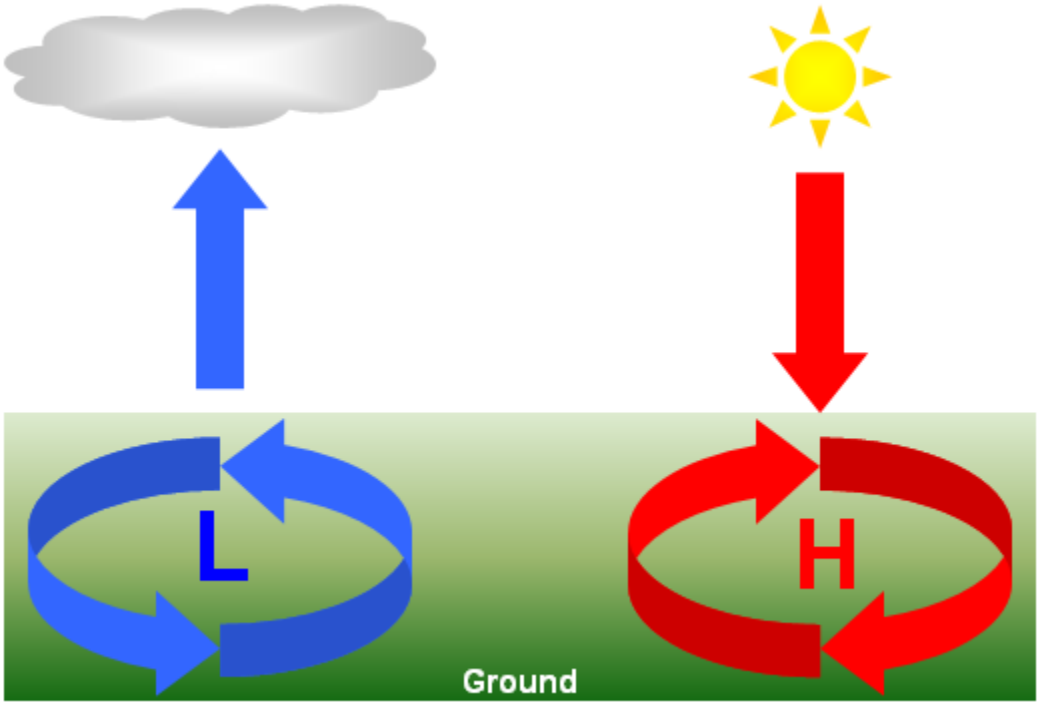
Thermometer & Barometer Activity

- Thermometer: "thermo" means "heat" and "meter" means "measure"
    - Common measurements: Fahrenheit, Celsius, kelvin.
    - How it works:
        - When you look at a regular outside bulb thermometer, you'll see a thin red or silver line that grows longer when it is hotter.
        - The line goes down in cold weather. This liquid is sometimes colored alcohol but can also be a metallic liquid called mercury. Both mercury and alcohol grow bigger when heated and smaller when cooled. Inside the glass tube of a thermometer, the liquid has no place to go but up when the temperature is hot and down when the temperature is cold.

Bulb Thermometer
Note reservoir at bottom.
Photo courtesy:
Wind & Weather

        - Numbers are placed alongside the glass tube that mark the temperature when the line is at that point

- <u>Barometer:</u> Used to measure air pressure that can help to predict weather.
    - **High pressure** areas are generally clear and sunny. In a high pressure situation, air tends to sink to the ground. The air dries as it sinks, leaving sunny skies.
    - **Low pressure** areas are generally cloudy/rainy areas. Low pressure brings our stormiest weather. That's because it's an area of rising air, and as air rises, it condenses into clouds and rain.



- How to read the barometer:
    - Water in tube is below the bottle waterline indicates that we have high pressure= SUNNY/CLEAR
    - Water in tube is above the bottle waterline indicates that there is a low pressure system=CLOUDY/RAIN

- The project: Build a barometer:
    - What you need:
        - Empty bottles
        - Using nail, make hole in bottom wall of bottle
        - Cut 8” length of tube
        - Thread ½” into bottle and glue with glue gun
        - Use a rubber band to secure tube to bottle top
        - Fill with water and food coloring
        - Seal bottle
- Homework:
    - Measure and record the temperature, air pressure (high or low) and outside weather daily. Record results and turn in at the next den meeting.