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Question 1. How is our atmosphere different from the atmosphere on Venus and Mars? (SA // - 2013)

Answer: Our atmosphere contains a mixture of many gases like nitrogen (78.08%), oxygen (20.95%), carbon dioxide (0.03%) and water vapour (in varying proportion). Whereas the atmosphere on Venus and Mars is mainly comprised of carbon dioxide. This carbon dioxide constitutes upto 95-97% of the atmosphere on Venus and Mars. It is supposed that, due to this reason no life is known to exist on these planets.

Question 2. How does the atmosphere act as a blanket ? (SA // - 2012, 13)

Answer: It is a known fact that, air is a bad conductor of heat and our atmosphere contains mainly the air. Due to this reason, the atmosphere keeps the average temperature of the Earth fairly steady during the day and even during the course of the whole year. The atmosphere prevents the sudden increase in temperature during the daylight hours and during the night, it slows down the escape of heat into outer space.

Question 3. What causes winds ? (SA // - 2012, 13)

Answer: Winds are caused due to unequal heating of atmospheric air. This phenomena can be easily seen near coastal regions during the daytime. The air above the land gets heated faster and starts rising. As this air rises, a region Of low pressure is created and air over the sea moves into this area Of low pressure. The movement of air from one region to the other Creates winds. During the day, the direction of the wind would be from the sea to the land.

Question 4. How are clouds formed ? (SA // - 2013)

Answer: The water evaporates due to heating up Of water bodies and other biological activities. The air also heats and rises. On rising, it expands and cools to form tiny droplets. These droplets grow bigger, expand and form clouds. The collection Of dust and other suspended particles facilitate the process.

Question 5. List any three human activities that you think would lead to air pollution. (SA // - 2013)

Answer: Human activities that would lead to air pollution

- (i) Excessive use and burning of fossil fuels like coal and petroleum produces different oxides of nitrogen and sulphur. These are not only dangerous to our respiratory system but also leads to acid rain.
- (ii) Incomplete combustion of various fuels forms unburnt carbon particles which lowers the visibility, especially in cold weather when water also condenses Out of air. This is known as smog and is a visible indication Of air pollution.
- (iii) Large usage Of automobiles and improperly tuning of engines leads to the formation of carbon monoxide gas and Other oxides of nitrogen which causes lot of respiratory problems.
- (iv) Forest fires, excessive mining and ore refining, excessive use of chlorofluorocarbons and excessive industrialisation leads to air pollution.

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Question 1. Why do organisms need water ? (SA // - 2012)

Answer: Organisms need water due to the following

- (i) All cellular processes take place in a water medium.
- (ii) All the reactions that take place within our body and within the cells occur between substances that are dissolved in water.
- (iii) Substances are also transported from one part of the body to the other in a dissolved form.
- (iv) Water makes up about 70% of body weight Of all living organisms.
- (v) It helps in the digestion of food and absorption of nutrients in the blood. Hence, organisms need to maintain the level of water within their bodies in order to stay alive. It helps in maintaining body temperature.

Question 2. What is the major source of freshwater in the city/town/village where you live ?

Answer: The major sources of freshwater in the city (town/ village is the underground water which is mostly taken out with the help of hand pumps or tube wells. The rivers flowing in the nearby areas, lakes and ponds also serve as the source of freshwater.

Question 3. DO you know any activity which may be polluting these water sources?

Answer: There are many activities which cause pollution Of water sources such as :

- (i) Dumping of waste from factories, sewage from our towns and cities into rivers or lakes.
- (ii) Discharging hot water from cooling towers into the water bodies affect the breeding capacity of aquatic organisms.

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