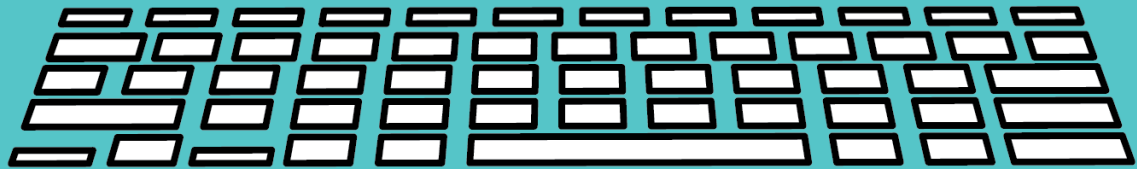


"If a fast
SPEED A
RAINDROP CAN
HIT YOU IS
EIGHTEEN
MILES PER
HOUR

Short Answer	Type Answer Here
1. About how many miles thick is the atmosphere?	
2. How many basic types of climate are there?	
3. What instrument measures air pressure?	
4. What percent of Earth is covered in ice?	
5. In what country is the hottest place on Earth?	
6. What percent of Earth do oceans cover?	
7. What is the term for when 2 air masses meet?	
8. What instrument measures air temperature?	



Short Answer	Type Answer Here	Fill in the Blank	Type Answer Here
1. About how many miles thick is the atmosphere?		9. Weather changes daily due to air ____ and temperature.	
2. How many basic types of climate are there?		10. Climate reflects weather conditions over at least ____ years.	
3. What instrument measures air pressure?		11. A ____ front is caused when warm air moves over cold air.	
4. What percent of Earth is covered in ice?		12. The tropical climate is located at the ____.	
5. In what country is the hottest place on Earth?		13. ____ climates are found at the top and bottom of the globe.	
6. What percent of Earth do oceans cover?		14. ____ helps regulate the climate because it is ____.	
7. What is the term for when 2 air masses meet?		15. Weather happens in the ____ segment of the atmosphere.	
8. What instrument measures air temperature?		16. An anemometer measures ____ speed.	



WEATHER & CLIMATE

What is the difference between weather and climate?
Meteorologists share weather information on the news throughout the day. Knowing the weather is prepared for the community in the event of extreme weather. For instance, will it rain tomorrow? Do you need an umbrella? Will there be storms? Is there a chance that school will be canceled? Is there a tornado in the area? Should we battened the hatches to protect doors and windows? Some people like to really watch the weather: pilots, construction workers, farmers.

Weather reflects temperature, precipitation, air pressure, and wind over a short period of time. Weather changes daily and on currents and winds. Weather is impacted seasonally by the earth's revolution around the sun.

A significant weather factor is the sun's energy and heat. Weather changes daily due to air pressure and temperature. Weather changes depending on wind, sunshine, humidity, and air pressure.

Weather can be sunny, cloudy, windy, rainy, or stormy. Sunshine, clouds, wind, and rain affect daily weather conditions. Weather happens in the troposphere segment of the atmosphere.

The atmosphere is about 15 miles thick and surrounds the earth like a blanket. The six to ten-mile thick troposphere is the bottom layer of the atmosphere.

Hot and cold air masses directly impact the weather. When two air masses meet, it's called a front.

- A cold front happens when cold air pushes underneath a warm air mass. This cold air replaces the warm air. The warm air cools off and creates condensation. Now, there will be a mild temperature and a rainstorm.
- A warm front is caused when warm air moves over cold air. Warm air rises, condenses, and forms clouds. This causes rain or snow.

Measuring weather involves specific instruments:

- A thermometer measures air temperature
- A barometer measures air pressure
- A rain gauge measures precipitation
- An anemometer measures wind speed

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- Satellites in space take pictures
- Radar shows current conditions

Climate, on the other hand, reflects weather conditions over at least 30 years. Climate indicates the average temperature, wind, humidity, snow, and rain for a location over a long period of time.

There are 5 basic types of climate:

- tropical
- dry
- temperate - mild
- continental - cold
- polar

Think of each climate as a ring around the globe. The tropical climate is at the equator where it is hot and humid. This is where rainforests are found. Dry and arid climates are deserts, they are on the outskirts of tropical climates. Here, moisture evaporates quickly, and there is little precipitation. Temperate

climates have warm and humid summers with thunderstorms. They also have mild winters. Continental climates have warm to cool summers. Winters are very cold with snowstorms and strong winds. Polar climates are found at the top and bottom of the globe. Polar regions are extremely cold, with temperatures below 50 degrees Fahrenheit (30 degrees Celsius).

Subcategories of these major types of climate include: rain forest, desert, tundra, tundra, and steppe.

Biomes are based on the amount of water, oceans, land, ice, and the biotic factors.

The atmosphere is a blanket of air around the earth with gases, including oxygen. The air we breathe is a protective layer that prevents the earth from becoming too hot or too cold.

- Oceans cover 71 percent of the earth. Oceans are useful in storing heat.
- Land covers 29 percent of the earth. Landforms and features like mountains, rivers, and currents and weather patterns.
- Ice covers 3 percent of the earth. Ice helps cool the climate because it is reflective.
- The biosphere is where organisms live and interact with the atmosphere.

Some extreme climates include the Atacama Desert in Chile (driest place on earth), Danakil Depression in Ethiopia (hottest place on earth), and Vostok Station in Antarctica (coldest place on earth).

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