INDIAN SCHOOL AL WADI AL KABIR

CLASS: VI	**DEPARTMENT: SCIENCE 2021-2022**	**DATE: 9-06-21**
WORKSHEET NO.: 5 WITH ANSWERS	**TOPIC: AIR AROUND US**	**NOTE: A4 FILE FORMAT**
NAME OF THE STUDENT:	**CLASS & SEC:**	**ROLL NO.**

I.VERY SHORT ANSWER (1M):

1.What is air?
[Air is a mixture of several gases]

2.Which gas is needed for combustion?
[Oxygen]

3. What is atmosphere?
[The layer of air which surrounds the earth]

4. What is the composition of air?
[Air comprises of nitrogen, oxygen, carbon dioxide, water vapour, dust and smoke.]

5. Write the two properties of air.
[i) It is colourless and transparent, ii) Air occupies space and has mass]

6. What is wind? [The natural movement of air is called wind.]

7. What is humidity? [The amount of water vapour present in the air is called humidity.]

8. What is the importance of water vapour in air? [It is important for water cycle in the nature.]

9. What happens when air comes in contact with a cool surface? [When air comes in contact with a cool surface, it condenses and drops of water appear on cool surface.]

10. Which component of air is used by green plants to make their food? [Carbon dioxide is used by green plants to make their food.]

For question numbers 11to 13 two statements are given- one labelled Assertion (A) and the other labelled Reason (R).

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below -

i) Both A and R are true and R is correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true

11. Assertion (A): Air is considered as a mixture.

Reason (R): Air contains oxygen and nitrogen as its major constituents.

ii) Both A and R are true but R is not the correct explanation of the assertion.

12. Assertion (A): Mountaineers carry oxygen cylinders with them while climbing high mountains.

Reason (R): oxygen keeps them warm at high altitude.

iii) A is true but R is false.

13**Assertion (A):** When we boil water, tiny air bubbles come out.

Reason (R): Water contains dissolved air.

i) Both A and R are true and R is correct explanation of the assertion.

II.PASSAGE BASED QUESTIONS:

Read the following passage and answer the following questions:

In the process of photosynthesis, plants make their own food and oxygen is produced along with it. It is obvious that animals cannot live without plants The balance of oxygen and carbon dioxide in the atmosphere is maintained through respiration in plants and animals and by the photosynthesis in plants. This shows the interdependence in plants and animals. The wind makes the windmill move. The windmill is used to draw water from tube wells and to run flour mills. Windmills are also used to generate electricity. Air helps the movement of gliders, parachutes, aeroplanes etc. Air also helps in the dispersal of seeds and pollen in plants. Air plays an important role in water cycle.

i) Name the process in which oxygen is produced.
a) Respiration b) Photosynthesis c) Digestion d) Reproduction

ii) How is the balance of carbon dioxide and oxygen maintained?
a) Respiration in plants b) Respiration in animals c) Photosynthesis d) All of these

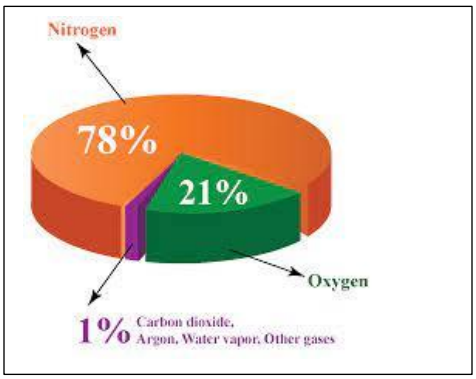
iii) ----------makes the wind mill rotate
a) Sunlight b) Wind c) Rains d) Clouds

iv) How wind generates electricity?
a) Using sunlight b) Using windmills c) Using Coal d) Using water

III.a) SHORT ANSWER TYPE QUESTIONS (2 M):

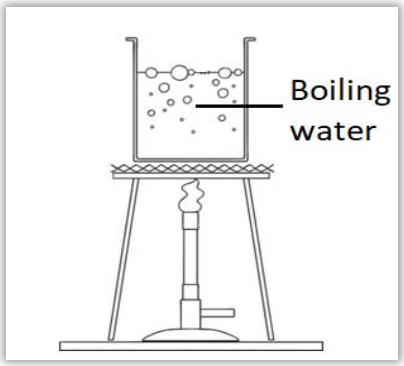
1. The composition of air is given below. Draw a pie-chart representing the various percentage of these gases.

