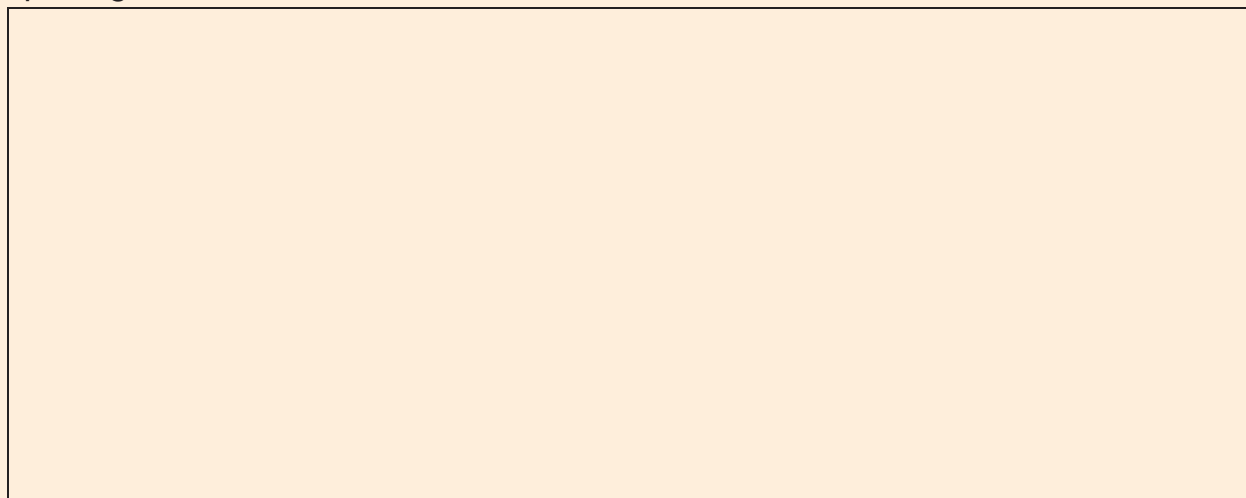
Reflection of light


Lateral
inversionSpherical
mirror

Lens

ACTIVITY SHEET-4**Learn with fun:**

Recall your experience of watching a rainbow. Draw and colour a rainbow in the space given below.

