

Weather



What is Temperature?

Temperature is the amount of thermal energy, or heat energy in the atmosphere.

We measure temperature with a thermometer, in degrees fahrenheit or celsius.



Air Pressure

High Pressure

Happy Day/Nice weather 😊

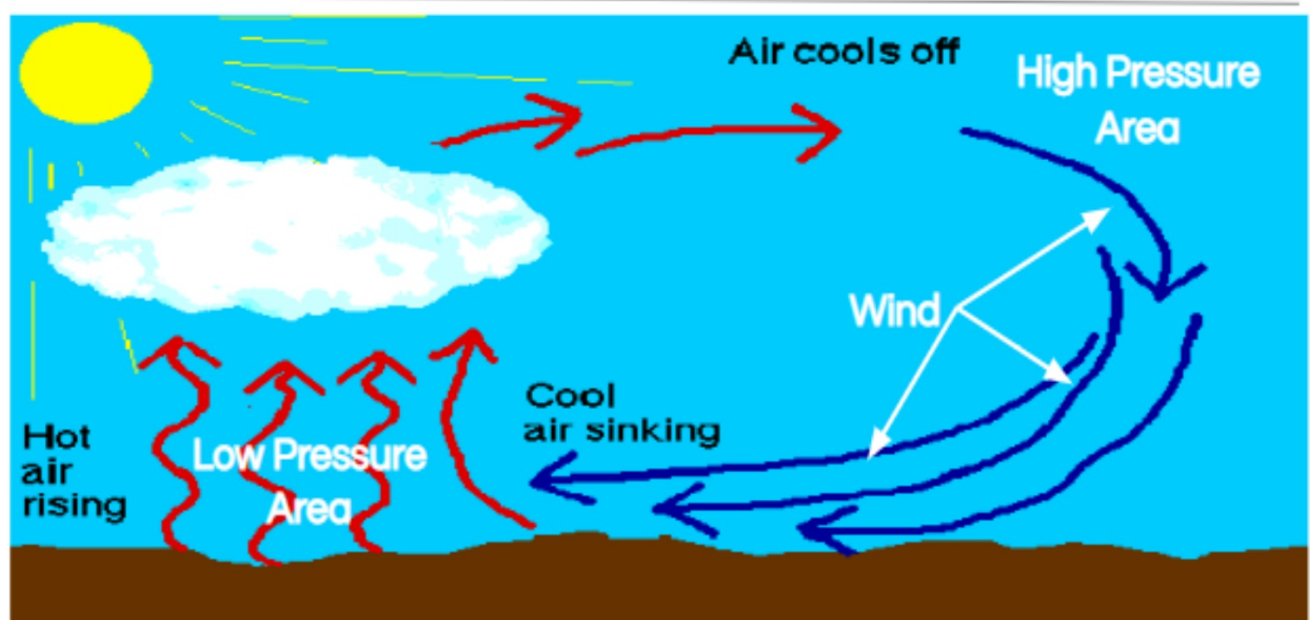
- Cool air
- Particles are close together so it does not hold much moisture (dry air)
- More stable
- Cool air is heavier so it sinks
- Readings on the barometer 29.50 - 31.90

Low Pressure

Lousy Day/Rain ☹️

- Warm air
- Particles are farther apart so there is room for moisture (humid air)
- Less stable
- Warm air is lighter so it rises
- Readings on the barometer 26.00 - 29.50

