

Chapter-18 Pollution Of Air And Water

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

Water gets contaminated by the addition of:

- i. 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.*
 - ii. Industrial wastes: Industries release harmful chemical wastes into water sources, thereby polluting them.*
 - iii. 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?*

An individual can reduce air pollution by:

- 1. Avoiding the use of cars as much as possible and by using public transport whenever possible.*
 - 2. By not using vehicles for short distances.*
 - 3. By using clean fuels such as LPG and CNG instead of diesel and petrol.*
 - 4. Always disposing the garbage properly and not burning it.*
 - 5. Controlling the emissions from vehicles and household chimneys.*
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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.

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

- vi. *Leakages in pipelines of water should be repaired.*
 - vii. *The main water source must be built in clean surroundings and should be maintained properly.*
 - viii. *Open defecation in water resources by slum dwellers should be strictly prohibited.*
 - ix. *Chemical methods such as chlorination must be used for purifying water.*
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Explain circumstances leading to acid rain. How does acid rain affect us?

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:

- x. *Acid rains damage crops, decrease fertility of soil and affect aquatic life.*
 - xi. *Acid rains corrode buildings and structures.*
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Describe the 'Greenhouse Effect' in your own words.

The greenhouse effect is the rise in the temprature 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 radiations 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.

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

Global warming is one of the greatest challenges that our planet is facing. It is the unequivocal and continuing rise in the average temperature of the Earth's climate system. It occurs as a result of an increased concentration of greenhouse gases in the atmosphere. These gases trap solar radiations 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.

Describe the threat to the beauty of the Taj Mahal.

Acid rain is a major threat to the beauty of the Taj Mahal. When acid rains fall on the monument made of marble, they react with marble to form a powder-like substance that is then washed away by the rain. This phenomenon is known as marble cancer. Also, the soot particles emitted from the Mathura oil refinery located near Agra is leading to the yellowing of the marble.

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

The increased in the level of nutrients in the water leads to an excessive increase in the population of algae in the water body. When these algae die, they serve as food for decomposers. A lot of oxygen is utilised in this process, consequently leading to a decrease in the level of oxygen dissolved in the water body. This in turn causes fishes and other aquatic organisms to die.