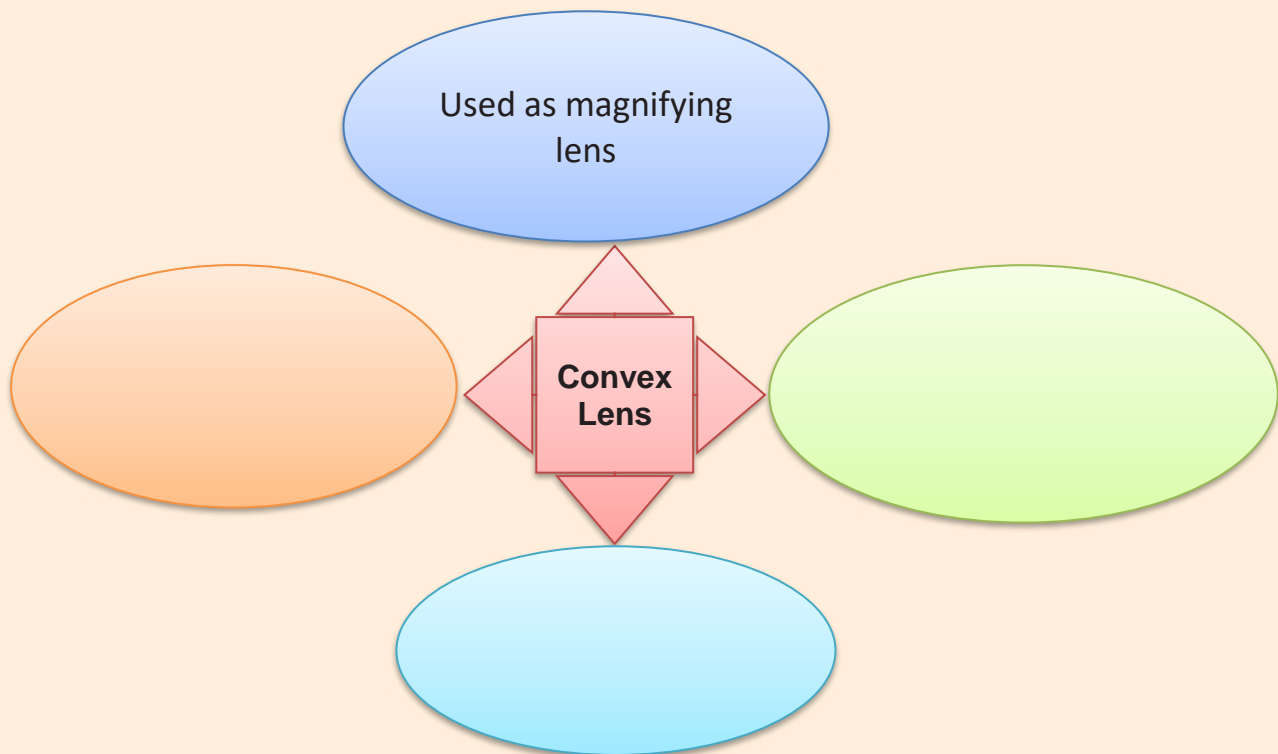


1. Arrange the following colours in order from top to bottom as they are seen in a rainbow .

- | | |
|-----------|-------|
| 1. Green | _____ |
| 2. Indigo | _____ |
| 3. Orange | _____ |
| 4. Blue | _____ |
| 5. Red | _____ |
| 6. Yellow | _____ |
| 7. Violet | _____ |

2. When do we observe a rainbow?

Q.1 Write the uses of a convex lens .



Q.2 Solve the riddle 'Who am I'-

(a)

I sit on the ears and nose of your grandmother,
I can also burn a paper.

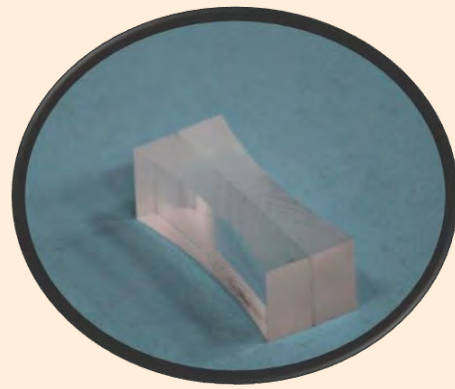
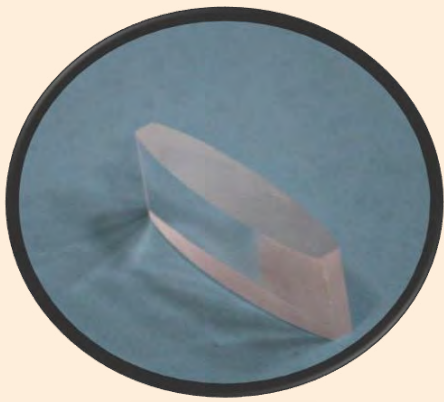
(b)

I help in reading the blackboard ,
Doctors use me to examine ears
and throat.