Wind +

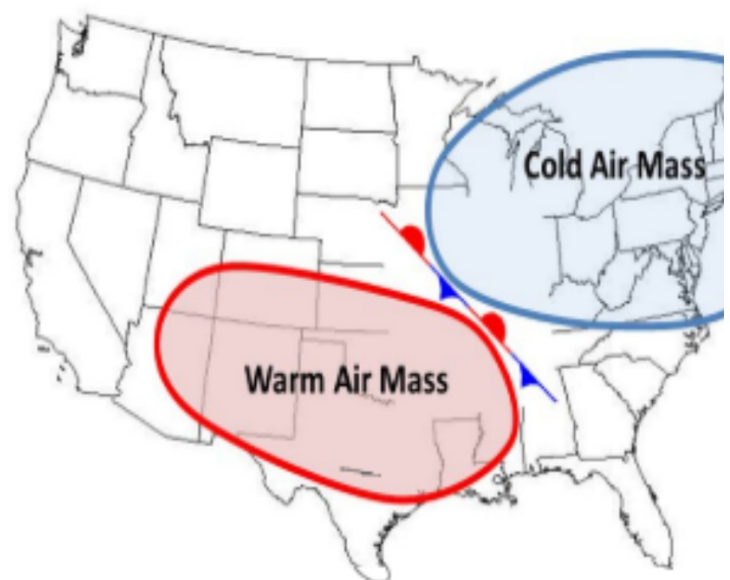


Warm air is less dense and lighter, so it rises and then cools off. As it cools, it becomes more dense and therefore heavier, and sinks back down, then moves in to replace the rising warm air.

This air movement from high pressure to low pressure areas is called WIND.

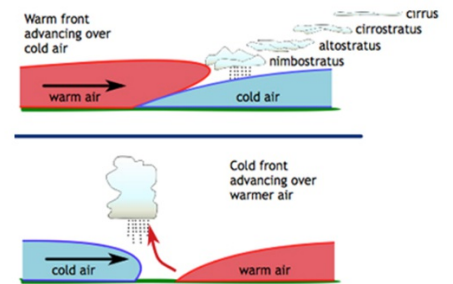
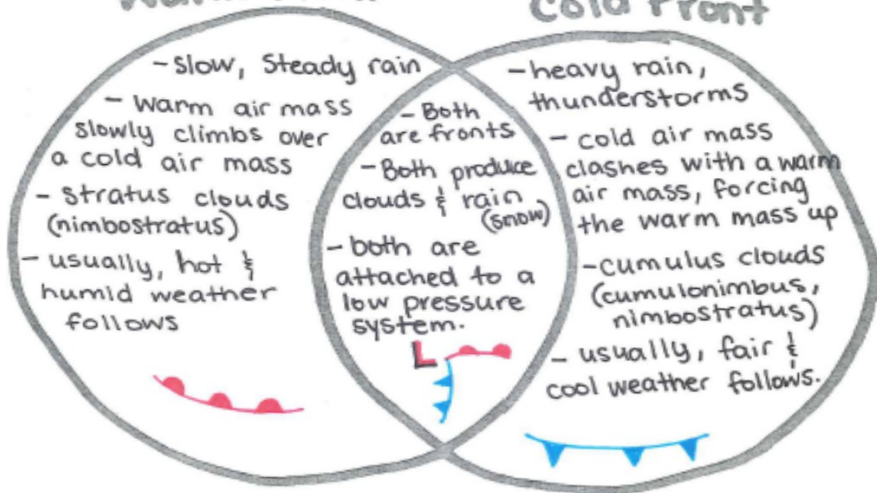
Air Masses

An air mass is a large body of air that has the same temperature and humidity throughout. There are warm and cold air masses.



Warm Front

Cold Front

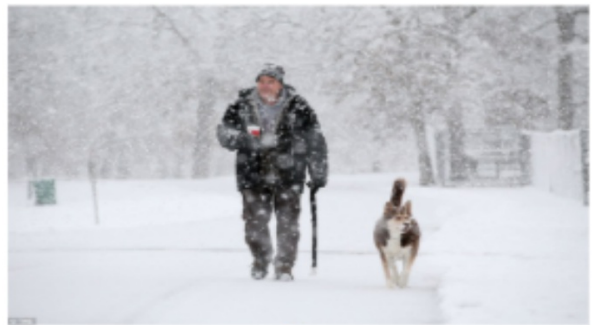


Front = a boundary between 2 air masses
 Across the USA, fronts move from W to E

Precipitation--What is it? ✨



Sleet



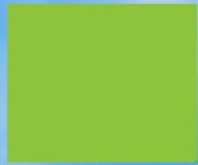
Snow



Rain



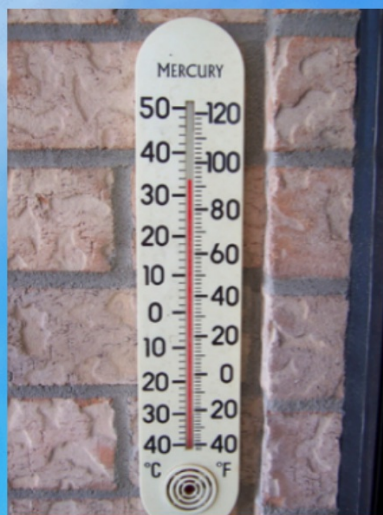
Hail



Weather tools

Thermometer

What does it measure?



