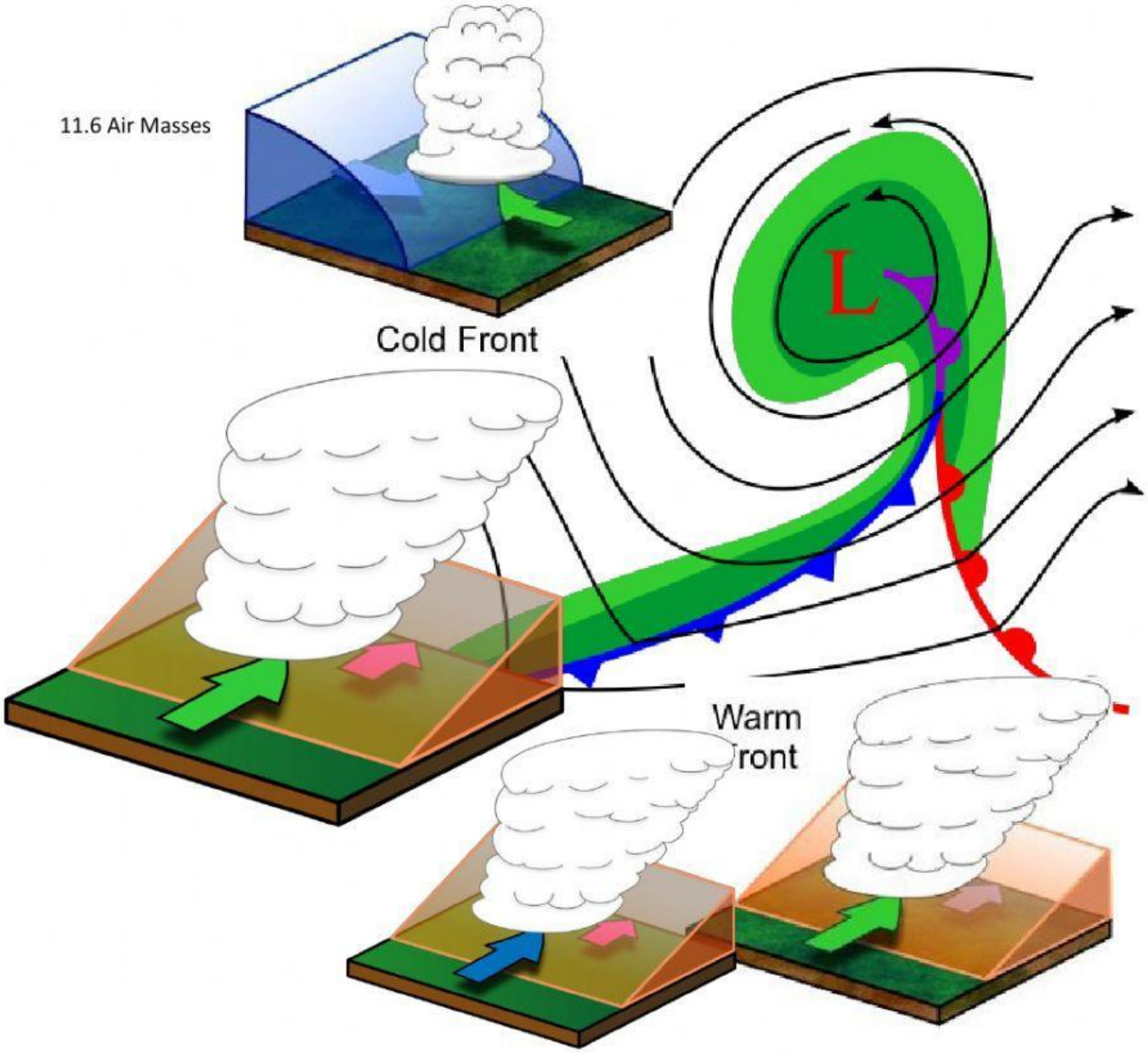
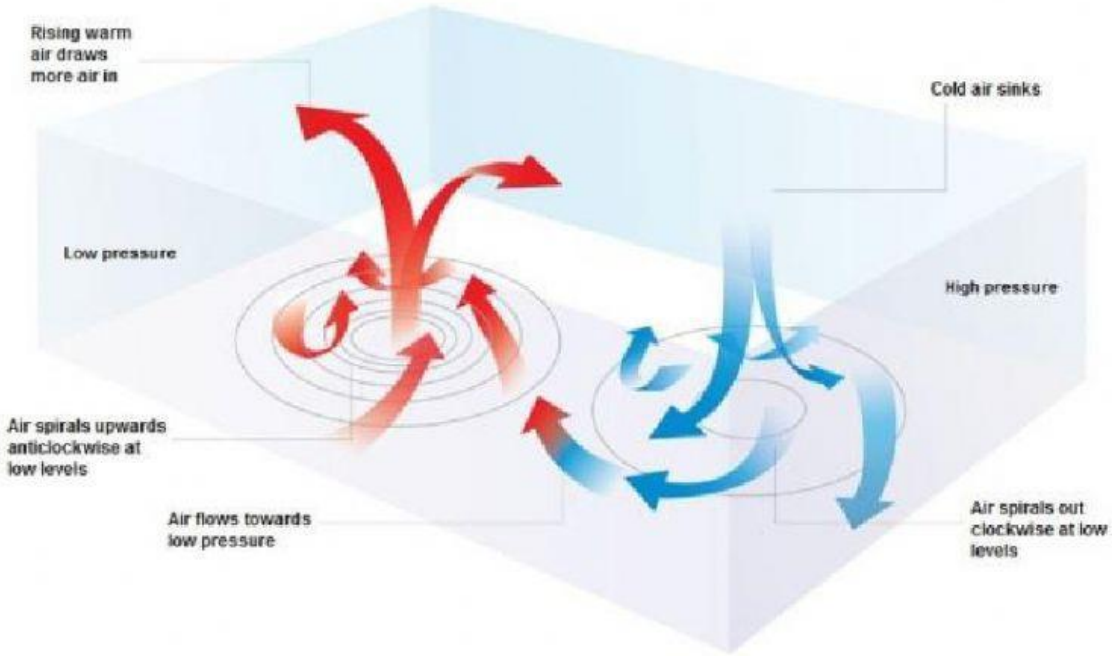
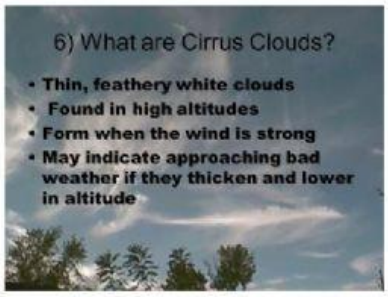
11.6 Air Masses