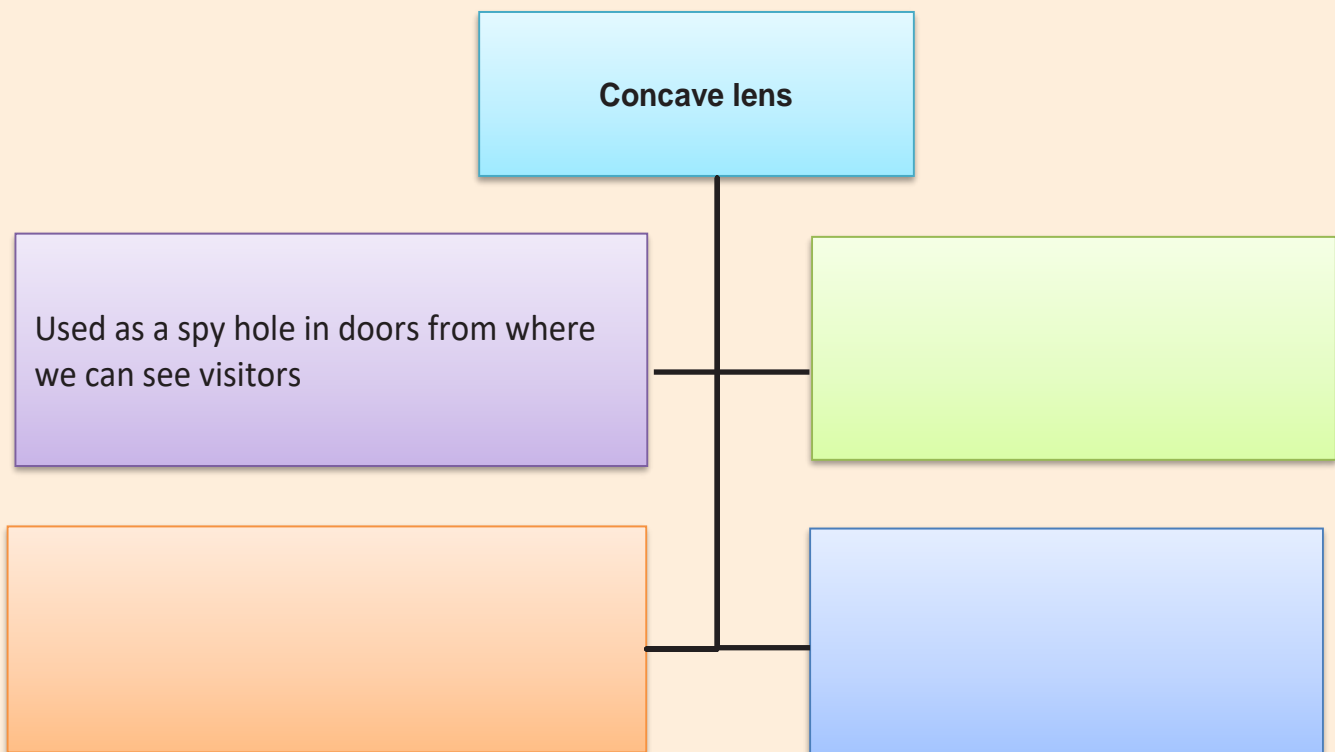
(c)

Flat from the bottom , narrow from
the tip
Can split the light into seven colour
strip.

Q.3 Identify the types of lens in the given pictures.

