



# What is Air Pollution?



## Things We Need



Although the world is filled with many things that can make our lives more comfortable and fun, 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

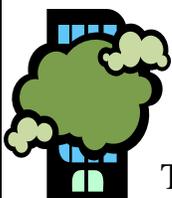


Fresh air is also necessary for the health of **all** living things.

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 an illness called **asthma** (pronounced AZ-muh) that 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 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 just very small little pieces, or **particles**, of stuff that go 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 the truck or bus 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, and coal. These fossil fuels come from the fossils of ancient plants and animals 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 very quickly.

When fossil fuels are burned they create different types of air pollution problems. Besides creating particulate matter, burning fossil fuels creates **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 dangerous 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 need energy to make things run, we need to use cleaner sources of energy that 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 some spray cans. Indoor air pollution can also come from mold that grows in damp, dark areas like closets.

## Keeping our Air Clean



There are many things we can do to help make less air pollution. One way is to drive our cars less and take more **public transportation** like buses, trains, cable cars and subways. We can also ride our bikes, walk, and carpool to help reduce the air pollution that comes from driving our cars and trucks.

Another way to keep our air clean is to burn less wood in our fireplaces. Even though it's fun to build a fire on a cold winter night, we can ask ourselves if it's really something we need and want. We can also **weather proof** our home to make sure that all the window and door cracks are sealed so that cold air can't come inside.

## Clean Air at Home



When it comes to keeping our indoor air clean, here are some simple tips. If anyone in the household smokes cigarettes, we can ask them to please smoke outside. We can also use housecleaners, hairsprays and air fresheners that come from a pump spray, not an aerosol spray can. Putting lots of live, green plants in your home also freshens air and keeps it clean.

Learn more about how to prevent air pollution and share this information with your parents. Working together, we can do our part to keep the air clean and fresh!