



INDIAN SCHOOL AL WADI AL KABIR

Class: VIII	Department: SCIENCE - 2020 - 2021	Date of completion : 02.07.2020
Worksheet No:6 With answers	Topic: Pollution of air and water	Note:A4 File format
Name of the student:	Class & Section:	Roll no.

I. OBJECTIVE TYPE QUESTIONS:

- The phenomenon of marble cancer is due to
i) soil particles ii) fog iii) CFCs iv) **acid rain**
- Which of the following is not a greenhouse gas?
i) **Nitrogen** ii) Methane iii) Carbon dioxide iv) Water vapour
- Which of the following is not a feature of potable water?
i) It should be colorless and odourless.
ii) It should be free from any suspended impurities, germs and pathogens
iii) It should contain dissolved gases
iv) **It should have excessive amount of sodium, calcium and magnesium.**
- Which of these is not a cause of water pollution?
i) domestic sewage ii) Industrial waste iii) Agricultural runoff iv) **Fishing**
- Name the colourless poisonous gas produced due to incomplete combustion of fuels.
i) **Carbon monoxide** ii) Carbon dioxide iii) Oxide iv) Oxygen
- Which of the following chemicals causes depletion of ozone layer?
i) Acid rain ii) **CFCs** iii) CNG iv) LPG
- A condition where water bodies are enriched with nutrients.
i) oxygenation ii) de-oxygenation iii) **eutrophication** iv) all of these

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 the 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

- Assertion(A): Two natural sources of air pollution are forest fires and volcanic eruptions.
Reason(R): The harmful and unwanted substances which contaminate the air are called air pollutants. **(ii)**
- Assertion(A): The average temperature of the earth's atmosphere is gradually increasing.
Reason(R): Carbon dioxide is continuously released because of human activities and this carbon dioxide traps sun's heat and does not allow it to escape into space. **(i)**
- Assertion(A): Water pollution does not damage the health of humans and animals.
Reason(R): Microbial pollutants from sewage often result in water borne disease like typhoid, cholera and jaundice. **(iv)**

II. BASIC CONCEPT LEVEL QUESTIONS:

1. Define pollution. (The contamination of natural resources, like air and water by the addition of harmful substances is called pollution.)
2. What do you understand by the terms air pollution and water pollution?
(Air pollution-The contamination of air by impurities which may have a harmful impact on the living organisms and the non-living components.
Water pollution-It is the contamination of waterbodies by discharge of undesirable substances that are toxic and poisonous.)
3. Mention two major sources of air pollution.(Automobiles and Industries)
4. Give the full form of CFC and SPM. (Hint: chlorofluorocarbon, suspended particulate matter)
5. Any two gaseous pollutants- Carbon dioxide,Sulphur dioxide
6. The best method to kill germs in water domestically- Boiling
7. Any two diseases caused by polluted water- Typhoid, Cholera

III.INTERMEDIATE LEVEL QUESTIONS:

1. How does incomplete combustion of fuels affect the health of human beings? (Carbon monoxide is produced by incomplete combustion of fuels.It combines with haemoglobin of blood to form carboxyhaemoglobin and reduces oxygen carrying capacity.)
2. What is SMOG? Mention the effects of smog on human health.(Smog is formed when smoke combines with fog. Smog reduces visibility and causes a haze similar to fog, but very different in composition. It decreases the capacity of the lungs, causes shortness of breath, pain when inhaling deeply, wheezing and coughing .It can cause eye and nose irritation.)
3. List any four measures to control air pollution.(Switching to cleaner fuels like CNG (Compressed Natural Gas) and LPG (Liquefied Petroleum Gas) can lead to decreased air pollution,Enforcing smoke emission test and certification to all motor vehicles,Growing more trees to absorb carbon dioxide. Using alternate sources of energy like solar energy, wind energy etc.)
4. What depletes the Ozone layer in the atmosphere? What are the harmful effects of the depletion of ozone layer on us?(CFCs released from refrigerators, air conditioners, and aerosol sprays deteriorates the ozone layer. Exposure to UV radiation causes skin cancer, eye damage etc.)

IV. ADVANCED LEVEL:

1. Explain the circumstances leading to acid rain. How does acid rain affect us? (Acid rain occurs when sulphur dioxide and nitrogen dioxide produced from burning fossil fuels combine with water vapour in the atmosphere to form sulphuric acid and nitric acid .These acids drop down with rain forming the acid rain. It causes damage to water, forest,soil resources and human health.)

2. Explain Green House Effect.(The phenomenon whereby the earth's atmosphere traps solar radiations because of the presence of gases like carbon dioxide, water vapor, methane and CFCs is called greenhouse effect.)
3. Describe Global warming in your own words.(The rise in the temperature on the surface of the earth is called global warming. It might be due to phenomena like green house effect. Carbon dioxide and methane are the gases mainly responsible for global warming.)
4. How does the use of excessive fertilisers and pesticides affect water bodies? (Excessive use of fertilisers and pesticides can pollute the nearby water bodies.Rivers polluted by fertilisers allow the growth of algae that use dissolved oxygen in the water for their sustenance. This leads to oxygen deficiency in water, which can cause the death of other aquatic animals. This enrichment of nutrients and depletion of oxygen is called eutrophication.)
5. Mention the factors that decides the quality of potable water.
 - It should be colorless and odourless.
 - It should be free from any suspended impurities, germs and pathogens.
 - Should contain essential amounts of dissolved mineral salts of sodium, calcium and magnesium essential for physiological processes.
 - Should contain dissolved gases.
6. How can you prevent water pollution?
(Do not throw litter into rivers, lakes or oceans,Excessive use of chemical fertilisers and pesticides should be avoided and wherever possible should be replaced by biofertilisers and biopesticides,Many sewage treatment plants should be built to prevent sewage mixing with water.)

V. EXEMPLAR QUESTIONS:

1. We should plant trees and nurture the ones already present in the neighbourhood. Why?
(We should plant more trees and also nurture the existing trees in our neighbourhood because trees reduce air pollution by absorbing excess carbon dioxide from the air. Thus, planting more trees will mitigate global warming.All of us should participate in programmes such as Van Mahotsav in which lakhs of trees are planted in the month of July every year.)
2. Why is it advised that industries should switch over to cleaner fuels such as CNG and LPG in the Taj Mahal zone in Agra?
(Pollutants in air are discolouring white marble of Taj Mahal. The Mathura Oil Refinery near Agra as well as various industries in and around Agra are emitting gaseous pollutants such as sulphur dioxide and nitrogen dioxide into the air which cause acid rain.Acid rain react with the carbonates present in marble (calcium carbonate) and limestone of a monument and corrode it slowly (dissolve it slowly))
3. Why do traffic policemen wear masks with charcoal lining?

(Hint:Traffic policemen are continuously exposed to smoke coming out from the vehicles.The smoke and the suspended particles in it if inhaled can cause breathing and lung problems.So **traffic policemen wear masks with charcoal lining** as **charcoal** is activated carbon which absorbs the pollutants in the smoke.)

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