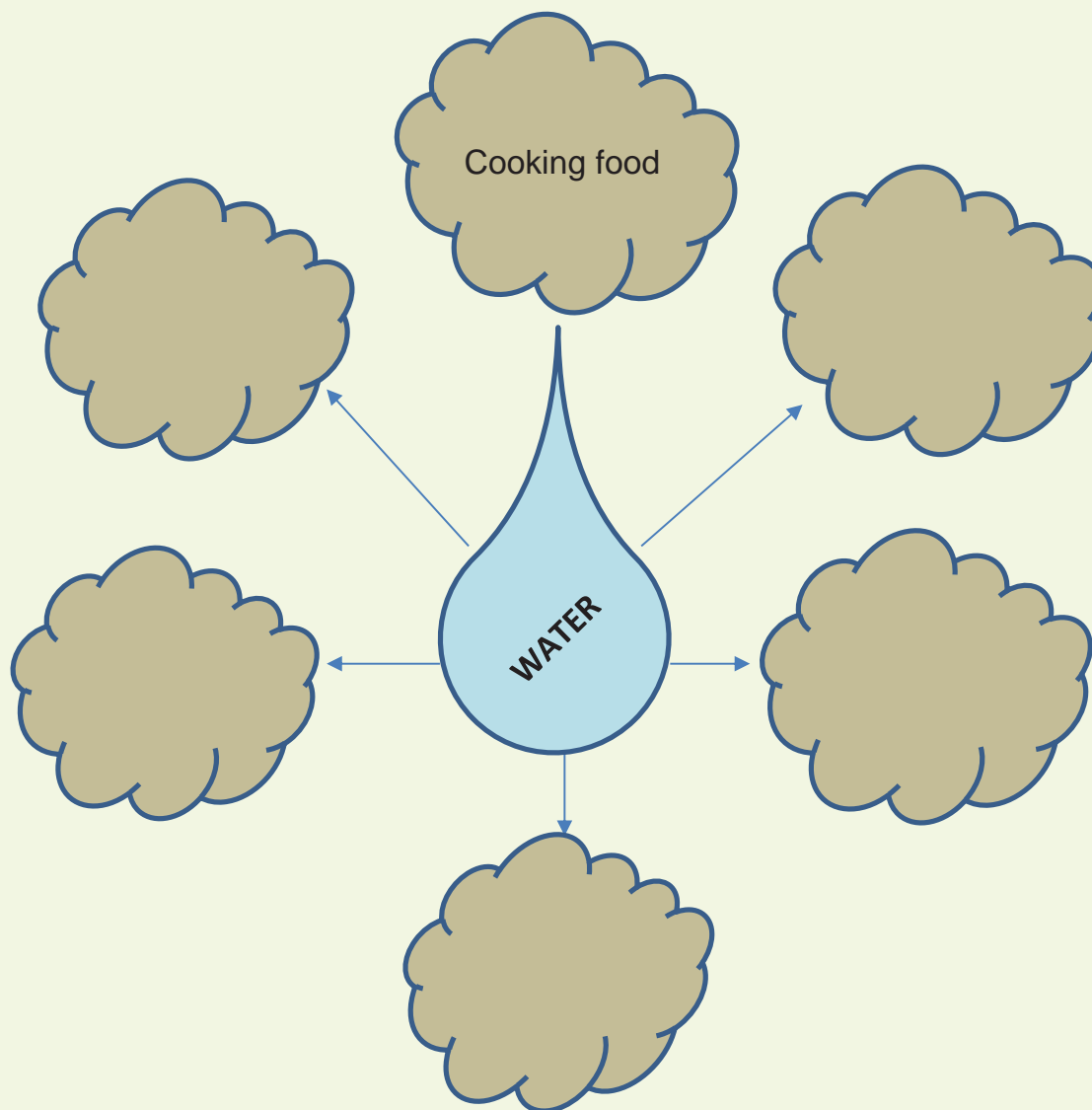


Q.2 Write the uses of a concave lens.



CHAPTER-16: WATER: A PRECIOUS RESOURCE**Water****ACTIVITY SHEET-1****Learn with fun:**

Write all the things/processes (in front of the arrow mark) associated with WATER. One example is already provided to help you out.



Q.1 Water is a precious resource. Support the statement with a real story of your life.

Q. 2 Complete the below conversation between a Teacher and a Student with the help of appropriate words (ice, 71, groundwater, forest, blue, source)

a) Do you know ____ percent of our earth's surface is covered with water.

b) Good! Can you name any important _____ of water?

a) Yes madam, even our earth appears _____ in colour from space due to this huge amount of surface water.

b) _____ is an important source of water.



