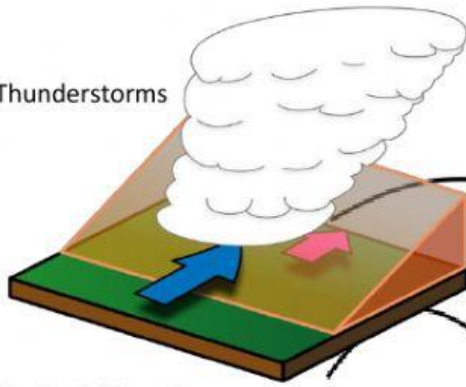
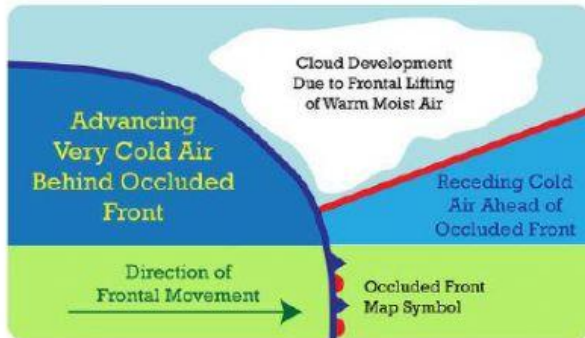


## 11.8 Thunderstorms

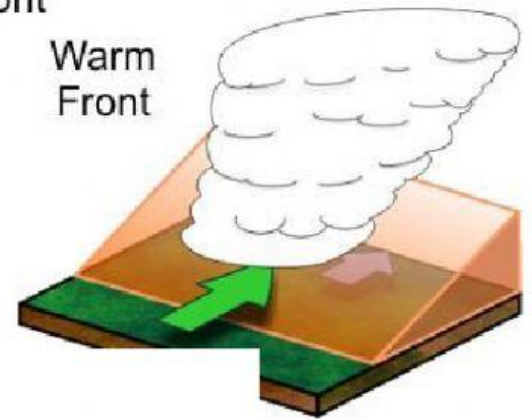


## Occluded Front

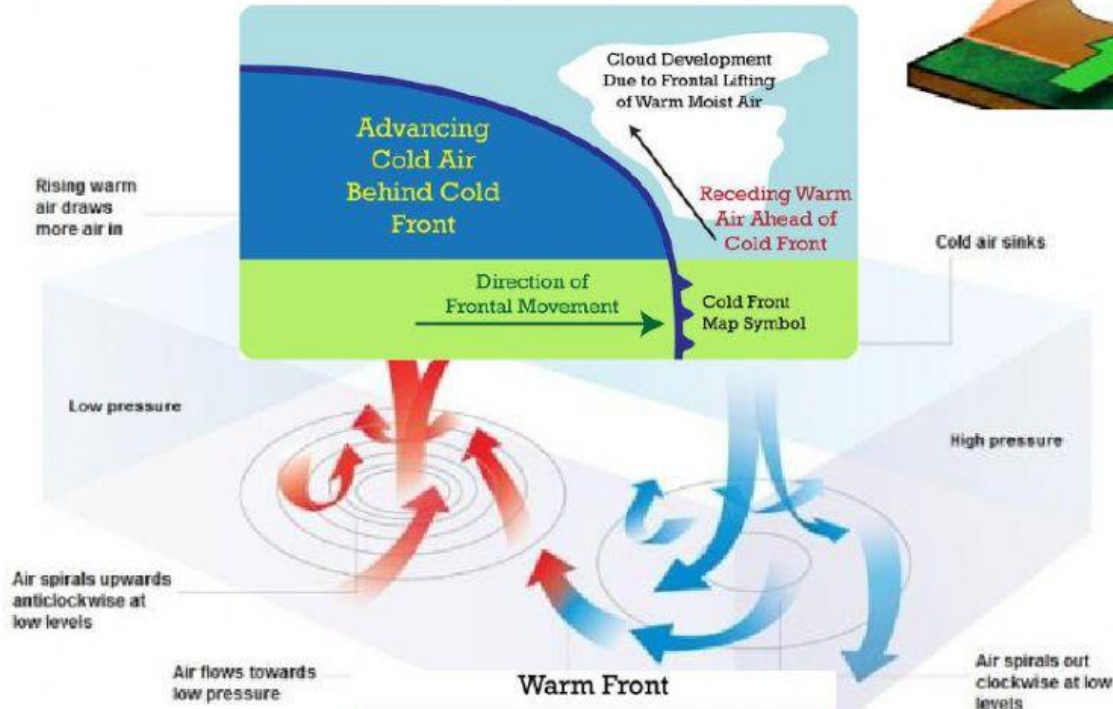


## Cold Front

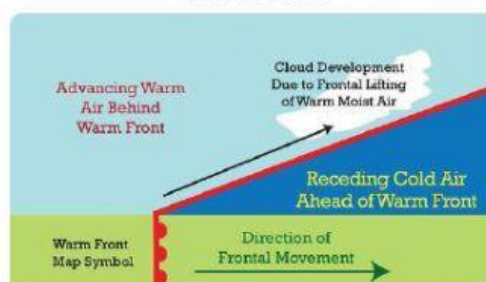
## Warm Front



## Cold Front



## Warm Front



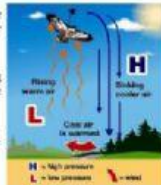
## 6) What are Cirrus Clouds?

