

Weather Test-2 Study Guide

Vocabulary	Definition
air mass	
altitude	
latitude	
front	
cold front	
warm front	
stationary front	
wind	<p>1. Describe how the warming of Earth's surface during the day affects the movement of air in an air mass.</p> <p>2. Describe how the warming of Earth's surface affects the movement of air at night.</p>
climate	
polar climate	
temperate climate	
tropical climate	
Weather patterns	

Identify the following weather map symbols and describe the kind of weather they indicate.

H	
L	
	
	
	

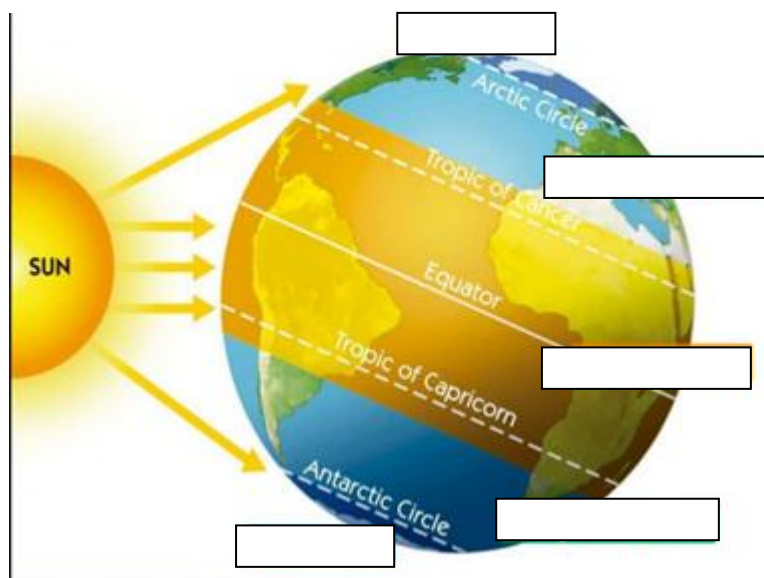
How do the following affect climates?

altitude	
latitude	
oceans / very large bodies of water	
mountains	

Describe the climate zones.




Polar	
Temperate	
Tropical	

Label the climate zones.



Vocabulary	Definitions
air mass	a large body of air that has about the same air pressure, humidity, and temperature
altitude	the height above sea level
latitude	the distance north or south of the equator measured in degrees from 0° (equator) to 90° (North Pole / South Pole)
front	the place where two air masses meet
cold front	forms when a cold air mass crashes into a warm air mass; as the cold air pushes the warm air up, water vapor condenses into clouds and precipitation falls; violent weather often happens along a cold front
warm front	forms when a warm air mass pushes into a cold air mass; the lighter warm air rises above the cold air producing layers of gray clouds and precipitation
stationary front	forms when a warm air mass meets a cold air mass; neither air mass has enough energy to push on the other one so they just hang out and remain for a few days; there can be precipitation when the warm air is touching the cold air
wind	During the day, cool ocean breezes move toward the land. At night, cool air above the land moves toward the ocean.
climate	the average weather pattern of a certain area over a long period of time
polar climate	the coldest climate zone; located around the North Pole and the South Pole; receives the least amount of sunlight and has very cold temperatures all year long
temperate climate	located in between the polar climate zone and the tropical climate zone; usually has warm, dry summers and cold, wet winters
tropical climate	the warmest climate zone; located around the equator; receives the most amount of direct sunlight and has very warm / hot temperatures all year long; often hot and rainy
weather patterns	In North America, most air masses move from west to east.

Identify the following weather map symbols and describe the kind of weather they indicate.

H	high air pressure; usually brings fair weather and sunny skies
L	low air pressure; usually brings rain, thunderstorms, and wind
	stationary front; where the warm air touches the cold air, water vapor will condense into clouds, fog, rain, or snow; the front may remain "stationary" for several days
	cold front; large cumulus clouds and even cumulonimbus clouds form; strong winds, thunderstorms and violent weather may result from a fast moving cold front
	warm front; usually brings layers of clouds and steady precipitation (rain / snow)

How do the following affect climates?

altitude	The higher you go, the colder it gets.
latitude	The equator gets direct heat, light and energy from the sun. Places closest to the equator will receive the most direct sunlight. Temperatures are hot. The further away from the equator a place is, the less direct sunlight the place receives. Temperatures get cooler with increased latitude.
oceans / very large bodies of water	Large bodies of water have a constant source for evaporation. Places closest to the oceans tend to be humid. Air masses above oceans affect temperatures and amounts of precipitation for surrounding land areas.
mountains	The side of a mountain nearest large bodies of water will have lots of precipitation. Warm, moist air is forced up the mountain. As the air rises, it cools and condenses, and precipitation falls. When the air mass has moved over the mountain, it has dropped most of its water. The air mass will be much dryer on the other side of the mountain.

Describe the climate zones.

Polar	the coldest climate zone; located around the North Pole and the South Pole; receives the least amount of sunlight and has very cold temperature all year long
Temperate	located in between the polar climate zone and the tropical climate zone; usually has warm, dry summers and cold, wet winters
Tropical	the warmest climate zone; located around the equator; receives the most amount of

direct sunlight and has very warm / hot temperatures all year long; often hot and rainy

Label the climate zones.

Major Climate Zones

❖ Planet Earth can be divided into three basic climate zones:

- Tropical
- Temperate
- Polar