GASES	PERCENTAGE
NITROGEN	78 %
OXYGEN	21 %
OTHER GASES	1 %

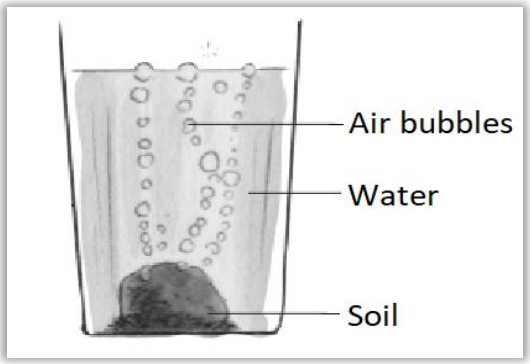


2. Why do you think mountaineers carry oxygen cylinders with them, while climbing high mountains? [The amount of oxygen decreases at high altitude. So, for normal breathing, mountaineers carry oxygen cylinders with them, while climbing high mountains.]
3. Why do you feel suffocation in a closed room, where some material is burning? [Breathing of excess carbon dioxide gets accumulated inside the room. It is harmful for us.]
4. Why should we inhale through our nose and not through our mouth? [The Mucus and hair present inside the nose trap the dust present in the air. Since the air doesn't gets filtered, it is not advisable to breathe through our mouth.]
5. How do the organisms living in soil get the air they need, for respiration? [The spaces between the soil particles are filled with air. This air is taken up by organisms for respiration.]
6. How do aquatic organisms take oxygen for respiration? [Aquatic organisms take the dissolved oxygen present in water for respiration.]

7. How do plant roots get air for their respiration in soil? [The plant roots breathe using the oxygen trapped in the spaces between the soil particles.]
8. Observe the figures carefully and answer the following questions:



[a]

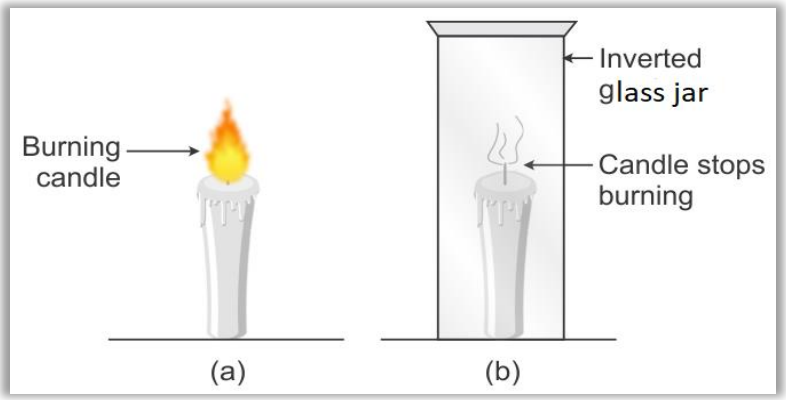


[b]

What do you conclude from this activity as shown in (i) and (ii)?

[(i) Water contains air, (ii) Soil contains air]

9. Observe the given figure carefully and answer the following question.



In the above activity candle is burning in the case of A and not in B. Give a reason. [In situation A, candle is in direct contact with oxygen which is a supporter of burning. In situation B, the inverted jar cuts the supply of oxygen to the candle, hence it stops burning.]

10. State three uses of windmills. [The windmill is used to draw water from tubewells, to run flour mills and to generate electricity.]

III.b) SHORT ANSWER TYPE QUESTIONS (3 M):

1. Air occupies space. Explain the statement. [Blow a balloon, air from your body enters balloon and it gets bigger because air occupies space.]