It measures air temperature

**Humidity is the
moisture in the air.
What tool measures
this?**

Hygrometer

What tool is this?



Barometer

What does it measure?

- It measures air pressure.

Rain gauge

What does it measure?

- It measures precipitation.



What tool is this?



It measures
the speed
of the
wind.

Anemometer

What does it measure?

What tool is this?



Wind vane

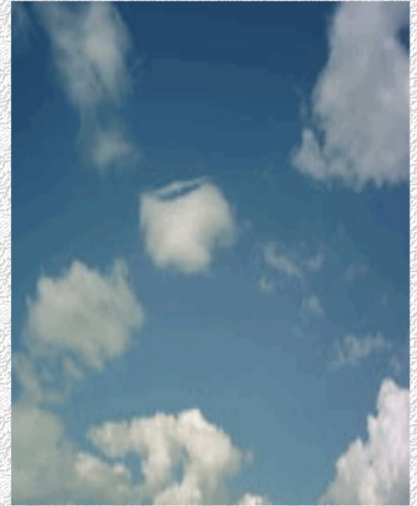
What does it show?

- It measures the direction of the wind.



Four types of clouds:

- *Cirrus
- *Stratus
- *Cumulus
- *Cumulonimbus

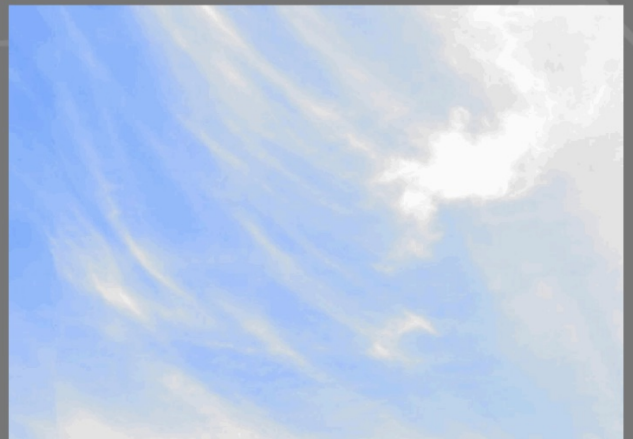


Cirrus clouds are white and feathery and they are the highest clouds.



- Thin, feathery clouds high in the sky
- Associated with fair weather
- Often indicate that rain or snow will fall within several hours

Cirrus clouds



Cumulus clouds are puffy and look like cauliflowers.



They have flat bottoms.



They are constantly changing shapes.

- Fluffy and white with flat bottoms
- Usually indicate fair weather

Cumulus



Stratus clouds are low and look like wide blankets of gray.



They are sometimes called "high fogs".



Drizzle or snow flurries may fall from them.

Stratus clouds



Cumulonimbus clouds are thunderstorm clouds. High winds can flatten the top of the cloud into an anvil-like shape. Cumulonimbus clouds are associated with heavy rain, snow, hail, lightning and even tornadoes. The anvil usually points in the direction the storm is moving.





***SEVERE
WEATHER***

Severe Weather Storms -- Tornado

A **tornado** is a small, destructive, whirling, fast-moving storm that forms over land.



Severe Weather Storms -- **Thunderstorm**

Strong gusts of wind?

Heavy rain?

Thunder?

Lightning?

You're in a

thunderstorm!

Take cover!



Severe Weather Storms -- Hurricane

A **hurricane** is a huge, slowly spinning tropical storm that forms over water and has winds of at least 119 km/hr (74 mph).



LAYERS OF THE ATMOSPHERE

