

6th Science Lesson 10 Questions in English

10] Air

1. Which of the following statement is correct?

- 1) Air is present everywhere around us.
- 2) We cannot see, touch or taste air but we can feel it.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Air is present everywhere around us. We cannot see air. But we can feel its presence in so many ways. For example, we feel air when the trees rustle, clothes hanging on a clothes-line sway, pages of an open book flutters when the fan is switched on, when kites fly in the sky. We cannot see, touch or taste air but we can feel it. It is the air that makes all these movements possible. Thus, we can understand that air is present all around us.

2. Our earth is surrounded by a huge envelope of air called_____

- a) Biosphere
- b) **Atmosphere**
- c) Mesosphere
- d) None

Explanation

Our earth is surrounded by a huge envelope of air called the atmosphere. Atmosphere extends to more than 800km above the surface of earth and is held in place by the earth's gravity.

3. Atmosphere extends to more than____ km above the surface of earth

- a) 2000
- b) **800**
- c) 244
- d) 500

Explanation

Our earth is surrounded by a huge envelope of air called the atmosphere. Atmosphere extends to more than 800km above the surface of earth and is held in place by the earth's gravity.

4. Which of the following is correct about atmosphere?

- 1) The atmosphere protects us from many harmful rays coming from the sun.
- 2) The air envelope is thicker near the earth's surface and as we go higher the density and the availability of air gradually decreases
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The atmosphere protects us from many harmful rays coming from the sun. The air envelope is thicker near the earth's surface and as we go higher the density and the availability of air gradually decreases.

5. The decrease in the density of air as we go higher is due to_____

- a) Reduction in the force of gravity
- b) **Increase in the force of gravity**
- c) Cosmic rays
- d) None

Explanation

The air envelope is thicker near the earth's surface and as we go higher the density and the availability of air gradually decreases. This is because, as we go higher, the force of gravity decreases, so it is not able to hold large amount of air.

6. The atmosphere is made of_____ different layers

- a) 4
- b) **5**
- c) 6
- d) 3

Explanation

The atmosphere is made of five different layers – the troposphere, the stratosphere, the mesosphere, the ionosphere and the exosphere.

7. Arrange the following from top to bottom

- 1) Troposphere
- 2) Mesosphere
- 3) Stratosphere
 - a) **2, 3, 1**
 - b) 2, 1, 3

- c) 1, 3, 2
- d) 3, 2, 1

Explanation

The atmosphere is made of five different layers – the troposphere, the stratosphere, the mesosphere, the ionosphere and the exosphere.

8. _____ layer is closest to earth

- a) **Troposphere**
- b) Stratosphere
- c) Ionosphere
- d) Exosphere

Explanation

The troposphere is the layer closest to the earth. It is the layer in which we live. It extends upwards for about 16km above the surface of the earth.

9. Troposphere extends upwards for about _____ km above the surface of the earth

- a) 26
- b) **16**
- c) 36
- d) 12

Explanation

The troposphere is the layer closest to the earth. It is the layer in which we live. It extends upwards for about 16km above the surface of the earth

10. Movement of wind takes place in _____ layer

- a) **Troposphere**
- b) Mesosphere
- c) Stratosphere
- d) Exosphere

Explanation

The troposphere is the layer closest to the earth. It is the layer in which we live. It extends upwards for about 16km above the surface of the earth. Movement of wind takes place in this layer.

11. Which of the following is incorrect?

- 1) Troposphere contains water vapour, which is responsible for making clouds.

2) Exosphere is responsible for the weather we experience on earth.

- a) 1 alone
- b) 2 alone**
- c) 1, 2
- d) None

Explanation

The troposphere is the layer closest to the earth. It is the layer in which we live. It extends upwards for about 16km above the surface of the earth. Movement of wind takes place in this layer. It also contains water vapour, which is responsible for making clouds. This layer is responsible for the weather we experience on earth.

