

- 1. Getting to know plants**
- 2. Light, Shadows and Reflection**
- 3. Fun with Magnets**
- 4. Air around us.**

Q1. Read the following paragraphs and answer the questions.

A. Leaves manufacture food for the plant body. The process of manufacturing food by the leaves is called photosynthesis. Leaves require water, carbon dioxide, sunlight and chlorophyll for making food. Water is obtained from the soil and carbon dioxide from the air. Oxygen is given out during this process.

- a)** What is Photosynthesis?
- b)** Name four basic requirements for the process of Photosynthesis.
- c)** Which gas is given out during Photosynthesis?

B. The central part of the flower is the female part, consisting of a flask shaped organ called the pistil. Each pistil consists of a basal swollen part called the ovary. The ovary continues into a long style and ends in a knob like part called stigma. The ovary contains small, bead like structures called ovules.

- a)** Name the female part of a flower.
- b)** What are Ovules?
- c)** What are the three different parts of pistil?

C. Those bodies which do not allow the light energy to pass through them are called opaque bodies. For example, bricks, stones, wood and articles made from it, wool, cotton, articles made from metals and coal are opaque bodies. We can never see through opaque bodies because they do not allow the light energy to pass through them.

- a)** What are opaque bodies?
- b)** Name four opaque bodies.
- c)** Why are we unable to see through opaque bodies?

D. Light is an invisible energy which causes in us the sensation of vision. When the light falls on any object, it bounces off from the surface of the object in all directions. This is called scattering of light. Light travels at a very fast speed, i.e. 3×10^8 m/s. It means that the speed of light is 300,000,000 m/s or 300,000km/s. Our sun is approximately 150,000,000km from the Earth.

- a)** Define scattering of light?
- b)** What is the speed of light?
- c)** How far is Sun from the Earth?

E. A mixture of ferric oxide and barium oxide is strongly magnetic in nature. It is commonly called ferrite. It is used for making very powerful magnets for radios and transistors. Substances which are neither attracted by a magnet nor can be converted into artificial magnets are called non magnetic substances.

- a)** Define ferrite.
- b)** Give one use of ferrite.
- c)** What are non magnetic substances?

F. The organisms which are living under the soil, such as in the roots of a plant, respire by taking oxygen present in the soil. Some living organisms living under soil make deep burrows and holes in the soil through which air reaches them for respiration. You must have seen that after rain earthworms come out of the soil. This is because the rainwater fills the burrows made by them. Thus in order to respire, they come above the surface of soil.

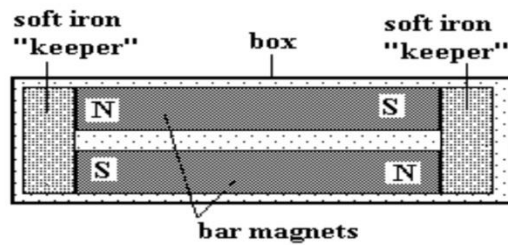
- a)** How do the organisms living under the soil respire?
- b)** Why do the earthworms come out of the soil after rain?
- c)** From where do the air reaches to the organisms living under soil?

G. We inhale air through our nose. The fine hair and mucus within the nasal passage prevent the dust particles from getting into our respiratory system. Your parents always scold you when you breathe through your mouth. This is because harmful dust particles can enter your respiratory system and can make you ill. The traffic police constables wear face masks. This is because our nose is not adequate to stop all dust particles. So they need face masks to stop dust particles.

- a) Why do your parents scold you when you breathe through your mouth?
- b) What is the importance of fine hair and mucus that is present in our nose?
- c) Why do the traffic police constables wear face masks?

Q2. Look at the given diagrams and answer the questions.

A.



- a) While storing the magnets, what should be the position of the poles of the magnet?
- b) Why magnetic keepers are used for storing magnets?
- c) Which shape of magnet is shown in the diagram?

B.



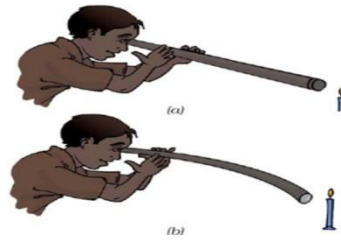
- a) Name the device shown in the above diagram.
- b) What is this device used for?
- c) Which part of the device shows the different directions?

C.



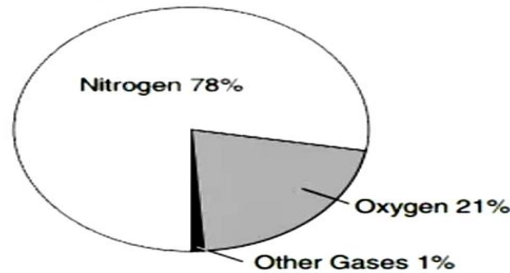
- a) What is formed on the screen?
- b) Whose shadow is formed on the screen?
- c) Where is shadow of the object formed? (In the front or behind of the object)
- d) If we remove light from the picture, can a shadow be visible? If not, why?

