

**CBSE Class–VIII Science**  
**NCERT SOLUTION**  
**Chapter-18**  
**Pollution of air and water**

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**1. What are the different ways in which water gets contaminated?**

**Ans.** Water gets contaminated by the addition of:

- **Agricultural chemicals:** Farmers use excessive amounts of pesticides and fertilizers to increase crop production. These chemicals get carried away to the water bodies due to rains and floods which lead to water pollution.
  - **Industrial wastes:** Industries release harmful chemical wastes into water sources, thereby polluting them.
  - **Sewage wastes:** Waste materials from kitchens, toilets, and laundry sources are also responsible for contaminating water.
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**2. At an individual level, how can you help reduce air pollution?**

**Ans.** At an individual level we can help in reducing air pollution by following methods:

- We can plant trees and nurture the ones already present in the neighborhood.
  - We can take part in Van Mahotsava actively and effectively every year and motivate people about the importance of plantation.
  - We can educate the people against burning the dried leaves and plant and advise them to put them in compost pit.
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**3. Clear, transparent water is always fit for drinking. Comment.**

**Ans.** Clear and transparent water is not always fit for drinking. Water might appear clean, but it may contain some disease causing microorganisms and other dissolved impurities. Hence, it is advised to purify water before drinking. Purification can be done by water purifying systems or by boiling the water.

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**4. You are a member of the municipal body of your town.**

**Make a list of measures that would help your town to ensure the supply of clean water to all its residents.**

**Ans.** To ensure the supply of clean water to all residents the following steps must be taken:

- Leakages in pipelines of water should be repaired.
- The main water source must be built in clean surroundings and should be maintained properly.
- Open defecation in water resources by slum dwellers should be strictly prohibited.
- Chemical methods such as chlorination must be used for purifying water.

**5. Explain the differences between pure air and polluted air.**

**Ans.**

Pure Air	Polluted Air
i. Pure air contains around 78% nitrogen, 21% oxygen, and 0.03% carbon dioxide also small amounts of argon, methane, ozone, and water vapours.	i. Polluted air includes gases like sulfur dioxide, nitrogen dioxide, carbon dioxide, etc. and other particulate matter.
ii. In pure air smog is not present.	ii. In polluted air smog can be present.
iii. Pure air is not harmful for human being.	iii. Polluted air is harmful for human beings as cause diseases like asthma.

**6. Explain circumstances leading to acid rain. How does acid rain affect us?**

**Ans.** When harmful gases like sulphur dioxide and nitrogen dioxide, react with moisture present in air, they form nitric acid and sulphuric acid. These acids when drop down on earth along with rain, is called acid rain.

**Effects of acid rain:**

- Acid rains damage crops, decrease fertility of soil and affect aquatic life.
  - Acid rains corrode buildings and structures.
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**7. Which of the following is not a green gas?**

- (a) Carbon dioxide**
- (b) Sulphur dioxide**
- (c) Methane**
- (d) Nitrogen**

**Ans.** (d) Nitrogen.

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**8. Describe the 'Greenhouse Effect' in your own words.**

**Ans.** The greenhouse effect is the rise in the temperature of the Earth's surface due to increased concentration of greenhouse gases like carbon dioxide, methane, and water vapour in the atmosphere. These gases trap solar radiation released back by the Earth. This helps in keeping our planet warm and thus, helps in human survival. However, an increase in the amount of greenhouse gases can lead to an increase in the Earth's temperature leading to global warming.

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**9. Prepare a brief speech on global warming. You have to deliver the speech in your class.**

**Ans.** Today, global warming has appeared as one of the most severe threat to the human beings. One hand, carbon dioxide is added in the atmosphere due to human activities. On the other hand, the forest area are decreasing day by day. It leads to an increase in the amount of carbon dioxide in atmosphere. The accumulation of this gas causing greenhouse effect and global warming. Global warming can create the melting of ice of icebergs, resulting in rise in the sea level causing the flooding of many coastal areas. So, we must be aware of this problem and take every possible step to tackle it.

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**10. Describe the threat to the beauty of the ‘Taj Mahal’.**

**Ans.** The Taj Mahal is made of white marble, which is getting affected adversely due to the industrial pollutants from Agra, Mathura etc. the sulphur dioxide gas along with nitrogen oxide gas released from these industries mix with rain water to form Sulphuric acid that fall on marble of this monument. The acid rain corrodes the marbles and makes it yellowish. This is a matter of great concern that world famous monument like Taj Mahal may get damaged due to the pollutants emitted by factories around it.

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**11. Why does the increased level of nutrients in the water affect the survival of aquatic organisms?**

**Ans.** Agriculture relies on the use of chemical fertilizers to improve the crop yield. All these chemicals dissolve in water and run into water bodies from the fields. These seep into the ground and pollute the ground water. Lot of algae in the ponds grow and keep the ponds green. This is caused due to excessive quantities of chemicals like nitrates and phosphorous present in fertilisers. Excessive growth of algae decrease the oxygen level of water bodies and kills the other aquatic animals living inside it.

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