12. Aircrafts usually fly above_____ layer to avoid strong winds and bad weather.

- a) Stratosphere
- b) Mesosphere
- c) Exosphere
- d) Troposphere**

Explanation

The troposphere is the layer closest to the earth. It is the layer in which we live. It extends upwards for about 16km above the surface of the earth. Movement of wind takes place in this layer. It also contains water vapour, which is responsible for making clouds. This layer is responsible for the weather we experience on earth. Aircrafts usually fly above this layer to avoid strong winds and bad weather.

13. The stratosphere lies above_____

- a) Troposphere**
- b) Mesosphere
- c) Stratosphere
- d) Ionosphere

Explanation

The stratosphere lies above the troposphere. This layer has the ozone layer in it. The ozone layer protects all life on earth from the harmful ultraviolet rays of the sun

14. In which layer ozone layer is located?

- a) Stratosphere**
- b) Troposphere
- c) Mesosphere
- d) Exosphere

Explanation

The stratosphere lies above the troposphere. This layer has the ozone layer in it. The ozone layer protects all life on earth from the harmful ultraviolet rays of the sun.

15. Which of the following statement is correct?

- 1) The ozone layer protects all life on earth from the harmful ultraviolet rays of the sun.
 - 2) Troposphere layer has the ozone layer in it
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The stratosphere lies above the troposphere. This layer has the ozone layer in it. The ozone layer protects all life on earth from the harmful ultraviolet rays of the sun.

16. A weathercock shows_____

- a) Direction of wind
- b) Direction opposite to wind
- c) Direction of sunset
- d) Direction of sunrise

Explanation

A weathercock shows the direction in which the air is moving at a particular place. You can also make a wind sock to find the direction of the wind.

17. Until_____ century, human thought 'air' as a fundamental constituent of matter

- a) 13th
- b) 18th
- c) 17th
- d) 15th

Explanation

For long time, that is, until eighteenth century, human thought 'air' as a fundamental constituent of matter. However, an ingenious experiment conducted by Joseph Priestley in 1774 showed that "air is not an elementary substance, but a composition," or mixture of gases.

18. Joseph Priestley in_____ showed that "air is not an elementary substance, but a composition," or mixture of gases.

- a) 1774
- b) 1894
- c) 1783
- d) 1974

Explanation

For long time, that is, until eighteenth century, human thought 'air' as a fundamental constituent of matter. However, an ingenious experiment conducted by Joseph Priestley in 1774 showed that "air is not an elementary substance, but a composition," or mixture of gases.

19. Priestley was also able to identify a colourless and highly reactive gas which was later Named_____ by the great French chemist Antoine Lavoisier

- a) Nitrogen
- b) CO₂
- c) Hydrogen
- d) **Oxygen**

Explanation

For long time, that is, until eighteenth century, human thought 'air' as a fundamental constituent of matter. However, an ingenious experiment conducted by Joseph Priestley in 1774 showed that "air is not an elementary substance, but a composition," or mixture of gases. He was also able to identify a colourless and highly reactive gas which was later named 'oxygen' by the great French chemist Antoine Lavoisier.

20._____ showed that sunlight is essential to the plant to carry out photosynthesis

- a) Joseph Priestley
- b) Antoine Lavoisier
- c) **Jan Ingenhousz**
- d) All the above

Explanation

During 1730 – 1799, Jan Ingenhousz showed that sunlight is essential to the plant to carry out photosynthesis and also to purify air that is fouled by breathing animals or by burning candles.

21. Daniel Rutherford, a Scottish chemist, discovered_____

- a) Oxygen
- b) **Nitrogen**
- c) Hydrogen
- d) CO₂

Explanation

Daniel Rutherford, a Scottish chemist, discovered nitrogen. He removed oxygen and converted it into carbon-di-oxide using an inverted bell jar using a burning candle.

22. Who was able to produce a gas, which showed the same property of the air without oxygen and carbon-di-oxide?

- a) Jan Ingenhousz
- b) **Daniel Rutherford**
- c) Antoine Lavoisier
- d) None

Explanation

Daniel Rutherford was able to produce a gas, which showed the same property of the air without oxygen and carbon-di-oxide. Hence this gas was named 'nitrogen'.