D.



- a) From the above two pictures, in which figure lighted candle is visible to the boy?
- b) Why can't we see the light from the bend tube?
- c) State the property of light which is depicted through the pictures.

E.



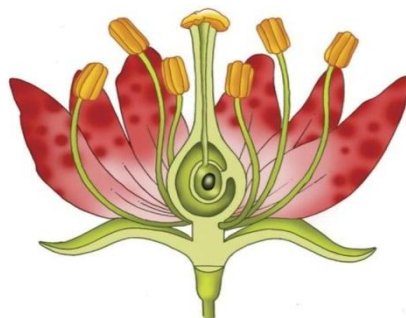
- a) Which gas is present in the maximum quantity in the air?
- b) Identify the gas which is necessary for respiration.
- c) Which gases are present in the least quantity in air?

F.



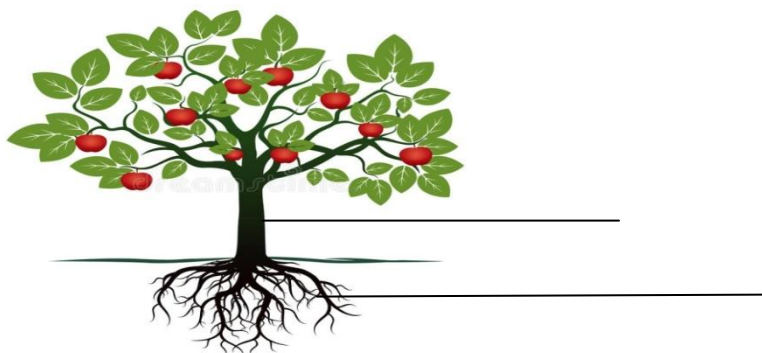
- a) Name the device depicted in the picture?
- b) What makes it to move?
- c) Give its one use.
- d) Wind energy is one of the cheapest sources of energy. True/false

G.



- a) Label the different parts of a flower.
- b) What is the male part of a flower called?
- c) What is the female part of a flower called?
- d) Which is the most attractive part of a flower?

H.



- Write the names of the different parts of the plant on the blank lines drawn.
- Which part of plant carries water to the other parts of plant?
- Name the plant organ needed for reproduction.

I.



- Label the different parts of leaf.
- What is leaf stalk known as?
- Which type of venation is depicted in the given leaf?
- What is the color of the lamina in most of the leaves?

J. Carbon Dioxide + Water $\xrightarrow{\hspace{1cm}}$ **Starch + Oxygen**

- This reaction takes place during:
 - Respiration
 - Photosynthesis
 - Transpiration
 - Venation
- Which two ingredients are missing in the above reaction?
 - Chlorophyll
 - Sunlight
 - Both a and b
 - None
- What is the food prepared in this reaction?
 - Oxygen
 - Carbon dioxide
 - Starch
 - Water
- In which organisms this reaction takes place?
 - Plants
 - Animals
 - Humans
 - None of these

Q3. For Question number 18 to 30, two statements are given, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below.

- Both A and R are true and R is correct explanation of the assertion.
- Both A and R are true but R is not the correct explanation of the assertion.
- A is true but R is false.
- A is false but R is true.

- A.** Assertion (A): Banana is a herb.
Reason (R): Herbs have green, soft and spongy stem.
- B.** Assertion (A): Potato and onion are modified stems.
Reason (R): They have nodes, internodes, scaly leaves and buds.
- C.** Assertion (A): Flower is known as the 'kitchen of the plant'.
Reason (R): Plants prepare their food in the leaves.
- D.** Assertion (A): By seeing the venation in leaves, we can find the type of roots in that plant.
Reason (R): Roots are seen in the leaves also.
- E.** Assertion (A): Gulmohar is called a bisexual flower.
Reason (R): It has both sepals and petals.
- F.** Assertion (A): Wheat maize and sugarcane have fibrous roots.
Reason (R): Tap root have main roots and lateral roots.
- G.** Assertion (A): Magnets always come to rest in the north south direction.
Reason (R): The Earth itself behaves like a huge bar magnet.
- H.** Assertion (A): The magnet made from iron, steel, nickel and cobalt is artificial magnet.
Reason (R): Artificial magnets are of different shapes and sizes.
- I.** Assertion (A): Glass, wood, paper, plastic etc get attracted to magnet.
Reason (R): They are non magnetic substances.
- J.** Assertion (A): Magnetic compass is used by the pilots and navigators.
Reason (R): Magnetic compass gives information about weather conditions.
- K.** Assertion (A): Image in a pinhole camera shows all details of an object.
Reason (R): All colors are seen in the image in a pinhole camera.
- L.** Assertion (A): Shadow can be smaller or bigger than the opaque body.
Reason (R): Shadow is of the same color as that of the object.
- M.** Assertion (A): Mountaineers and divers use oxygen cylinders for breathing.
Reason (R): The volume of oxygen sharply decreases on high altitudes and in deep water.