

## ENVIRONMENTAL ISSUES

- ◆ **Greenhouse Effect and Global Warming** – The earth's atmosphere allows a lot of sunlight to reach the earth's surface, but \_\_\_\_\_ much of that light back into space. Some gases trap more sunlight, so that less light reflects back into space. These gases are called \_\_\_\_\_ Gases, because the effect is like being in a plant glasshouse or in a car with the windows wound up. The result is a gradual increase in earth's temperature or Global \_\_\_\_\_. The major greenhouse gases are water, carbon \_\_\_\_\_, methane, nitrous oxide, ozone and chlorofluorocarbons (CFC's). Possibly, the main man-made causes are thought to be carbon dioxide and methane from factory, power station and car emissions, the waste products of respiration, logging, the mining of fossil fuels and the breakdown of plant matter in swamps. The long-term effects may include melting of \_\_\_\_\_ and a possible rise in sea level, and a global change in \_\_\_\_\_ and type of vegetation.
  
- ◆ **"Hole" in the Ozone Layer** – Ozone is a gas in the earth's upper atmosphere whose chemical formula is O<sub>3</sub>. Ozone acts to block out much of the sun's ultraviolet \_\_\_\_\_ which causes skin \_\_\_\_\_ and contributes to the fluctuations of global climatic conditions that affect the environment. Above Antarctica is a thinner layer of ozone caused by the destruction of ozone gas by emissions of chlorofluorocarbons and hydrochlorofluorocarbons that are propellents in pressure-pak \_\_\_\_\_ cans and refrigerants in refrigerators and air-conditioning units.
  
- ◆ **Acid Rain** – When gases such as sulphur dioxide and nitrogen oxides react with water in the \_\_\_\_\_ to form sulphuric acid and nitric \_\_\_\_\_, they form an acidic 'rain' which can destroy vegetation. Some of these gases are from natural sources such as lightning, decomposing plants and volcanoes. However, much of these gases are the result of emissions from \_\_\_\_\_, power stations, smelters and factories.
  
- ◆ **Air Pollution** – Air pollution is the release into the atmosphere of excessive amounts of harmful gases (e.g. methane, carbon dioxide, sulphur dioxide, nitrogen oxides) as well as particles (e.g. dust, tyre rubber, lead from car exhausts). To reduce emissions, the Australian government has legislated that all new cars use unleaded \_\_\_\_\_ and have catalytic converters fitted to the \_\_\_\_\_.
  
- ◆ **Water Pollution**
  1. Sewage is all household waste water. Many detergents contain phosphates which act as plant \_\_\_\_\_. When these phosphates and the sewerage reach rivers, they help water plants to grow in abundance, reducing the dissolved \_\_\_\_\_ in the river water. The result is death of aquatic animals due to \_\_\_\_\_ by the algal blooms. This harmful effect is called **eutrophication**.
  2. **Biodegradable detergents** are more environmentally friendly because they are readily broken down to \_\_\_\_\_ substances by decomposing bacteria.

3. Suspended solids in water such as silt reduce the amount of light that reaches the depths of the water in lakes and rivers. This reduces the ability of aquatic plants to \_\_\_\_\_ and the result is less plant and animal life. **Turbidity** is the measure of 'cloudiness' or the depth to which \_\_\_\_\_ can reach in water.
- ◆ **Introduced Species** are species of plants or \_\_\_\_\_ that have migrated or been brought to Australia. Many fit into the natural ecosystems and are kept in control by natural predators and parasites. However, some become pests as they are well-adapted to our environment, readily obtain nutrients, and lack natural \_\_\_\_\_ or parasites. Examples include rabbits, foxes, cane \_\_\_\_\_, carp, and prickly pear cactus plant.
  - ◆ **Biological Control** is an environmentally-friendly method to control these pests by the introduction of species-specific, living organisms to \_\_\_\_\_ their numbers. Successful examples include the myxoma virus and the calici virus to control \_\_\_\_\_, and the cactoblastis moth feeding on the prickly pear. Unsuccessful examples include the introduction of the cane toad to reduce the numbers of natural cane \_\_\_\_\_.
  - ◆ **Biological Magnification** is the accumulation in body tissues of certain chemicals such as DDT pesticide and \_\_\_\_\_. The higher along the food chain, the greater is the accumulation, sometimes to toxic levels, causing birth defects and \_\_\_\_\_.
  - ◆ **Soil Salinity** has increased greatly since the widespread \_\_\_\_\_ of trees by farmers. Deep tree roots normally draw water from the underground water table. However, when logging of trees occurs, the water table rises close to the surface bringing with it salt from rocks. This creates soil that is so \_\_\_\_\_ that vegetation cannot grow effectively. The result is loss of vegetation and erosion.
  - ◆ **Population Explosion** is the rapid increase in population in developing countries causing \_\_\_\_\_ and also in developed countries causing more demand for energy and with that, increased pollution and destruction of the environment. At present there are over 6 \_\_\_\_\_ people on earth.