Source: www.gograph.com

Q.3 World Water Day is observed on

(a) 22 April

(b) 22 March

(c) 28 June

(d) 28 July

Q. 4 Draw a poster on the theme 'Save Water' and write a slogan also.



Water

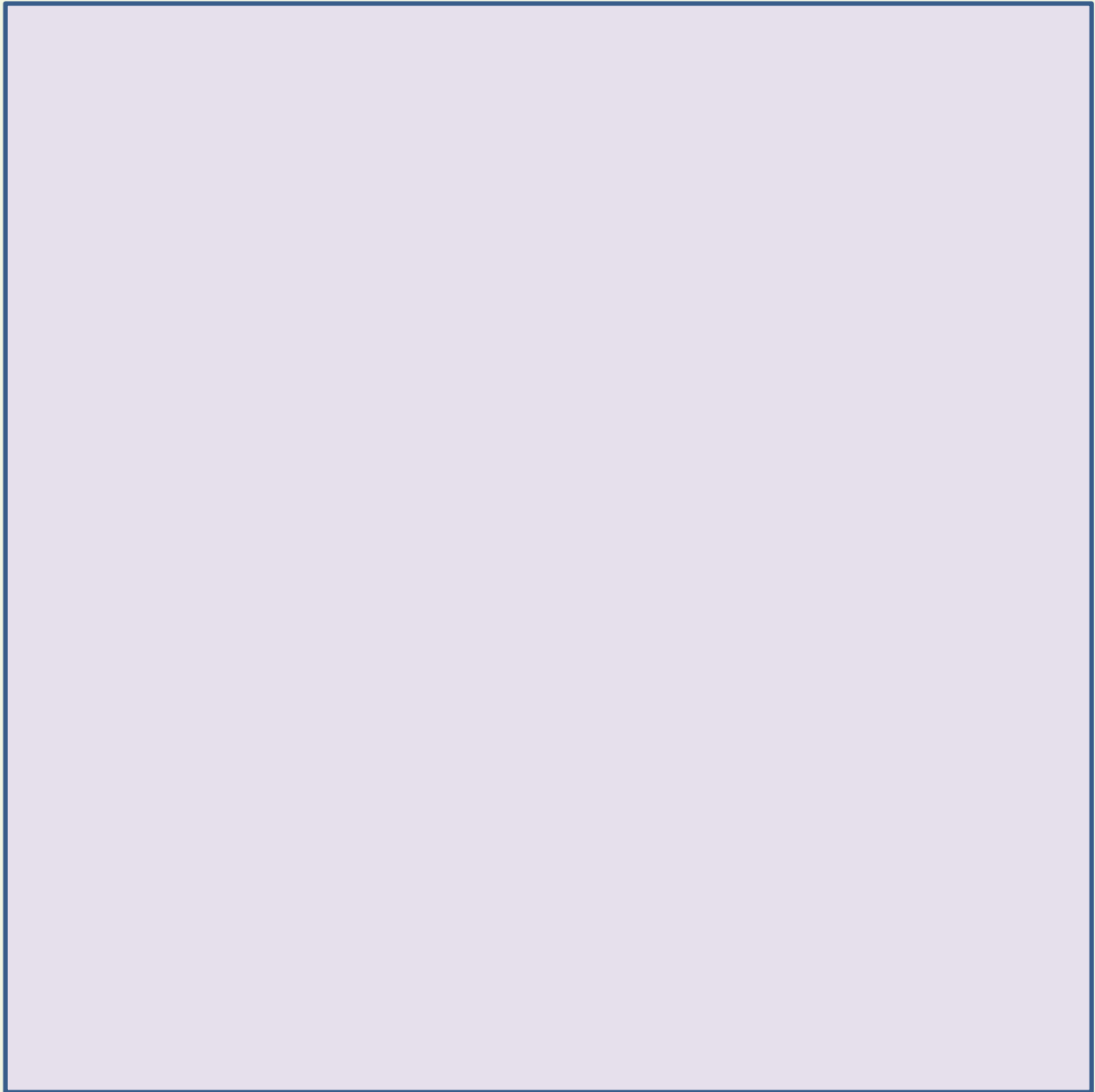
Water resources

ACTIVITY SHEET-2**Learn with fun:****Name any two sources of water you can see in the below picture.****Source 1** _____**Source 2** _____**1. Which source provides groundwater?**