23. Bubble some air using a straw through the limewater, lime water will produce a white Precipitate, this shows the presence of_____

- a) Nitrogen
- b) Oxygen
- c) **Co₂**
- d) Hydrogen

Explanation

Pour some lime water in a glass tumbler. Bubble some air using a straw through the limewater. After a few minutes, look at the lime water carefully. The lime water will produce a white precipitate and that the lime water will eventually turn to a milky white solution. This shows the presence of carbon-di-oxide in air.

24. The major component of air is_____

- a) **Nitrogen**
- b) Oxygen
- c) Co₂
- d) Hydrogen

Explanation

The major component of air is nitrogen. Almost four – fifth of air is nitrogen. The second major component of air is oxygen. About one – fifth of air is oxygen. In addition to nitrogen and oxygen gases, air also contains small amount of carbon-di- oxide, water vapour and some other gases like argon, helium etc. The air may also contain some dust particles.

25. Almost_____ of air is nitrogen.

- a) $\frac{4}{5}^{\text{th}}$
- b) $\frac{1}{3}^{\text{rd}}$
- c) $\frac{2}{3}^{\text{rd}}$
- d) $\frac{2}{5}^{\text{th}}$

Explanation

The major component of air is nitrogen. Almost four – fifth of air is nitrogen. The second major component of air is oxygen. About one – fifth of air is oxygen. In addition to nitrogen and oxygen gases, air also contains small amount of carbon-di- oxide, water vapour and some other gases like argon, helium etc. The air may also contain some dust particles.

26. About_____ of air is oxygen.

- a) $\frac{1}{3}^{\text{th}}$
- b) $\frac{1}{5}^{\text{th}}$
- c) $\frac{2}{5}^{\text{th}}$
- d) $\frac{4}{5}^{\text{th}}$

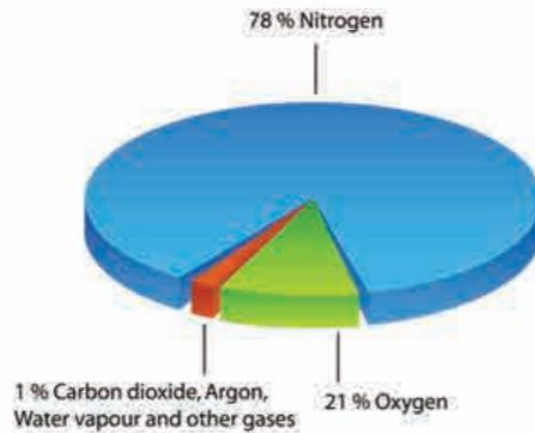
Explanation

The major component of air is nitrogen. Almost four – fifth of air is nitrogen. The second major component of air is oxygen. About one – fifth of air is oxygen. In addition to nitrogen and oxygen gases, air also contains small amount of carbon-di- oxide, water vapour and some other gases like argon, helium etc. The air may also contain some dust particles.

27. What is the % of nitrogen?

- a) 21
- b) 78
- c) 1
- d) None

Explanation



28. What is the % of CO_2 inhaled during respiration?

- a) 4
- b) 0.04
- c) 0.03
- d) 3

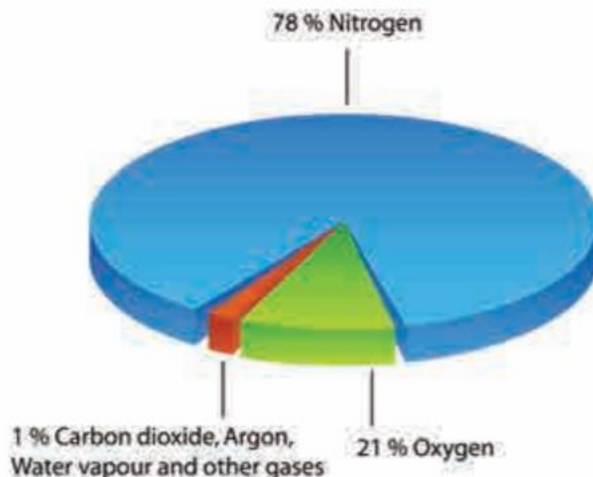
Explanation

Component	Inhaled air	Exhaled air
Nitrogen	78%	78%
Oxygen	21%	16%
Carbon-di-oxide	0.03%	4%
Water vapour	Variable amount	amount increases in exhaled air
Noble gases	0.95%	0.95%
Dust	Variable amount	none
Temperature	Room temperature	Body temperature

