

Vocabulary

Use the **atmosphere** and **climate** vocabulary words and definitions below as a reference for this unit.

atmosphere the mixture of gases surrounding Earth

climate the weather of an area over a long period of time

continental climate type of climate found where there are huge land masses

desert dry areas that receive less than 25 cm of rainfall per year

exosphere the upper part of the thermosphere; extends into interplanetary space

ionosphere the lower part of the thermosphere that contains electrically charged particles called ions

jet stream narrow layer of strong winds that blow from west to east just above the troposphere

marine climate type of climate found when an area is located near a large body of water

mesosphere the coldest layer of the atmosphere, just above the stratosphere

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ozone type of oxygen with three oxygen atoms (O_3) found in the upper areas of the stratosphere

polar zone area of Earth that extends from the poles to 60° north and south latitude and has a very cold climate

stratosphere the layer of Earth's atmosphere above the troposphere; it contains the ozone layer

temperate zone the zone of moderate climate with distinct seasonal changes; located between 30° and 60° latitude

thermosphere the layer of the atmosphere above the mesosphere where the air is very thin and hot; includes the ionosphere and exosphere

tropical zone area of Earth that extends from 30° north latitude to 30° south latitude; above average temperatures and precipitation

troposphere the lowest layer of the atmosphere that contains most of Earth's weather

weather the day-to-day changes in temperature, humidity, wind, and air pressure

Vocabulary

Use the **solar radiation** and **air mass** vocabulary words and definitions below as a reference for this unit.

air masses	large bodies of air having the same temperature and amount of moisture
barometer	an instrument used to measure air pressure
cold front	forms when a mass of cold air meets a mass of warm air and moves beneath it
conduction	direct transfer of heat energy from one substance to another
convection	transfer of heat energy by moving air or fluid
convection current	the vertical movement of air or water caused by differences in temperature
currents	vertical movements of air or water caused by the uneven heating of Earth
direct rays	rays of the sun that hit Earth at a 90° angle; they create the greatest amount of heat
front	the boundary formed when two different masses of air meet

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high-pressure system system that brings cool, clear skies and dry weather

indirect rays rays of the sun that hit Earth at greater than 90°; they produce less heat

low-pressure system system that brings cloudy, rainy, and often stormy weather

occluded front forms when a cold front overtakes and merges with a warm front

radiation process by which the sun's rays reach Earth in the form of waves

stationary front forms when two unlike air masses face each other, but neither moves

warm front forms when a mass of warm air meets a mass of cold air and moves over it

wind horizontal movements of air caused by the uneven heating of Earth

Vocabulary

Use the **wind** and **current** vocabulary words and definitions below as a reference for this unit.

- anemometer** an instrument used to measure wind speed
- doldrums** the area around the equator where air moves straight up and there is very little wind
- horse latitudes** area at about 30° north and south latitude where there is very little wind
- land breeze** cool air blowing from land to sea at night
- monsoons** winds that blow inland during summer bringing rainy weather and that blow out to sea in winter bringing dry weather
- polar easterlies** system of winds that blows cold air from the poles
- prevailing westerlies** wind system formed over large land areas that blows from the west to the east
- sea breeze** cool air that moves from sea to land during the day

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trade winds system of winds found just north and south of the equator that blows toward the equator from the northeast and southeast

wind vane an instrument that tells from which direction the wind is coming

Vocabulary

Use the **storm** and **precipitation** vocabulary words and definitions below as a reference for this unit.

- anticyclone** high-pressure system with winds moving clockwise
- blizzard** a severe snowstorm with high winds
- cirrus** very high, thin, feathery clouds made of ice crystals
- cloud** tiny droplets of water suspended in the air
- cumulonimbus** cumulus clouds that bring rain; also called thunderheads
- cumulus** puffy, white clouds with flat bottoms
- cyclone** a low-pressure system with winds moving in a counterclockwise direction
- hurricane** a large, powerful low-pressure storm system; a cyclone with sustained winds of 75 mph or more
- lightning** a sudden discharge of electricity from clouds
- nimbostratus** a dark, low-lying stratus cloud that contains rain

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- nimbus** a cloud that causes rain to fall
- precipitation** moisture that falls to Earth as rain, hail, sleet, or snow
- saturated** a term used when the air has all the moisture it can hold
- stratus** smooth, layered clouds found low in the sky
- thunder** the sound made by lightning
- tornado** a violent, funnel-shaped windstorm
- tropical depression** a storm formed by a large, low-pressure system over water with winds less than 35 mph
- tropical storm** a storm formed when the winds of a tropical depression are between 35 and 74 mph
- waterspout** a tornado that forms over water