- Thin, feathery white clouds
- Found in high altitudes
- Form when the wind is strong
- May indicate approaching bad weather if they thicken and lower in altitude

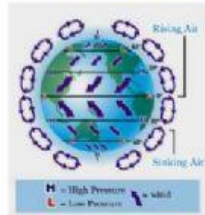


## Temperature

- Heated air near a hot surface is less dense than the colder air above it.
- The heated air rises, forcing the colder air to move aside and sink toward the ground.
- Then this colder air is warmed by the surface, and it rises.
- Wind is created.

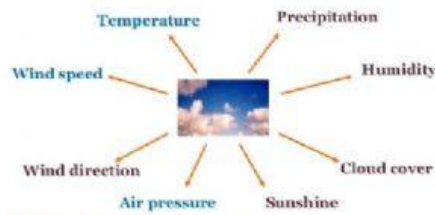


## Convection cells



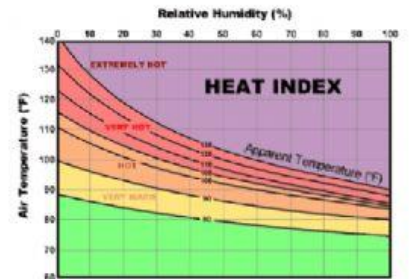
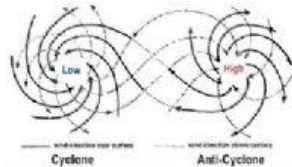
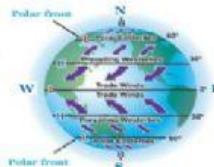
- The combination of global convection and Earth's rotation sets up a series of wind patterns called **convection cells**.

## Introduction to Weather



## Air and water vapor

- Three important global wind patterns exist in each hemisphere:
  - Trade winds
  - Prevailing westerlies
  - Polar easterlies

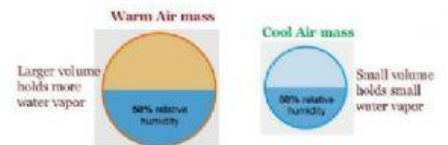


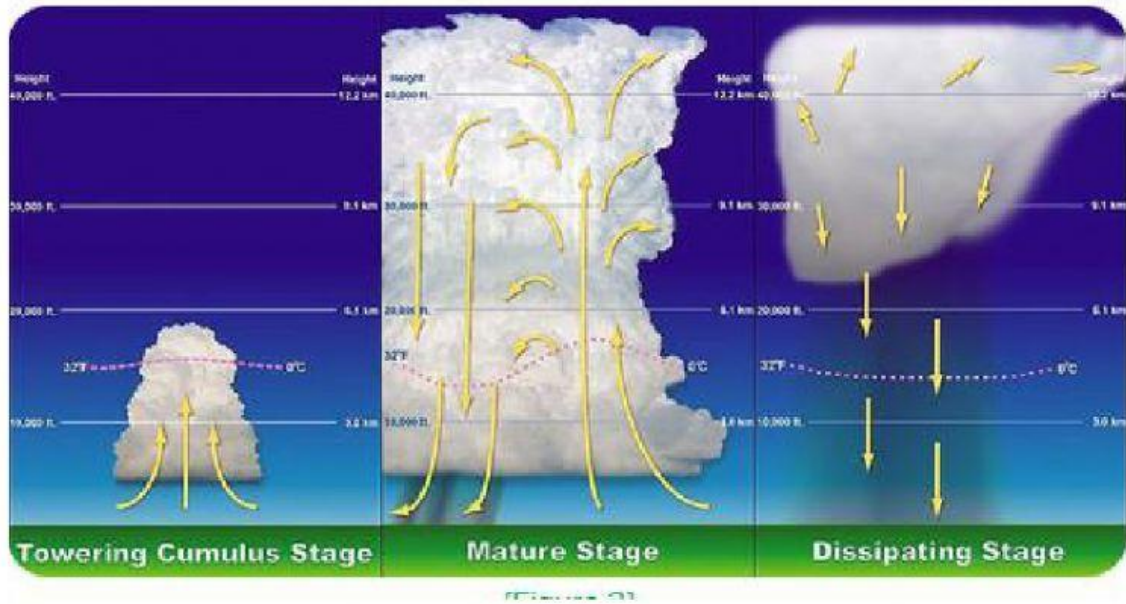
## Precipitation

- Precipitation - any form of water that:
  - falls from clouds
  - reaches Earth's surface
- Types of Precipitation
  - Rain
    - Most common
    - Drops at least 0.5 mm in Diameter
    - Smaller drops are drizzle, even smaller are mist
  - Sleet
    - When raindrops fall through a layer of air below 0°C
    - Ice particles smaller than 5 mm

## Relative Humidity

- **Relative humidity** is a measure of how much water vapor an air mass contains.





1. Why are thunderstorms so common?
2. What is the energy source that feeds a thunderstorm?

3. What two atmospheric processes lead to the formation of the anvil-shaped clouds?
4. What causes a thunderstorm to end?
5. What causes thunderstorms to develop?
6. What determines the severity of the storm?
7. What causes the air to rise?
8. What causes the air mass to cool? What happens to this rising cooler air?
9. What causes lightning and thunder?