2. Which source provides surface water?

3. Out of these two sources, which one's water you would like to consume?

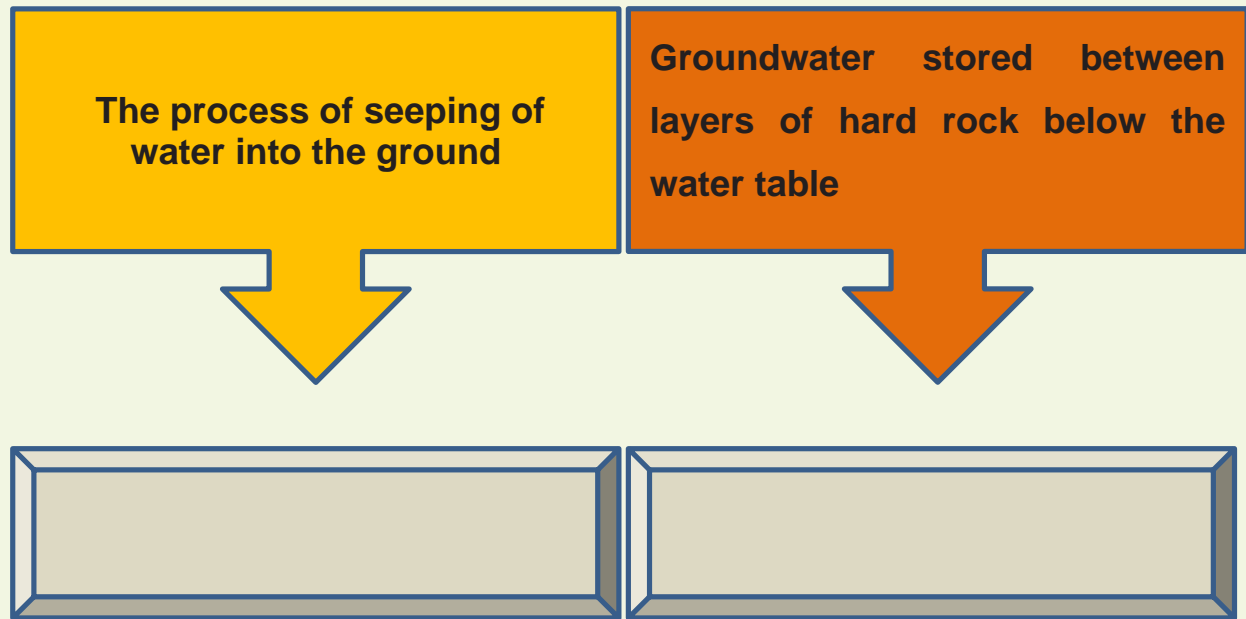
Q.1 Draw a well labeled diagram of 'Water Cycle'.



Q.2 When water circulates through the water cycle it can be found in which of the following forms?

- a) Solid b) Liquid c) Gas d) All the three forms

Q.3 Name the following:



Q.4 Reason(s) behind the depletion of Water Table is/are-

- a) Increasing population
- b) Increasing industries
- c) Agricultural activities
- d) All of the above

Water

Water resources

Water harvesting

ACTIVITY SHEET-3**Learn with fun:**

Observe the below picture carefully. Would you like to have picnic with your family and friends at this beautiful spot? How will you make sure to keep the flowing water free from picnic leftover food, plastic bottles, aluminium foils, polythene bags and other associated litter? Write down your own environment friendly picnic planning in the space provided below.



Q.1 Make your own rain water harvesting system with the help of below model. Write down about the working of your model in the space provided.



Q.2 Match the following columns:

Column A

Bawris

Drip irrigation

Rain water harvesting

Column B

Delivers water directly at the base of the plant

Ground water recharge

Traditional way of collecting water

Q.3 Put tail to the one who is speaking truth.

Water is a precious resource. Mop the floor instead of washing to save the water. Turn off the tap while brushing.

There is no scarcity of water on earth. So, it is good to wash your car with the help of water pipe and prefer taking shower in bath tub.



Q.4 Share your creative ideas to minimize the wastage of water.

CHAPTER-17: FORESTS: OUR LIFELINE

Forest and products

ACTIVITY SHEET-1

Learn with fun:

