Chemistry Worksheet Class 6 on Chapter 15 Air Around Us with Answers- Set 2

Q1. Combustion cannot take place without which gas?

a.) Oxygen
b.) Nitrogen
c.) Carbon dioxide
d.) Hydrogen

Correct Answer– (a.) Oxygen

Q2. As we go higher in the atmosphere, the amount of oxygen-

a.) Decreases
b.) Increases
c.) Remain the same
d.) First increase, then decrease

Correct Answer– (a.) Decreases

Q3. The second most abundant gas in the atmosphere is-

a.) Oxygen
b.) Nitrogen
c.) Carbon dioxide
d.) None of the above

Correct Answer– (a.) Oxygen

Q4. Fill in the blanks.
a.) ____ gas supports combustion.
b.) Plants use ____ gas during photosynthesis.
c.) The removal of water from plants in the form of vapour is called ____.

Answer.
a.) Oxygen gas supports combustion.
b.) Plants use carbon dioxide gas during photosynthesis.
c.) The removal of water from plants in the form of vapour is called transpiration.

Q5. State True or False.
a.) Air is only made of nitrogen and oxygen.
b.) Air has a distinct smell.
c.) Plants use oxygen for respiration.

Answer.
a.) Air is only made of nitrogen and oxygen– False.
b.) Air has a distinct smell – False.
c.) Plants use oxygen for respiration – True.

Q6. How will you illustrate that air dissolves in water?

Answer. When a tumbler with water is heated, tiny bubbles form on the inside. These bubbles are created when air dissolves in water. Thus, this illustrates that air is dissolved in water.

Q7. What happens when burning continues in a closed room?

Answer. When burning continues for a longer period of time in a closed room, it produces a very dangerous and poisonous gas called carbon monoxide, which, if inhaled for an extended period of time, can cause death.

Q8. Describe the composition of air.

Answer. Air mainly consists of nitrogen (78.03%) and oxygen (20.99%). The remaining 1% (by volume) is shared between argon (0.34%), carbon dioxide (0.33%), other noble gases, nitrogen oxides and sulphur oxides, and so on.

Q9. What is the function of a weathercock (wind vane)?

Answer. It indicates the direction in which the air is moving at that location. As a result, if the wind is blowing from the north, the arrow will point north.

Q10. Are breathing and respiration the same thing?

Answer. No, breathing and respiration are different.
Breathing is a biophysical process that involves inhaling oxygen and exhaling carbon dioxide, whereas energy is produced during respiration by breaking down glucose, either in the presence of oxygen (aerobic respiration) or in the absence of oxygen (anaerobic respiration) (anaerobic respiration).
Thus, respiration is a chemical process, whereas breathing is a physical process.

Q11. It is recommended to wrap a woollen blanket around a burning object during a fire. Why?

Answer. During a fire, it is recommended to wrap a woollen blanket around a burning object because the air gaps in the blanket act as an insulating medium, cutting the supply of oxygen to the burning object and preventing it from further burning.

Q12. Breathing through your mouth may be harmful." How?

Answer. The presence of dust particles in the air varies with time and location. When we breathe through our nostrils, we inhale air. Fine hair and mucus are found inside the nose to keep dust particles out of the respiratory system. Breathing through our mouths can be harmful because we can inhale dust from the air, which can enter our respiratory system (lungs, etc.) and harm our health.

Q13. What will happen if CO_2 levels in the atmosphere rise?

Answer. Carbon dioxide has the ability to absorb heat rays, known as infrared rays. Nature maintains a balance of carbon dioxide in the atmosphere, providing optimal warmth. An increase in the concentration of carbon dioxide in the atmosphere would raise the earth's temperature, causing glaciers to melt and flood, etc. This phenomenon is known as Global Warming.

Q14. How is oxygen in the atmosphere or air replaced?

Answer. The oxygen in the air is used by animals (and plants) through respiration and, during fuel combustion, is constantly replaced by plants through the process of photosynthesis.
Plants produce their own food while also producing oxygen during this process. Plants also use oxygen for respiration, but they produce more than what they use. That is why plants are said to produce oxygen.
Plants are essential for animal survival. Plants, too, cannot survive in the absence of animals. They would consume all of the CO_2 in the atmosphere. Thus, both are necessary for maintaining the balance of oxygen and carbon dioxide in the atmosphere.

Q15. Give an experiment to demonstrate that one-fifth of the air is oxygen.

Answer.

- Procedure: Fill the trough halfway with water. Place a lighted candle in the centre of the trough with care. Take a glass tumbler and mark five equal portions on it with a marker pen. Place this tumbler on top of the burning candle.
- Observation: The candle burns for a while before being extinguished. The water rises from the inverted tumbler's edge to fill about one-fifth of it.
- Conclusion: The candle burned until oxygen was present. When the oxygen inside the tumbler was used up, the candle stopped burning. This is because the air inside the tumbler was devoid of oxygen, water from the trough moved up the tumbler and took its place. We know the gas used up was oxygen because the candle was extinguished after about one-fifth of the air was used up, and oxygen is the only gas in air that supports combustion. Thus, it is demonstrated that oxygen occupies approximately one-fifth of the volume of air.