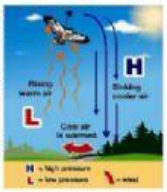


LIVEWORKSHEETS



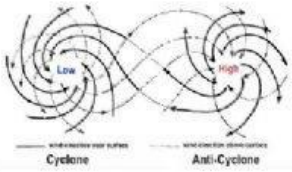
Temperature

- 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.

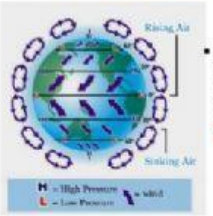


Moisture

- An air parcel with a large moisture content has the potential for that parcel to produce a great amount of precipitation.
- Air with a mixing ratio of 13 g/kg will likely rain a greater amount of water than air with a mixing ratio of 6 g/kg.

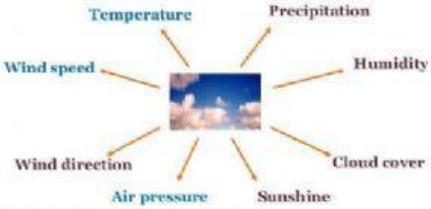


Convection cells



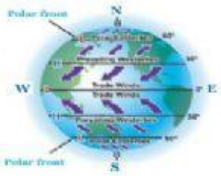
- The combination of global convection and Earth's rotation sets up a series of wind patterns called **convection cells.**

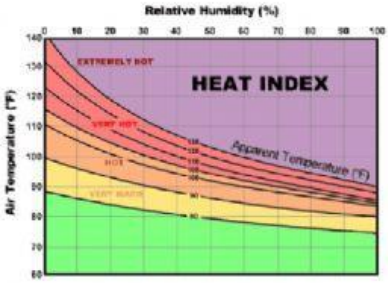
Introduction to Weather



Air and water vapor

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



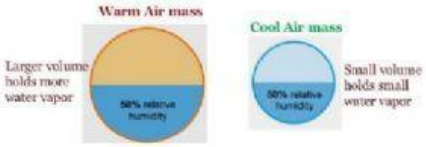


Precipitation

- 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.



LIVEWORKSHEETS

1. What is an air mass?

2. Why do air masses form where the air stays in one place for a while?

3. What happens when an air mass moves over a new region?

LIVEWORKSHEETS