Q1: Name the chemicals which are used in refrigerators and air conditioners and damage ozone layer when released in air.

Answer:

Ozone depletion in the upper atmosphere is caused by CFCs. CFCs are organic compounds that contain only carbon, chlorine, and fluorine and are formed as a volatile derivative of methane, ethane, and propane. Many CFCs have been used as refrigerants, propellants (for aerosols), and solvents.

Q2: Name any two sources which cause air pollution due to suspended particulate matter.

Answer:

Suspended particulate matter (SPM) is a term used to describe fine solid or liquid particles that are scattered through the air as a result of activities such as combustion, industrial processes, or natural sources (like volcanic eruptions.)

The following are two sources of air pollution that may be caused by SPM:

a) Automobiles: Automobiles run on gasoline and diesel, which creates SPM that is suspended in the air.

b) Industrial activities: Mining, construction, and demolition of buildings all release SPM into the air. These activities produce a large amount of dust particles in the air, which are picked up by the wind and float around in the air.

Q3: Name two gases which are mainly responsible for acid rain.

Answer:

Sulphur dioxide (SO_2) and nitrogen dioxide (NO_2) are gases that combine with water, oxygen, and other gases to generate acids such as sulphuric and nitric acid, which eventually lead to acid rain.

Q4: The quality of air at various locations is monitored regulary by government and other agencies. In what way can you use these data?

Answer:

Government and other agencies monitor air quality at various areas on a regular basis. These statistics can be used to raise public awareness about air pollution. People can be made aware of which amounts are acceptable and which are not. These statistics can also be used to educate people about the Air Quality Index and what the numbers mean. As the AQI rises, so do the risks to public health.

Q5: Combustion of fossil fuels generates a lot of air pollution. Can you suggest any two alternative sources of energy which do not cause any pollution?

Answer:

The combustion of fossil fuels produces a significant amount of pollutants in the air. These fuels emit hazardous fumes when they are burned. To minimize this effect, we can generate energy from alternative sources such as:

1) Solar energy

2) Wind energy

3) Hydroelectric energy.

Q6: Name any two water pollutants which are toxic for plants and animals.

Answer:

Arsenic and lead, for example, are poisonous to both plants and animals. Arsenic accumulates in the bodies of plants and animals, causing deformities. Lead, on the other hand, produces morphological malfunction.

Short Answer Type Questions

Q1: A lot of dry leaves are collected in a school garden and are burnt every day. Do you think that it is right to do so? If not, what should be done to dispose off the dry leaves?

Answer:

Burning dry leaves pollutes the air because hazardous pollutants such as carbon monoxide are emitted. Instead of burning them, they should be composted because it does not pollute the environment and acts as manure for plants and trees.

- The smoke produced by leaf burning can irritate your eyes, nose, and throat, and the carbon monoxide produced by burning leaves and embers can lower the amount of oxygen in your blood and lungs if you are exposed to it long enough.
- Coughing, wheezing, and other respiratory problems can result, and they can last for a long time.

Q2: The level of air pollution is higher at a busy traffic intersection. Why?

Answer:

Throughout the day, many vehicles such as cars, buses, scooters, and other automobiles stop at major traffic intersections. Each vehicle emits a significant amount of hazardous and polluting gases. The polluted air is caused by suspended particulate matter suspended in the air around that place.

Q3: Fill in the blanks with the help of words given in bracket after each sentence.

(a) When air is contaminated by _____ substances which have a _____ effect on both the _____ and _____ is referred to as _____ . (air pollution, harmful, living, unwanted, non-living, pollutants).

(b) Many _____ are responsible for causing _____ pollution. Petroleum _____ are a major source of _____ pollutants like _____ and _____. (sulphur dioxide, refineries, industries, nitrogen dioxide, gaseous, liquid, people, air).

(c) While _____ your teeth, leaving the _____ running may waste several _____ of water. (tap, litres, brushing, washing, drops).

(d) Water which is suitable for _____ is called _____ water. (washing, bathing, drinking, potable, soft).

(e) Water which looks clean still has disease carrying _____ and _____ impurities. (insects, microorganism, particles, dissolved, harmful).

Answer:

(a) When air is contaminated by **unwanted** substances which have a **harmful** effect on both the **living** and **non-living**, it is referred to as **air pollution**.

(b) Many **Industries** are responsible for causing **air** pollution. Petroleum **refineries** are a major source of **gaseous** pollutants like **sulphur dioxide** and **nitrogen dioxide**.

(c) While **brushing** your teeth, leaving the **tap** running may waste several **litres** of water.

(d) Water that is suitable for **drinking** is called **potable** water.

(e) Water which looks clean still has disease-carrying **microorganisms** and **dissolved** impurities.