2. Why during an incident of fire, one is advised to wrap a woollen blanket over a burning object? [For combustion(burning) to take place, oxygen is required. When a woollen blanket is wrapped over a burning object, fire loses contact with oxygen and therefore, stops burning after sometime.]
3. Explain why, tall chimneys are installed in factories? [Chimneys take harmful gases and smoke from the factories away from our noses.]
4. Plants and animals help each other in the exchange of gases in the atmosphere. Explain. [Plants and animals help each other in the exchange of gases in the atmosphere. Plants take carbon dioxide to prepare food and release oxygen during daytime. This oxygen is taken in by the animals and carbon dioxide is released during respiration. Thus, plants and animals help in maintaining balance of oxygen and carbon dioxide.]
5. Why all the oxygen of atmosphere does not get used up though a large number of organisms are consuming it? [A large number of organisms take up oxygen for respiration and release carbon dioxide. Plants take up this carbon dioxide and release oxygen in the atmosphere. Therefore, this balance is maintained.]
6. Explain the following observations very briefly -
   (a) A firki does not rotate in a closed area.
   (b) The arrow of weather cock points towards a particular direction at a particular moment.
   (c) An empty glass in fact is not empty.
   [(a) A firki does not rotate in a closed area due to lack of air movement. (b) The arrow points towards a particular direction at a particular moment to show the latest direction of the wind movement. (c) An empty glass in in fact is not empty because it is filled with air.]
7. Why do policemen regulating traffic at a crowded city often wear a mask? [To protect themselves from smoke, containing harmful gases emitted by the moving vehicles.]
8. Why an animal living in soil does, comes out of soil for respiration in rainy season? [When it rains heavily, water fills up all the spaces occupied by the air in the soil. Therefore, organism living in soil has to come out for respiration.]
9. In a number of musical instruments, air plays an important role. Name some of such instruments. [Flute, shehnai, harmonium, mouth organ etc.]

10. Why should you not sleep under the trees during the night? [We should not sleep under the trees during the night because during night, trees release carbon dioxide due to respiration and excess of carbon dioxide can cause suffocation.]

IV. LONG ANSWER TYPE QUESTIONS (5M):

1. a)What will happen if we keep a fish in a closed container without any aquatic plants? Give eason for your answer.

   [Fish will die after some time. Aquatic plants through the process of photosynthesis could supply oxygen to the fishes.]

   b) Why does a lump of cotton wool shrink in water?

   [A lump of cotton wool shrinks in water because water filled up the empty space that the air has occupied.]

2. Paheli kept some water in a beaker for heating. She observed that tiny bubbles appeared before the water started to boil. She boiled the water for about 5 minutes and filled it in a bottle up to the brim and kept the bottle air tight till it cooled down to room temperature.

   (a) Why did the tiny bubbles appeared?

   (b) Do you think tiny bubbles will appear on heating the water taken out from the bottle? Justify your answer. [(a) The tiny bubbles appeared before the water started to boil due to the air dissolved in water. On heating, the air dissolved in water escaped in the form of bubbles. (b) The tiny bubbles will appear on heating the water taken out from the bottle as on opening the cap, some amount of air will be trapped in it. Some amount of air will also be trapped during the transfer of water from the bottle to the utensil for heating. Since the amount of trapped air will be less in the poured water, there will be less number of bubbles appearing in the water on heating as compared to the previous one.]

3.List at least five activities that are possible due to the presence of air. [Respiration, burning, photosynthesis, movement of aeroplane and parachutes, generation of electricity by windmills.]

4.a) Boojho took an empty plastic bottle, turned it upside down and dipped its open mouth into a bucket filled with water. He then tilted the bottle slightly and made the following observations -

i) Bubbles of air came out from the bottle.

ii) Some water entered the bottle.

iii) Nitrogen gas came out in the form of bubbles and oxygen got dissolved in water.

iv) No bubbles formed, only water entered the bottle.

Which observation is/are correct?

a] (i) only

b] (i) and (ii)

c] (iii) and (iv)

d] (iv) only

b) What are the properties of air?

[Air occupies space. Air is present everywhere around us. Air has no colour and one can see through it. It is transparent.]

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