29. What is the % of CO_2 , Ar, water vapour and other gases?

- a) 21
- b) 1
- c) 78
- d) 5

Explanation



30. Which of the following statement is correct?

- 1) Air in coastal areas may have more water vapour than inland areas.
 - 2) Air also contains more water vapour in rainy season.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The composition of air changes slightly from place to place and also from season to season. For example, ∞ Air over industrial cities usually has a higher amount of carbon-di-oxide in it than the air over open spaces. ∞ Air in coastal areas may have more water vapour than inland areas. ∞ Air also contains more water vapour in rainy season. ∞ The amount of dust in the air is more in windy places than other areas.

31. Which of the following is correct?

- 1) When we burn a candle, paper, kerosene, coal, wood or cooking gas (LPG), oxygen is needed.
 - 2) The oxygen needed for the burning of candle, paper, kerosene, coal, wood and cooking gas comes from the air around us.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

When we burn a candle, paper, kerosene, coal, wood or cooking gas (LPG), oxygen is needed. The oxygen needed for the burning of candle, paper, kerosene, coal, wood and cooking gas comes from the air around us.

32. Which of the following is incorrect?

- 1) For burning a substance continuously so as to make fire, a continuous supply of fresh air is needed
- 2) If we cut off the supply of fresh air to a burning substance, then the burning substance will not get oxygen necessary for burning to continue and hence the substance will stop burning.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) **None**

Explanation

For burning a substance continuously so as to make fire, a continuous supply of fresh air is needed. If we cut off the supply of fresh air to a burning substance, then the burning substance will not get oxygen necessary for burning to continue and hence the substance will stop burning.

33. If the process does not emit flame then it is called_____

- a) Burning
- b) **Combustion**
- c) Both a and b
- d) None

Explanation

The process of burning of a substance in the presence of oxygen and releasing a large amount of light and heat is called burning. If the process does not emit flame then it is called combustion.

34. The process of burning of a substance in the presence of oxygen and releasing a large amount of light and heat is called_____

- a) Combustion
- b) **Burning**
- c) Both a and b
- d) None

Explanation

The process of burning of a substance in the presence of oxygen and releasing a large amount of light and heat is called burning. If the process does not emit flame then it is called combustion.

35. In rockets along with the fuel___ is also carried for combustion.

- a) Nitrogen
- b) **Oxygen**

- c) Hydrogen
- d) None

Explanation

In rockets, as they go high in the atmosphere, the availability of oxygen is considerably reduced. Therefore, in rockets along with the fuel, oxygen is also carried for combustion.

36. Which of the following is correct?

- 1) Plants require energy for their growth and hence respiration also occurs in plants.
 - 2) During respiration, plants take in oxygen and release carbon-di-oxide, just as animals do.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Plants require energy for their growth and hence respiration also occurs in plants. During respiration, plants take in oxygen and release carbon-di-oxide, just as animals do.

37. Gaseous exchange with air in atmosphere takes place in plants with the help of tiny holes called_____

- a) Root
- b) Stem
- c) **Stomata**
- d) All the above

Explanation

Gaseous exchange with air in atmosphere takes place in plants with the help of tiny holes called stomata present on their leaves.

38. Plants manufacture food by a process called_____

- a) Respiration
- b) Anaerobic
- c) Aerobic
- d) **Photosynthesis**

Explanation

Plants manufacture food by a process called photosynthesis. During photosynthesis, Carbon-di-oxide from the air and water from the soil react in the presence of sunlight to produce food.

