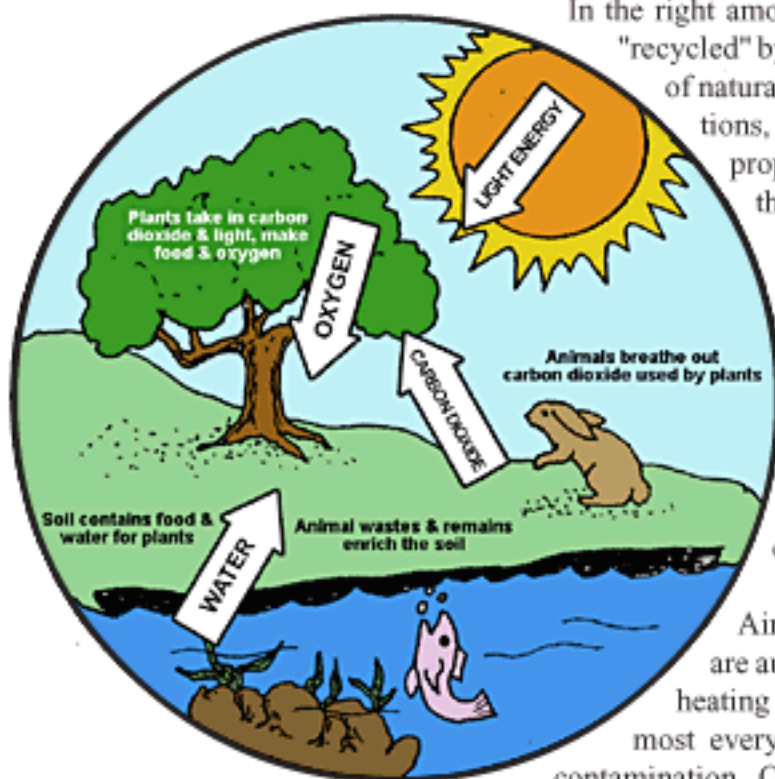


Pollution



In the right amounts and under the right conditions waste is "recycled" by the Earth. When the quantity or composition of natural and synthetic materials exceeds these limitations, air, water and soil pollution are created. Improper waste management contributes directly to this creation.

We will examine some typical examples of how pollution is made and the effects this has on the environment. It is important to remember that one type of pollution (air, water, soil) can generate one or more of the other types. A person should also realize a particular pollutant can contribute to several different examples of pollution.

Air pollution is world famous. The main sources are automobiles, power plants, industry, residential heating and the improper incineration of waste. Almost everyone has heard of at least one form of this contamination. One of the household names, in this area, is the Greenhouse Effect.

The sun is the Earth's most important source of energy. Much of the energy arrives as visible light (short-wave radiation). The light is absorbed by the planet, which in turn emits infra-red (long-wave) radiation back out towards space. Carbon dioxide (CO_2) naturally present in the atmosphere absorbs the long-wave radiation, or reflects it back towards the Earth's surface. This process is beneficial in helping to heat our planet. Because the CO_2 works like the glass of a greenhouse, this phenomenon is called the Greenhouse Effect.

However, the amount of fossil fuels and wood we have burned has increased the carbon dioxide to dangerous levels. Along with methane, chlorofluorocarbons, tropospheric ozone and nitrous oxide, CO_2 is keeping too much longwave radiation in the atmosphere. The result is Global Warming, which can cause melting of polar icecaps and thereby the flooding of coastal areas, changes in climatic regions and patterns plus the loss of valuable agricultural land. It is estimated that the global temperature could rise 3°C . In a period spanning half a human generation, the globe would experience an overall warming greater than has occurred throughout the history of humanity.

The depletion of the ozone layer is another problem associated with polluted air. In this case we are referring to the beneficial ozone located in the stratosphere, not harmful tropospheric ozone. Approximately 99% of ultraviolet rays are screened out by stratospheric ozone.