weather	state of the atmosphere at a given time and place; it is described by wind, temperature, cloud cover, moisture in the form of humidity and/or precipitation, and air pressure; weather changes daily, hourly, and seasonally
meteorologist	a scientist who studies weather
sun	warms the air, water, and land of Earth
temperature	measurement in degrees warm or cold; influenced by cloud cover (i.e., generally cooler on cloudy days); measured by a **thermometer** in degrees Fahrenheit or Celsius
wind speed	changes as air pressure changes; how fast the wind is blowing; measured by an **anemometer**
wind direction	reported by the direction from which the wind originates; indicated by a **wind vane**
precipitation	form of water (rain, snow, ice, sleet, hail) that falls from the clouds to Earth; can be measured by a **rain gauge**
air pressure	also known as barometric pressure, it is the weight of the air above the surface of the Earth; it is measured by a barometer
cloud cover	fraction of the sky covered by cloudy; data is collected by observation and reported as cloudy, partly cloudy, partly sunny, or clear

data	information
hemisphere	half of a sphere; the Earth is divided into the Northern and Southern Hemispheres by the equator; (Earth is also divided into the Eastern and Western Hemispheres by the Prime Meridian)
equator	an imaginary line around the middle of the Earth; assigned 0° latitude
latitude	the distance north or south of the equator; for example, Raleigh, NC is located at approximately 36°N, which indicates it location *North* of the equator
longitude	the distance east or west of the Prime Meridian
angle of incidence	angle that sunlight reaches the surface of the Earth; sometimes called the angle of insolation
direct sunlight	sun rays that strike the Earth with more intensity near the equator
indirect sunlight	sun rays that strike the Earth with less intensity due to the tilt of the Earth and the curvature of its surface

Earth's axis	imaginary, vertical line through the middle of the Earth between the North and South Poles; Earth rotates around it
tilt of the Earth	Earth is tilted on its axis at 23.5°; this is the main reason there are seasons on Earth
rotation	spin; Earth rotates on its axis; one rotation of Earth is approximately 24 hours (1 day)
revolution	orbit; Earth revolves around the Sun in an elliptical orbit; one revolution around the Sun is approximately 365 days (1 year)
seasons	summer, autumn (fall), winter, and spring

conduction	transfer of thermal energy between objects that are touching *(this will be explored further in Lesson 6 about Heat)*
convection	transfer of thermal energy by liquids or gases; land and water heat the air above through convection currents *(this will be explored further in Lesson 6 about Heat)*
current	constant movement *(this term is highlighted in the StudyJam about Waves and Currents)*
elevation	the height of something *(this will be explored further in Lesson 5)*
Gulf Stream	a warm water surface current in the Atlantic Ocean that moves from the southern tip of Florida up the East Coast then across the Atlantic *(a visual is shown in the StudyJam about Waves and Currents - be sure to name it the "Gulf Stream")*
radiation	transfer of thermal energy by electromagnetic waves through places without matter; the Sun's radiation warms Earth's air, land, and water *(this will be explored further in Lesson 6 about Heat)*
Sea level	Where the ocean meets the land; assigned zero elevation

condensation	changing from water vapor to a liquid
evaporation	changing from liquid to a water vapor
precipitation	form of water that falls from clouds to Earth
run-off	excess water from falling precipitation or melting precipitating that the soil cannot absorb
transpiration	water evaporating from the leaves of plants

water cycle	continuous process of water moving from the Earth's surface to the atmosphere and back to Earth
water vapor	water in a gas state

cloud	a large collection of tiny water droplets or ice crystals in the atmosphere
cirrus	high level clouds that look thin and wispy, like feathers; means "curl of hair"; indicate fair to pleasant weather
cumulus	middle level clouds that look puffy like cotton; means "heap" or "pile"; indicate fair weather
stratus	low level clouds that look like layers or a gray blanket that covers the sky; means to "spread out"; indicates overcast weather and sometimes produce precipitation; fog is a stratus cloud near the ground

wind	air moving horizontally; caused by uneven heating and cooling of the Earth's surface
local wind	moves across small distances close to Earth's surface; examples include sea breezes and land breezes
global wind	moves across great distances above the Earth; these wind patterns are stable and predictable; examples include Polar Easterlies, Prevailing Westerlies, and Trade Winds
Trade Winds	winds that blow East to West toward the equator between 30° N latitude and 30° S latitude; can impact North Carolina weather by moving a hurricane toward the Southeastern United States
Prevailing Westerlies	winds that blow West to East toward the poles in both hemispheres between 30° and 60° latitudes; impacts North Carolina weather by moving weather systems from the West toward North Carolina
land breeze	a convection current where air flows from land to sea during the night (a result of land heating and cooling at a faster rate than water)
sea breeze	a convection current where air flows from sea to land during the day (a result of land heating and cooling at a faster rate than water)
jet stream	a current in the atmosphere located over North America that moves West to East; it changes position North or South seasonally; impacts North Carolina weather by moving weather systems from the West toward North Carolina; additionally its fluctuations to the North can bring warmer temperatures to North Carolina while its fluctuation to the South can bring cooler temperatures to North Carolina

- These StudyJams provide a good overview of the following concepts:
    - The Water Cycle
    - Clouds and Precipitation
    - Air Pressure and Wind
    - Severe Storms (includes thunderstorms, tornadoes, and hurricanes)
    - Weather and Climate
    - Weather Instruments
    - A Day on Earth
    - Seasons
    - Waves and Currents
    - Heat

Lesson 7

air mass	a large region of the atmosphere where the air has similar properties throughout such as temperature, humidity, and air pressure
High pressure system	a whirling mass of cool, dry air; because cool air is more dense than warm air, it sinks. High pressure brings fair weather, sunny skies and light winds. High pressure systems rotate clockwise.
Low pressure system	a whirling mass of warm, moist air; because warm air is less dense than cool air, it rises and cooler (more dense) air flows underneath. Low pressure brings storms, strong winds, and changing weather. Low pressure systems rotate counter-clockwise (like hurricanes in the Atlantic).
front	a boundary between warm and cold air masses
cold front	a boundary between two air masses (one warm, one cold) moving so that the colder air replaces the warmer air
warm front	a boundary between two air masses (one warm, one cold) moving so that the warmer air replaces the colder air
stationary front	a boundary between two air masses (one warm, one cold) that more or less doesn't move; a stationary front can wobble back and forth for several hundred miles a day
El Niño	a natural oscillation (shift) of the warmest surface water near the equator in the Pacific Ocean eastward toward South America; this impacts weather around the world.
La Niña	the surface water near the equator in the Pacific Ocean gets cooler; this impacts weather around the world.