39. Most plants possess a_____ pigment called chlorophyll

- a) Blue
- b) Green**
- c) Red
- d) Yellow

Explanation

Most plants possess a green pigment called chlorophyll and it is also used-up in the process of photosynthesis.

40. Which of the following statement is incorrect?

- 1) Plants release oxygen during photosynthesis which is much more than the oxygen consumed by the plants, during respiration.
 - 2) Most plants possess a green pigment called chlorophyll and it is also used-up in the process of photosynthesis.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None**

Explanation

Most plants possess a green pigment called chlorophyll and it is also used-up in the process of photosynthesis. Plants release oxygen during photosynthesis which is much more than the oxygen consumed by the plants, during respiration.

41. Energy is required to carry out many processes in the body such as

- 1) Growth
 - 2) Movement
 - 3) Repair
- a) 1, 2
 - b) 2, 3
 - c) 1, 2, 3**
 - d) 1, 3

Explanation

When we breathe in air, the oxygen present in the air reacts chemically with digested food within the body to produce carbon-di-oxide gas, water vapour and energy. This energy is required to carry out many processes in the body such as movement, growth and repair.

42. Which of the following statement is correct?

- 1) Process by which oxygen reacts with digested food to form carbon-di-oxide, water vapour and energy is called respiration.
- 2) Carbon-di-oxide formed during respiration dissolves in the blood and is exhaled out of the body through the heart
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

When we breathe in air, the oxygen present in the air reacts chemically with digested food within the body to produce carbon-di-oxide gas, water vapour and energy. This energy is required to carry out many processes in the body such as movement, growth and repair. This process by which oxygen reacts with digested food to form carbon-di-oxide, water vapour and energy is called respiration. Carbon-di-oxide formed during respiration dissolves in the blood and is exhaled out of the body through the lungs.

43. Food + Oxygen →

- 1) CO_2
- 2) Water
- 3) Energy
- 4) N_2
 - a) 1, 2, 4
 - b) 1, 3, 4
 - c) 1, 2, 3
 - d) 2, 3, 4

Explanation

Food + Oxygen → Carbon-di-oxide + water + Energy

The food we intake combine with the oxygen and gets burned and produce energy and with CO_2 and H_2O as wastes.

44. Inhaled air contains more___ while the exhaled air contains more_____

- a) O_2 , CO_2
- b) CO_2 , CO_2
- c) O_2 , O_2
- d) CO_2 , O_2

Explanation

Inhaled air contains more oxygen while the exhaled air contains more carbon-di-oxide. Since, the process of requires oxygen and expels carbon dioxide.

45. Which of the following statemen is correct?

- 1) The water of ponds, lakes, rivers and seas have some amount of dissolved air containing oxygen in it.
 - 2) The plants and animals that live in water use the oxygen dissolved in water for breathing
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The water of ponds, lakes, rivers and seas have some amount of dissolved air containing oxygen in it. The plants and animals that live in water use the oxygen dissolved in water for breathing. For example, frogs respire through their skin, fish respire using their gills.

46. When carbon-di-oxide is cooled to___ degree C, it directly becomes a solid, without changing to its liquid state?

- a) 57
- b) -57
- c) 0
- d) -37

Explanation

When carbon-di-oxide is cooled to -57 degree C, it directly becomes a solid, without changing to its liquid state. It is called dry ice and is a good refrigerating agent.

47. Which of the following is called as dry ice?

- a) Cooled O₂
- b) Cooled Co₂
- c) Cooled N₂
- d) Cooled Argon

Explanation

Cooled Co₂ is called as dry ice and is a good refrigerating agent. Dry ice is used in trucks or freight cars for refrigerating perishable items such as meat and fish while transporting them

48. Which of the following statement is incorrect?

- 1) Compressed air is used to fill tyres of various kinds of vehicles
- 2) Air plays an important role in maintaining the water cycle in the nature.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Compressed air is used to fill tyres of various kinds of vehicles. Air plays an important role in maintaining the water cycle in the nature.