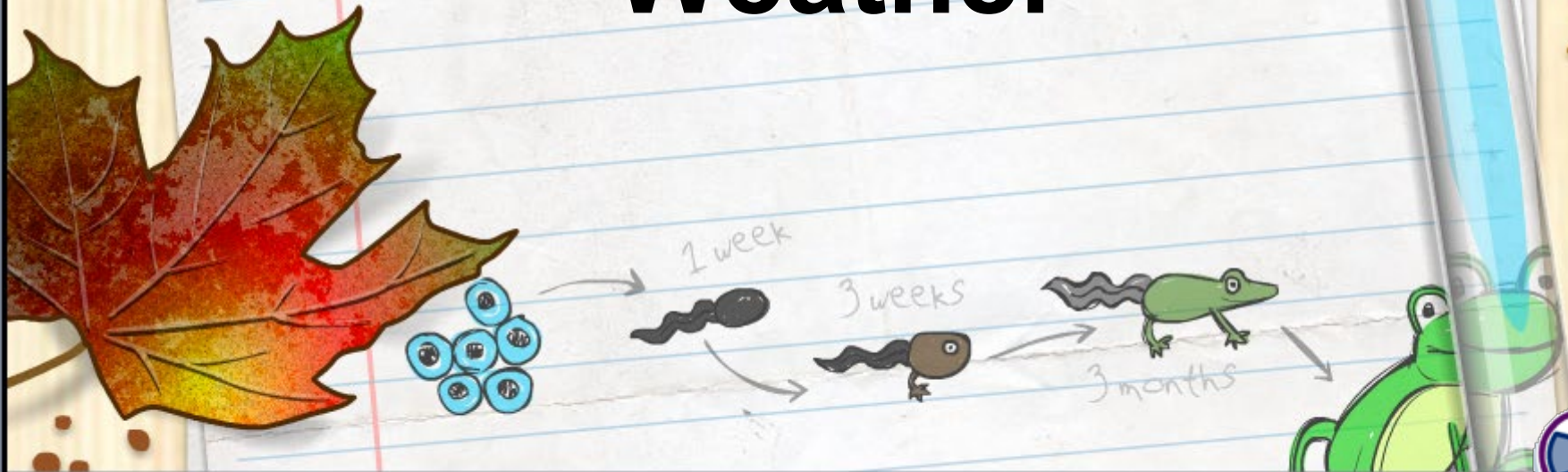


Predicting the Weather



Weather is the state of the atmosphere outside at a particular time.

Climate is the average weather over many years.

Two major elements of climate are average **temperature** and average **precipitation**.

There are many factors that affect weather and climate, including temperature, precipitation and wind.

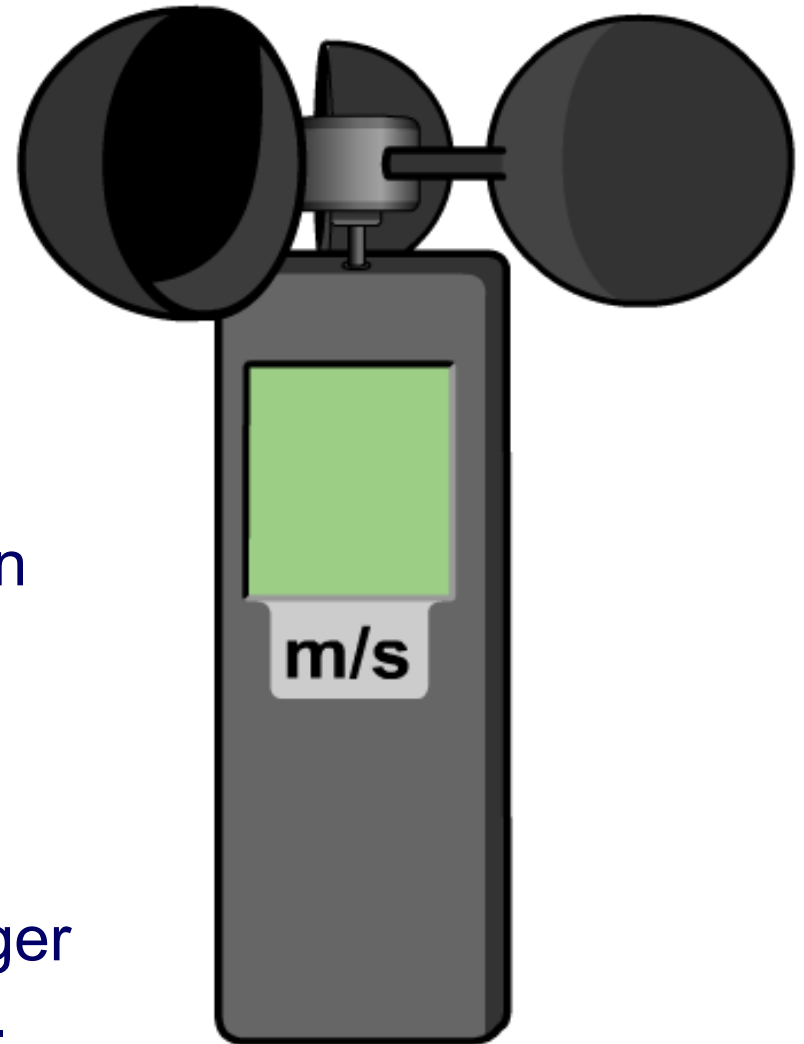


Wind is moving air.

