

**Lesson Outline****LESSON 4*****Air Quality*****A. Sources of Air Pollution**

1. \_\_\_\_\_ is the contamination of air by harmful substances including smoke and other gases.
  - a. Air pollution harms animals and humans by weakening the \_\_\_\_\_ and causing disease.
  - b. Air pollution \_\_\_\_\_ plants, including crops, and can reduce food production.
2. \_\_\_\_\_ is pollution that comes from an identifiable source. A natural source of this pollution is a(n) \_\_\_\_\_.
3. \_\_\_\_\_ is pollution that comes from a widespread area. A natural source of this pollution is \_\_\_\_\_.

**B. Causes and Effects of Air Pollution**

1. \_\_\_\_\_ forms when sulfur dioxide and nitrogen oxides combine with moisture in the atmosphere and create precipitation that has a pH lower than that of normal rain water.
  - a. Acid precipitation falling in lakes and rivers can harm \_\_\_\_\_ living in the water.
  - b. Acid precipitation can \_\_\_\_\_ buildings that are made of stone.
  - c. One of the most common sources of pollutants that cause acid rain is \_\_\_\_\_.
2. \_\_\_\_\_ is air pollution that forms from the interaction between chemicals in the air and sunlight.
  - a. Smog forms when \_\_\_\_\_ from gasoline mixes with sunlight.
  - b. \_\_\_\_\_ is the main gas in smog; at ground level, this gas can harm the tissues of plants and animals.

**C. Particulate Pollution**

1. \_\_\_\_\_ is a mixture of dust, acids, and other chemicals that can be harmful to human health.
2. The \_\_\_\_\_ particles are usually the most harmful because they can be inhaled and can cause asthma and bronchitis and lead to heart attacks.

## Lesson Outline continued

### D. Movement of Air Pollution

1. \_\_\_\_\_ can carry air pollution from one place to another.
2. A(n) \_\_\_\_\_ can trap pollution in a valley for a number of days.

### E. Maintaining Healthful Air Quality

1. The \_\_\_\_\_ of 1970 allows the U.S. government to set limits on levels of harmful pollutants, including carbon monoxide, lead, nitrogen oxides, ozone, particulate matter, and sulfur dioxide.
2. Officials \_\_\_\_\_ air pollution levels in all major U.S. cities.  
When pollution levels become high, they issue \_\_\_\_\_ and recommend that people limit certain activities, such as exercising outside and driving.

### F. Air Quality Trends

1. Because of the Clean Air Act, levels of most air pollutants have \_\_\_\_\_ greatly in the past four decades.
2. The level of ground-level ozone has increased mainly because of the increased number of \_\_\_\_\_.
3. \_\_\_\_\_ air pollution can be 50 times stronger than \_\_\_\_\_ air pollution.
  - a. Sources of \_\_\_\_\_ include tobacco smoke, cleaning products, and some carpets and upholstery.
  - b. The gas \_\_\_\_\_, which escapes from some soil, enters buildings through cracks in foundations.