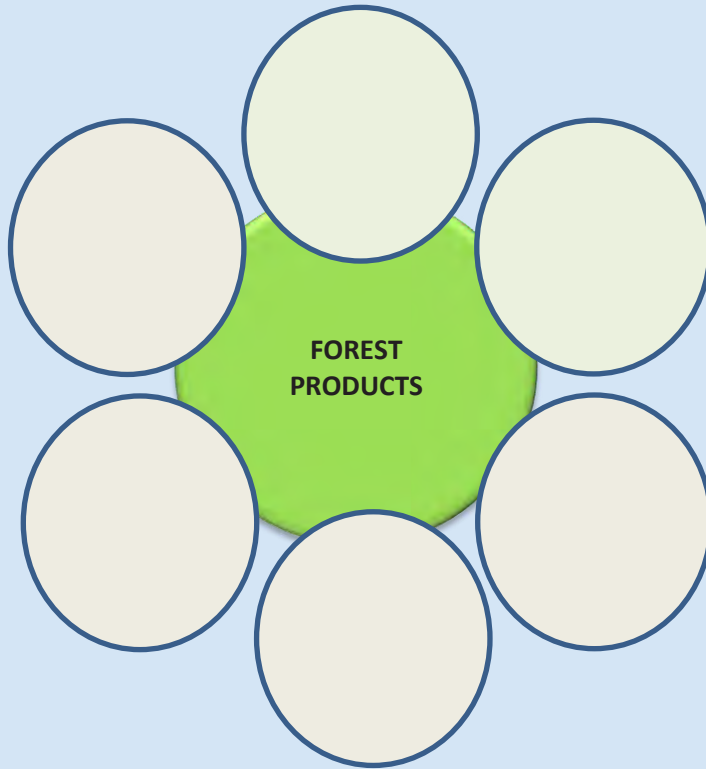
Observe the below forest picture carefully. Do you find something that bothers you? Share your feelings in the space provided below.



Q.1 Identify the below forest animals.



Q.2 Write down various Forest products in the below circles.



Q.3 A forest is a living entity. Is it true? Support your answer with a statement.

ACTIVITY SHEET-2**Learn with fun:**

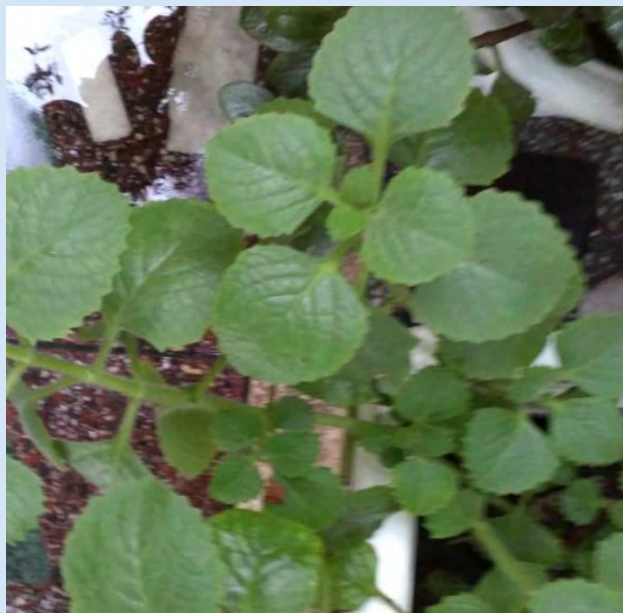
Let's create our own little forest! Go to the nearby stationary shop and purchase one packet of different toy plants and one packet of different toy animals. Now



paste them on a cardboard at proper distance to show natural biodiversity. You can use waste paper cups to make mountains and blue tape/paper to show water stream/river. Use cotton and grass to show the terrain. Decorate your miniature forest in your own unique way. Share a picture of your forest with your teacher on WhatsApp and if possible, paste a printout of the picture in the space provided above. Fold the extra paper inward.

Date _____

Q.1 Identify the following medicinal plants (Ajwain, Tulsi, Aloe vera, Patharchatta) in the pictures and write their names in the space box.



Q.2 Fill in the blanks (decomposers, rainforest, atmosphere)

- a) Micro-organisms which convert the dead plants and animals to humus are known as _____.
- b) Forests maintain the balance of oxygen and carbon dioxide in the _____.

Q.3 If you become the forest ranger for one day, what activities you would like to prohibit in the forest and why?

Q.4 Tick (✓) mark against the correct statement and put a Cross (X) against the wrong.

- a) Forests protect the soil from erosion. ()
- b) Forests influence climate, water cycle and air quality. ()
- c) Medicinal plants are not found in forests. ()

Forest and products

Forest plants &
roleForests : A
lifeline**ACTIVITY SHEET-3****Learn with fun:**

Jadav 'Molai' Payeng is an environmental activist and forestry worker from Majuli, popularly known as the 'Forest Man of India'. Over the course of several decades, he has planted and tended trees on a sandbar of the river Brahmaputra turning it into a forest reserve.

