

## Review Info:

Air density depends on its temperature. When air is cooler it becomes more dense and it sinks down closer to the surface of the Earth. It eventually warms up, because we know that temperatures warm up as you go lower in the Troposphere. When the air warms up it gets less dense and begins to rise again. Once it reaches the upper part of the Troposphere the temperature cools off and then the air begins to sink again. It is a cycle that happens over and over!

## What is a front?

- Air masses with different temperatures do not usually mix
- Therefore, when two different air masses meet, a boundary called a **front** forms between them
- There are four main types of fronts:
  - cold fronts
  - warm fronts
  - stationary fronts
  - occluded fronts
- Each front is represented by a different symbol on a weather map.

Warm front



Cold front



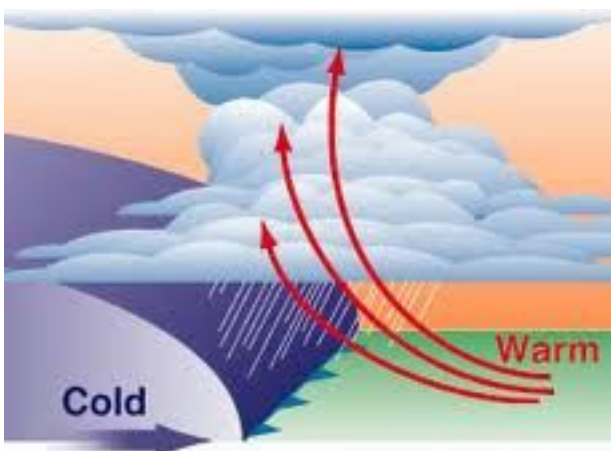
Stationary front



Occluded front



## Cold Front



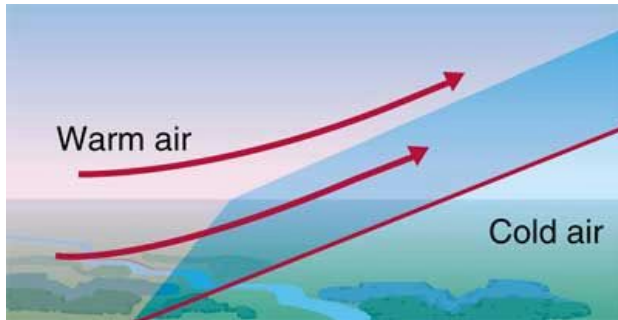
**Cold fronts form** when a cold air mass meets and takes over a warm air mass, because the cooler, denser air wedges under the less-dense warmer air lifting it. **With a cold front** generally comes a narrow line of heavy showers, snow, and thunderstorms. **After the front** temperatures are usually cooler, because the warm air is pushed away from Earth. **Cumulus clouds**

are the most common cloud types that are produced by cold fronts.

However, they often grown into **cumulonimbus clouds** (these clouds are

known for rain!!), and produce thunderstorms. Cold fronts can move up to twice as fast as warm fronts and produce **sharper changes in weather.**

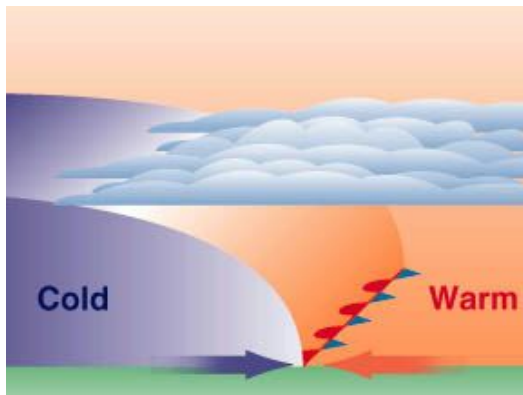
## **Warm Front**



**Warm fronts form** when warm air mass meets and overtakes a cold air mass (warm air moves over cold air and replaces it). **With a warm fronts** generally comes drizzly rain. Rain is more mild and spread out than cold fronts. **After the front passes,** weather conditions are

warm and clear. A warm front can produce **many different types of clouds,** including **stratus** and **cirrus** cloud types.

## **Stationary Front**



**Stationary fronts form** when a cold air mass meets a warm air mass, but neither mass has enough force to move the other. This causes the front to remain in the same place for many days. **This front often produces** clouds and rain or snow can last for several days.

## **Occluded Front**

**Occluded fronts form** when a warm air mass gets trapped between two cold air masses. The denser cool air masses push the warm air mass upward and then the cool air may mix together in the middle. **This front often produces** cumulonimbus and nimbostratus cloud, along with precipitation.