Q4: Match the items of column A with those of column B.

Column A	Column B
(a) sulphur dioxide	**(i) damage ozone layer**
(b) carbon dioxide	**(ii) reduces the oxygen-carrying capacity of blood**
(c) carbon monoxide	**(iii) acid rain**
(d) chlorofluorocarbons	**(iv) greenhouse gas**

Answer:

(a) sulphur dioxide – (iii) acid rain

(b) carbon dioxide – (iv) greenhouse gas

(c) carbon monoxide – (ii) reduces the oxygen-carrying capacity of blood

(d) chlorofluorocarbons – (i) damage ozone layer

Q5: Find out the wrong statements and write them in their correct form.

(a) We can survive for some time without air but we cannot survive even for a few minutes without food.

(b) A brick kiln emits a lot of smoke and other harmful gases causing air pollution.

(c) Carbon monoxide is produced by complete burning of fuels such as coal, petrol, diesel.

(d) Chlorination is a commonly used chemical method for killing germs in water.

(e) Water which is suitable for drinking is called soft water

Answer:

a) False.

We can survive for some time without food but we cannot survive even for a few minutes without air is the write statement.

b) True.

c) False.

Carbon monoxide is produced by incomplete burning of fuels such as coal, petrol, diesel is the right statement.

d) True.

e) False.

Water which is suitable for drinking is called potable water is the right statement.

Q6: In the following statements, the underlined words are jumbled up. Write them in their correct form.

(a) Air contains 78% ginroten and 21% gonexy.

(b) Vehicles produce high level of pollutants like carbon dioxide, nitrogen oxides, nobrac moondexi and mosek.

(c) Carbon dioxide, thaneme, nitrous oxide and water vapour are known as heengrouse sesga.

(d) Gangotri glacier in Himalaya has started melting because of lablog ringwam.

(e) Whenever harmful substances such as wagese, toxic chemicals, silt, etc. get mixed with water, the water becomes potdulle.

Answer:

(a) Air contains 78% **Nitrogen** and 21% **Oxygen**.

(b) Vehicles produce high level of pollutants like carbon dioxide, nitrogen oxides, **Carbon-monoxide** and **smoke**.

(c) Carbon dioxide, **methane**, nitrous oxide and water vapour are known as **greenhouse gases**.

(d) Gangotri glacier in Himalaya has started melting because of **global warming**.

(e) Whenever harmful substances such as **sewage**, toxic chemicals, silt, etc. get mixed with water, the water becomes **polluted**.

Long Answer Type Questions

Q1: What do CFCs stand for? Name some devices where CFCs are used. Why CFCs are considered as pollutants?

Answer:

CFCs stands for Chlorofluorocarbons

The gases used in electric equipment such as air conditioners and refrigerators are chlorofluorocarbons. CFCs are made up of the components “Chlorine, Fluorine, and Carbon.” CFCs are considered pollutants since they contribute to the ozone layer’s depletion.

Q2: Why is it advised that industries should switch over to cleaner fuels such as CNG and LPG in the Taj Mahal Zone in Agra?

Answer:

Less clean fuels like petrol and diesel are polluting the air to the point that acid is forming, endangering the Taj Mahal’s attractiveness by turning the Taj’s white marble yellow due to acids like sulphuric and nitric falling on it.

Q3: It is said, “CO_2 contributes to global warming.” Explain.

Answer:

CO_2 is a pollutant gas that contributes to air pollution and climate change. CO_2 is a gas that is used by plants and trees for photosynthesis, resulting in a reduction in carbon dioxide in the atmosphere in exchange for oxygen. However, as time passes, industrialization accelerates and trees are chopped at an alarming rate, resulting in an increase in carbon dioxide levels, which eventually leads to an increase in the trapping of heat on Earth alone, causing the planet’s temperature to rise at an alarming rate.

Q4: We should plant trees and nurture the ones already present in the neighbourhood. Why?

Answer:

Afforestation, or the planting of more trees, is urgently needed. Pollution and global warming are both increasing over time. We need more and more trees to decrease global warming because plants use carbon dioxide to generate food for photosynthesis and release oxygen. As a result, as the number of trees grows, the impact of dangerous gases such as CO_2 on the ecosystem would diminish.

Plants help to keep soil from eroding. Plants help to keep groundwater clean. The more trees we plant, the more rain we will receive, and hence the more water we will be able to extract.

Q5: Explain the traditional way of purifying water to make it fit for drinking.

Answer:

There were no aqua guards or purifiers because there was not much machinery back then. However, the water was cleansed in a more convenient and reliable manner, using traditional processes. They are the following:

Filtration: This approach employs the use of a filter or filter rods. A typical domestic filter is the candle type filter.