Wind speed is a measure of how fast the air is moving.

Wind speed is measured using an **anemometer**.

An anemometer has metal cups that rotate in the wind. The stronger the wind, the faster the cups turn.



Air pressure is the force exerted on the Earth by the air above.



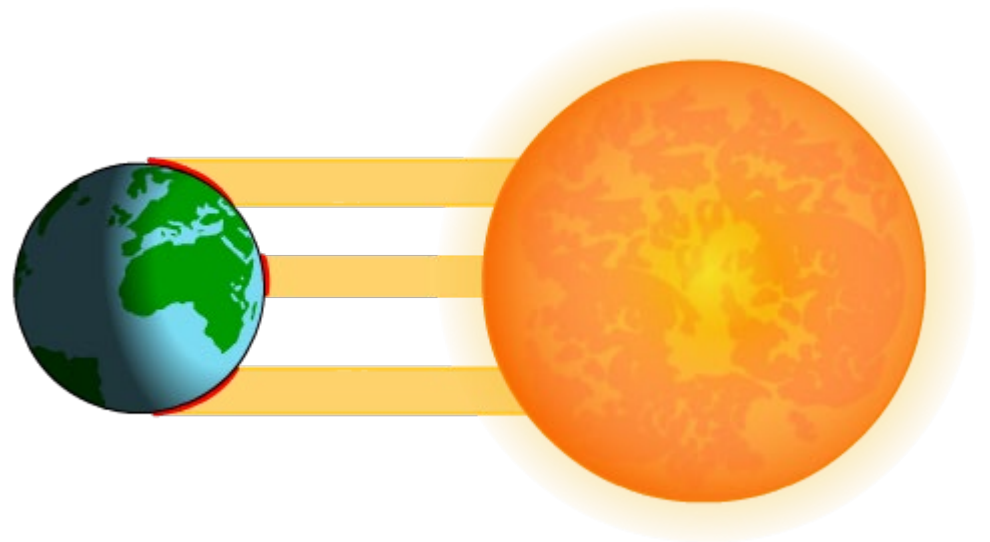
Air pressure is measured using a **barometer**.

Air pressure changes with height. As you get higher, air pressure drops. This is because there is less atmosphere above you.



Because of Earth's shape, areas closer to the **equator** get more concentrated sunlight than areas further from the equator.

The uneven heating of the Earth creates warm and cold **air masses** in the atmosphere. Warm air moves differently than cold air.



These movements are called **convection currents**.



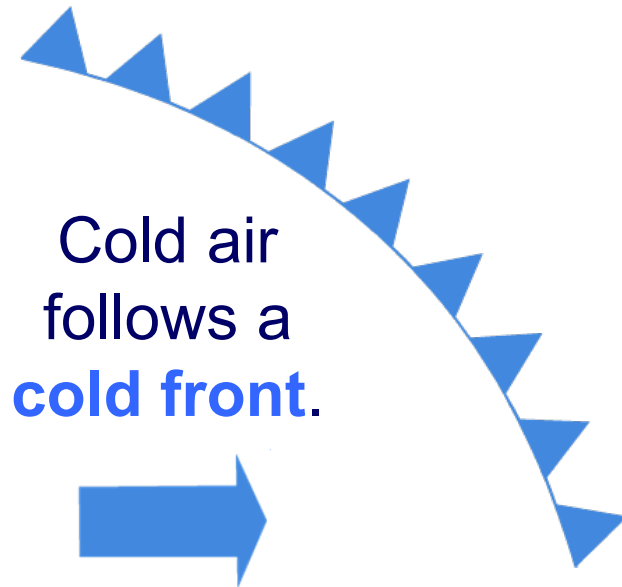
Predicting the weather



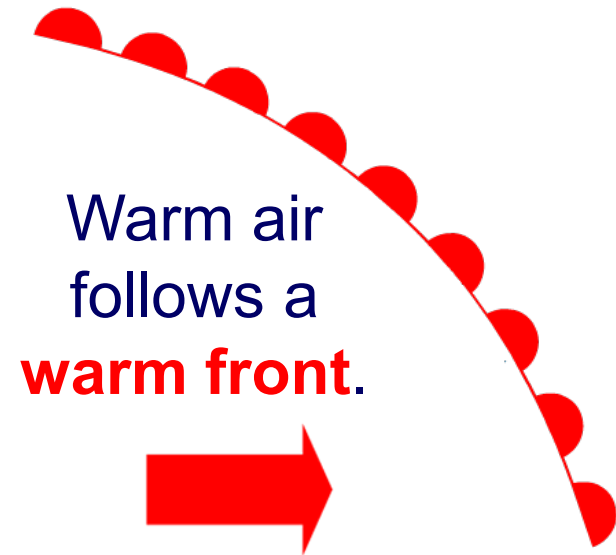
Predicting the weather



The junction between two different air masses is called a **front**. A front is associated with a change in the weather.



Cold air pushes under the warm air, producing strong winds and heavy rain.



Warm air rises over cold air, usually producing clouds and rain.

Predicting the weather



Predicting the weather



Predicting the weather



Predicting the weather

