

15. Air Around Us (Solved Exercise)

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Q1: What is the composition of air?

Ans:

Air is a mixture of 78% nitrogen, 21% oxygen, 0.04% carbon dioxide, water vapours and some other gases. Air also contains dust particles.

Q2: Which gas in the atmosphere is essential for respiration?

Ans:

Oxygen is essential for respiration.

Q3: How will you prove that air supports burning?

Ans:

Take a candle. Place it in a tub. Light the candle and also fill the tub with some water. Cover the candle with an inverted glass. We will find that the candle blows out after burning for some time, and the water level inside the inverted glass rises up to some extent.

The component, oxygen, of air inside the glass is used up in burning. Therefore, water occupies that space. This shows that air supports burning.

Q4: How will you show that air is dissolved in water?

Ans:

To show that air is dissolved in water we take water in a pan and heat it. Just before it boils, we will notice some bubbles at the inner surface of the pan. These bubbles are formed because of air dissolved in water.

Q5: Why does a lump of cotton wool shrink in water?

Ans:

A lump of cotton wool shrinks when immersed in water. This is because air present in the cotton wool escapes. Thus, the volume of the cotton wool decreases.

Q6: The layer of air around the Earth is known as _____.

Ans:

The layer of air around the Earth is known as __atmosphere__.

Q7: The component of air used by green plants to make their food is _____.

Ans:

The component of air used by green plants to make their food is _carbon dioxide_.

Q8: List five activities that are possible due to the presence of air.

Ans:

- (i) Respiration
- (ii) Photosynthesis
- (iii) Burning
- (iv) Movement of sailing yachts, gliders, parachutes, airplanes
- (v) Generation of electricity by windmills

Q9: How do plants and animals help each other in exchange of gases in the atmosphere?

Ans:

Plants utilize carbon dioxide present in the atmosphere for the process of photosynthesis. They release oxygen in the atmosphere. This oxygen is inhaled by humans and in turn, carbon dioxide is exhaled.

In this way, plants and animals help each other in exchange of gases in the atmosphere.