Boiling: By raising the temperature of the water, all germs and pollutants in the water are killed.

Chlorination is the process of adding chlorine to water in the form of tablets or bleaching powder.

Q6: How can we reduce, reuse and recycle water?

Answer:

Water consumption can be reduced by doing the following:

- Close the tap while brushing your teeth and only open it when absolutely essential. Change the tap or save the water from the leaky tap.
- When bathing, washing clothing, or doing dishes, don't waste water unnecessarily.

Water can be reused in the following ways:

- Wash floors with the water filtered out by ROs.
- Water your plants with the same water you use to wash your fruits and veggies.

Water can be recycled in the following ways:

- Dirty water should be purified using filtration and other technologies.

Q7: Read the paragraph and answer the questions following it.

Water is essential for life. Without water, there would be no life. We usually take water as granted for its purity, but we must ensure the quality of water. Pollution of water originates from human activities. Through different paths, pollution reaches to groundwater. Easily identified source or place of pollution is called a point source, e.g.– municipal and industrial discharge pipes, where pollutants enter the water source. Non–point sources of pollution are those where a source of pollution can not be easily identified, e.g.– agricultural runoff, acid rain etc.

(i) How do you classify the various sources of water pollution?

(ii) What are the point sources of water pollution?

(iii) Name any two non-point sources of water pollution.

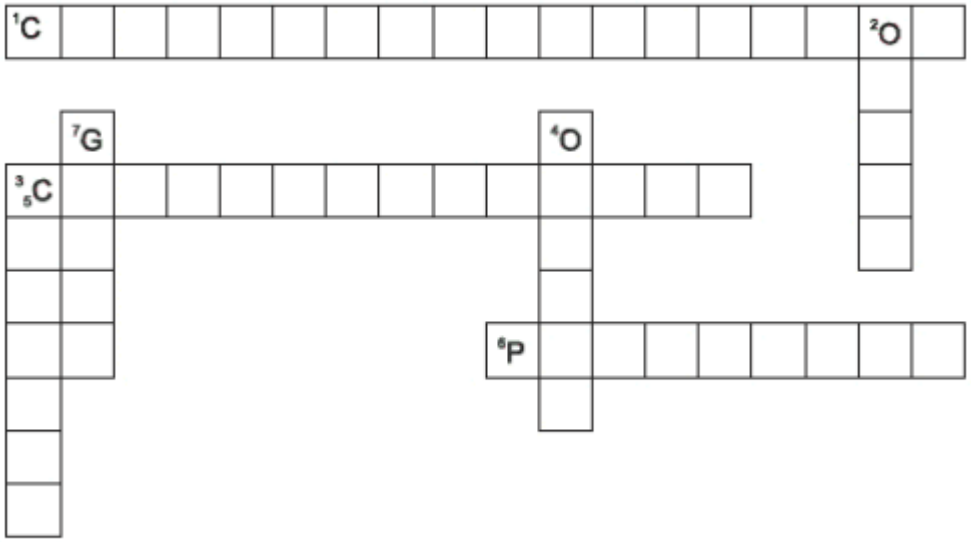
Answer:

(i) There are two types of water contamination sources: point sources and non-point sources.

(ii) Point sources of water pollution are easily recognisable sources or locations of contamination, such as factories, power plants, and so on.

(iii) Non-point sources of water pollution include agricultural run-off and acid rain.

Q8: Complete the crossword puzzle with the help of clues given below:



Across

1. Pollutant which was used in refrigerators and air conditioners. (18)

3. Produced on incomplete combustion of fuels. (14)

6. This chemical protects our crops and is washed into water bodies from the field. (9)

Down

2. This layer protects us from harmful ultraviolet rays. (5)

4. It is essential for combustion. (6)

5. Disease which is caused by drinking contaminated water. (7)

7. River which is famous in India and sustains most of the northern, central and eastern Indian population. (5)

Answer:

Across

1. CHLOROFLUOROCARBON

3. CARBONMONOXIDE

6. PESTICIDE

Down

2. OZONE

4. OXYGEN

5. CHOLERA

7. GANGA

CBSE Class 8 Science Chapter 18 MCQ Type Questions

1. Which of the following is used to purify the water containing high salt concentration?

(a) boiling

(b) UV radiation

(c) filtration

(d) reverse osmosis

Answer: (d) reverse osmosis

2. _____ results in Pollution of water.

(a) oil refineries

(b) paper factories

(c) sugar mills

(d) all of these

Answer: (d) all of these

3. _____ is not a greenhouse gas.

(a) Nitrogen

(b) Methane

(c) Water vapour

(d) Carbon dioxide

Answer: (a) Nitrogen