**Air Movement and Weather Patterns**

7.E.1.3  Explain the relationship between the movements of air masses; high and low pressure systems, and frontal boundaries to storms (including thunderstorms, hurricanes, and tornadoes) and other weather conditions that may result.

**Essential Questions:**

* How does moving air affect the weather?
* How does changing air pressure affect the weather?
* What happens to the weather when a cold or warm front passes through an area?
* How do high and low pressure systems change the weather in an area?
* How does pressure and air mass movement affect the development of various types of storms?

**Vocabulary**

**Low pressure system**- a whirling mass of warm, moist air that generally brings stormy weather with strong winds. When viewed from above, winds spiral into a **LP** center in a counterclockwise rotation in the Northern Hemisphere

**High pressure system**- a whirling mass of cool, dry air that generally brings fair weather and light winds. When viewed from above, winds spiral out of a **HP** center in a clockwise rotation in the Northern Hemisphere. These bring sunny skies.

**Cold front**- The forward edge of an advancing mass of cold air that pushes under a mass of warm air. Cold fronts often cause heavy precipitation and/or thunderstorms.

**Warm front**- The forward edge of an advancing mass of warm air that rises over and replaces a retreating mass of cooler air. Warm fronts often cause steady precipitation

**Thunderstorm**- a storm with thunder and lightning and typically also heavy rain or hail

**Hurricane**- a violent, tropical, cyclonic storm of the western North Atlantic, having wind speeds of or in excess of 72 miles per hour

**Tornado**- a localized, violently destructive windstorm occurring over land and characterized by a long, funnel-shaped cloud extending toward the ground and made visible by condensation and debris

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