



What is Air Pollution?



Things We Need



Although the world is filled with many things that we all use, there are only three things human beings truly need to survive. They are: air, water and food. While the human body can survive weeks without food, it can only survive days without water and just minutes without air.

Our Friend Oxygen



Air is an invisible gas that is made of different things. It mostly contains nitrogen (78%) and oxygen (21%). **Oxygen** makes our brains and bodies work. Scientists say that the more oxygen our bodies contain, the healthier we are. Breathing in plenty of fresh, clean, air full of oxygen is one of the most important things we can do for our health.

Clean Air and Nature



Fresh air is also necessary for the health of *all* living things. Every animal that lives on land needs oxygen just like people do. Think of how much air a cheetah needs when it's running across the savannah! Animals that live under water like whales and dolphins also need air. They come to the surface of the water and inhale oxygen before going back under water to swim.

When Air gets Dirty



Although clean air is so important to our health and the health of all living things, there are many things that make our air dirty. These things are

called **air pollution**. In some areas that have a lot of air pollution, people develop illnesses like **asthma** (pronounced AZ-muh), which makes it very difficult for them to breathe.

Air Pollution from Nature



Air pollution can come from many different places. In nature, air pollution is created when volcanoes erupt, forest fires burn, and when plant pollen and dust are blown by the wind. Although the pollution that nature creates can be a problem in some areas during certain times of the year, most harmful air pollution comes from human activities that create pollution every day all over the world.

Particulate Matter



Air pollution comes in many forms. One form of air pollution is called particulate matter. **Particulate matter** is very small little pieces, or particles, of stuff that goes up into the air and are carried off and spread by the wind. Dust and ash are some examples of particulate matter. So is soot. **Soot** is the black dust that is created when we burn wood or **fossil fuels** like coal, diesel, and oil. When you see black smoke coming from a big truck or bus, that smoke contains a lot of soot from the diesel fuel that vehicle is burning in its engine. You can also see soot coming from the chimneys of houses in your neighborhood. Because particulate matter is so small and is spread by the wind, it's very easy to breathe it in.

If we breathe in too much particulate matter, it can make us sick.

Air Pollution from Fossil Fuels



One of the main sources of air pollution is burning fossil fuels like oil, gasoline, diesel and coal. These fossil fuels come from the fossils of ancient plants and dinosaurs that lived on earth millions of years ago. Fossil fuels are burned to create energy so that we can drive cars and trucks, fly planes, make electricity, and run factories. Fossil fuels will not last forever, and we are using them up quickly.

When fossil fuels are burned they create different types of air pollution problems like particulate matter and **smog**. Smog makes the air look brown and dirty and can make people sick if they spend too much time outside breathing it in. Burning fossil fuels also creates **greenhouse gases** that trap heat from the sun and make the planet too warm. This is called **global warming** and it makes the weather, or **climate**, change in serious ways.

Although we use energy to make things run, we need to use sources of energy that are cleaner and won't run out. Energy from the sun, the wind, and the ocean tides are good safe **alternatives**, or different ways, to get energy. These sources of energy don't pollute the air and can be used over and over again. One day, all our energy will come from these safer alternatives!

Other Causes of Air Pollution



Although burning fossil fuels is the main cause of air pollution, there are other causes as well. Whenever we burn wood in fireplaces or stoves, we are creating air pollution. Just like

forest fires create pollution when trees burn down, we create pollution when we burn wood from trees at home.

Indoor Air Pollution



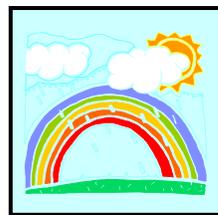
Although air pollution usually refers to the air outside, there are many things that create air pollution inside our homes, schools and other buildings. It can be caused by cigarette smoke, certain kinds of house paint, and aerosol spray cans. Indoor air pollution can also come from mold that grows in damp, dark areas like closets.

Pollution Prevention Heroes



Many people are working to make the air cleaner. In San Francisco, residents of the Bayview Hunters Point fought for many years to shut down an old, polluting power plant in their community. Because of the community's efforts, it was closed in May 2006 and the land was turned into a park!

Keeping our Air Clean



1. Drive cars less and take **public transportation** like buses, trains and subways. It's also good to ride bikes, walk, and carpool.
2. Burn less wood in fireplaces. Even though it's cozy to build a fire on a cold winter night, the smoke causes a lot of air pollution!
3. To keep indoor air clean, ask people who smoke inside to please smoke outside.
4. Use housecleaners, and other spray products that come from a pump spray, not an aerosol spray can.
5. Put lots of live, green plants in the home to freshen and clean the air.