

# AIR AND YOU



**Almost all living things depend on air. The earth's air consists of mainly three gases; oxygen, nitrogen and argon. There are also small amounts of water vapour and other gases mixed in. A person breathes in about 16 kilograms of air every day. That's 16 times more food than we eat each day! That's why keeping the air as clean as possible is really important to our health.**

## Air Quality

Chemicals and particles in the air like smoke from wildfires affect air quality. Together these are called pollutants or substances. Many things can change air quality, including:

1. Natural and human activities.
2. How quickly pollutants are being put into the air.
3. How quickly wind, rain and other types of weather move around and break up the pollutants.

Wind and rain help to break up pollutants. Pollutants can get stuck low to the ground when there is no wind and the temperature is very hot or cold. Mountains, hills and valleys can also keep pollutants from breaking up quickly.

## Measuring the Air

Knowing what changes air quality is important. Air pollution comes from many places. Most comes from businesses, houses, cars and trucks and nature. They all affect the quality of our air. In Alberta, we have groups called Airsheds that study the quality of the air every day.

Your local Airshed group is called Fort Air Partnership. They look after a large area north and east of Edmonton. They check for what pollutants are in the air and how much of each pollutant there is.

Fort Air Partnership has nine stations that do not move. One station is on wheels and moves from place to place

wherever it is needed. These stations use scientific equipment to monitor the air every minute of every day, all year long. These stations are located mostly in towns and cities.

Fort Air Partnership also has 47 other monitors that are called passive monitors. In these monitors, air flows past a filter. The filters are collected once a month to see how much of a pollutant is on the filter. These monitors are located next to fields and roads.



Air monitoring station



Air monitoring scientific equipment inside a station

## Pollutant Levels

It is important to know if pollutants in the air may be harmful to people, plants or animals. Fort Air Partnership measures many pollutants in the air. The level of each pollutant is then compared to what the government considers not harmful. This information is shared with everyone so they know what the air quality is like. Sometimes, there is a public health warning if the air is quite bad. An example of this is when there is lots of smoke in the air from a forest fire.

## Air Quality Health Index

The scale in the picture below is called the Air Quality Health Index. It uses numbers to help people understand air quality and health impacts. Fort Air Partnership information is used by the government to set the local Index. A scale of one to 10 is used. The lower the number, the lower the health risks.



Passive monitor

The current Air Quality Health Index is updated every hour. The Index also forecasts what the air quality will be tomorrow, much like a weather forecast. This forecast is updated three times a day. The Index is on Fort Air Partnership's website ([fortair.org](http://fortair.org)) and on mobile apps.

## Health Risk Level

Sometimes, people have trouble breathing properly. For example, people with asthma, people who are sick or very young or very old people. These people should avoid doing anything outdoors that may make them breathe heavily when the Air Quality Health Index is moderate or high. When the Index is high or very high, everyone should try to reduce doing things outdoors that may make them breathe heavily.

## How You Can Help Keep the Air Clean

Everyone can help in keeping the air as clean as possible. For example, walking or riding your bicycle instead of riding in a car helps air quality. So does using less energy in your house by shutting off the light when you leave a room. Or turning down the thermostat. What other things can you think of that can help keep the air clean?