April 19 Vocab Severe Storms

Word	Definition	Prefix/Suffix	Picture
thunderstorm			
hurricane			
lightning			
storm surge			
thunder			
tornado			

What's a thunderstorm?

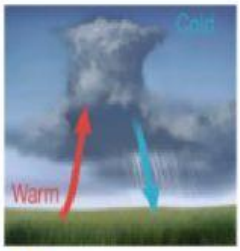
SPLAAAAAT! BOOOOM! The loud, sharp noise of thunder might surprise you, and maybe even make you jump. The thunder may have been joined by lightning, wind, and rain. A thunderstorm is an intense local storm that forms strong winds, heavy rain, lightning, thunder, and sometimes hail. A thunderstorm is an example of severe weather. Severe weather is weather that can cause property damage and sometimes death.

How are thunderstorms made?

Thunderstorms get their energy from humid air. When warm, humid air near the ground mixes with cooler air above, the warm air creates an updraft that can build a thunderstorm quickly. Cold downdrafts bring precipitation and eventually end the storm by preventing more warm air from rising.

Step 1

In the first stage, warm air rises and forms a cumulus cloud. The water vapor releases energy when it condenses into cloud droplets. This energy increases the air motion. The cloud continues building up.



Step 2

Ice particles may form in the low temperatures near the top of the cloud. As the ice particles grow large, they begin to fall and pull cold air down with them. This strong downdraft brings heavy rain or hail.

Step 3

During the final stage, the downdraft can spread out and block more warm air from moving upward into the cloud. The storm slows down and ends.

Follow Up Questions:

What role does warm air play in the formation of a thunderstorm?

Which picture in the diagram to the left shows the most severe and dangerous stage of a thunderstorm?

Compare the first two stages. Why does the cloud become taller?

What is a tornado?

A tornado is a destructive, rotating column of air that has very high wind speeds and that is sometimes visible as a funnel-shaped cloud.

How does a tornado form?

A tornado forms when a thunderstorm meets horizontal winds at a high altitude. These winds cause the warm air rising in the thunderstorm to spin. A storm cloud may form a thin funnel shape that has a very low pressure center. As the funnel reaches the

ground, the higher-pressure air rushes into the low-pressure area. The result is high-speed winds, which cause the damage associated with tornadoes.

Follow Up Questions:

What is a tornado?

Describe the atmospheric conditions that cause the formation of a tornado.

What is a hurricane?

A hurricane is a tropical low-pressure system with winds blowing at speeds of 119 km/h (74 mi/h) or more—strong enough to uproot trees. Hurricanes are called typhoons when they form over the western Pacific Ocean and cyclones when they form over the Indian Ocean.

How do hurricanes form?

A hurricane begins as a group of thunderstorms moving over tropical ocean waters. Thunderstorms form in areas of low pressure. Near the equator, warm ocean water provides the energy that can turn a low-pressure center into a violent storm. As water evaporates from the ocean, energy is transferred from the ocean water into the air. This energy makes warm air rise faster. Tall

clouds and strong winds develop. As winds blow across the water from different directions into the low-pressure center, the paths bend into a spiral. The winds blow faster and faster around the low-pressure center, which becomes the center of the hurricane.

As long as a hurricane stays above warm water, it can grow bigger and more powerful. As soon as a hurricane moves over land or over cooler water, it loses its source of energy. The winds lose strength and the storm dies out. If a hurricane moves over land, the rough surface of the land reduces the winds even more.

Follow Up Questions:

What is a hurricane?

Where does a hurricane get energy to form?

Why do hurricanes slow down when they move from the ocean onto land?

Why do you think hurricanes are more likely to occur near Florida than California?

How could a map of ocean currents help you predict the path of a hurricane?