Collect some more information about him with the help of your teacher, peer group or internet. How impressed you are with the efforts of Jadav? Can he be your role model?

Pic source: upload.wikimedia.org/Wikipedia/commore/8/82/jadav

Q.1 Which of the following is not a forest product?



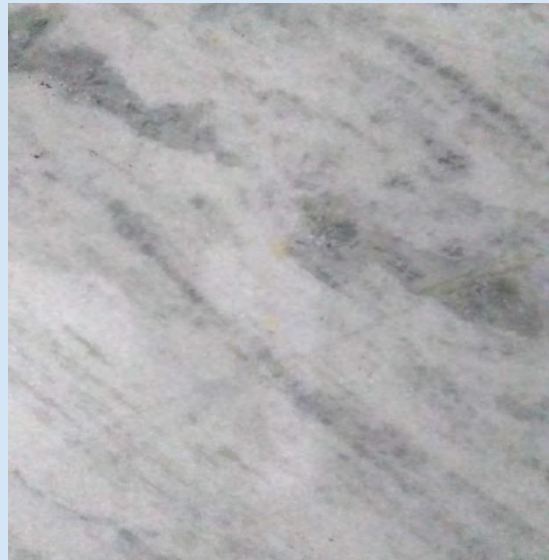
GUM



HONEY



HUMUS



MARBLE

Q.2 Sam is fond of collecting birds' eggs from forests. Do you support his hobby? Justify your answer and write your experiences for the same.



Q.3 Imagine if forests disappear at once, what will happen? Express your views in the below space.

Q.4 Observe the below picture carefully and express your views.



CHAPTER-18: WASTE WATER STORY**Waste water****ACTIVITY SHEET-1****Learn with fun:**

Source: <https://bit.ly/3EnNO3B>

Rajendra Singh is an Indian water conservationist and environmentalist from Rajasthan. Also known as '**waterman of India**', he won the Magsaysay Award in 2001. His team build over 8600 johads and other water conservation structures to collect rainwater for the dry seasons. He has brought water back to over 1000 villages and revived five rivers in Rajasthan.

**How motivated are you with the life story of 'Waterman of India?'
Make a visit to johad/pond in your village with an elder and observe the water body carefully. Do you think it needs to be renovated and why?**

**Grab some
information about
Magsaysay Award
with the help of
your Teacher**

Q.1 How will you define 'Waste water' as per your observations from the society?

Q. 2 Match the following columns (Items in column 'A' may match with more than one option of column 'B'):

Column A (Type of sewage)

Vegetable peels

Trade waste

Foul waste

Hot water

Column B (Point of origin)

Toilets

Kitchen

Industries

Q.3 State 'true' or 'false'

(a) Sewage is a type of wastewater ().

(b) Wastewater consists of both organic and inorganic impurities ().

Q.4 Highlight the disease with green colour that is not caused by the consumption of contaminated water.

a) Cholera

b) Dysentery

c) Anaemia

d) Typhoid

Q.5 Do you think wastewater is really waste for us? Comment below:

Waste water

Treatment

ACTIVITY SHEET-2**Learn with fun:**

Nandini is a teacher and she used to collect the waste water from the RO (Reverse Osmosis) in a bucket to water the plants. Mention few more innovative ideas to reuse the waste water from an RO unit.



1

Q.1 Treatment of polluted water involves the process of aeration, filtration and chlorination. With the help of parents and peers, explain the following:

(a) Aeration:_____

(b) Filtration:_____

(c) Chlorination:_____

Q. 2 State 'true' or 'false'

(a) Treatment of water involves physical, chemical and biological processes. ()

(b) By-products of wastewater treatment are sludge and biogas. ()

(c) Untreated human excreta is not a health hazard. ()

(d) Sludge can be used as manure. ()

Q.3 List down any two better housekeeping practices.

Q.4 Are you satisfied with the drinking water quality of your locality? Make ears of the emoji you want to go with!



