Hurricanes

- Most powerful type of storm
- Formed in low pressure areas over warm tropical waters which contain a lot of energy. The areas of warm, moist air rise and cause powerful winds. The earths rotation causes the winds and clouds to swirl counterclockwise.
- Eye of the Storm is the center of the storm, where it is the calmest
- Does lots of damage because it can last for days and hit several areas at once
- Heavy Rains can cause floods
How do hurricanes form?

Hurricanes form over the warm ocean water of the tropics. When warm moist air over the water rises, it is replaced by cooler air. The cooler air will then warm and start to rise. This cycle causes huge storm clouds to form. These storm clouds will begin to rotate with the spin of the Earth forming an organized system. If there is enough warm water, the cycle will continue and the storm clouds and wind speeds will grow causing a hurricane to form.

A hurricane is an intense tropical storm with powerful winds and heavy rain.
• Other names for a hurricane include cyclone, typhoon and tropical storm.
• Hurricanes lose strength as they move over land.
Tornado

- When warm air rises quickly in a cumulonimbus cloud, the updraft can create a funnel cloud.
- Spinning column of air is a funnel cloud.
- It’s a tornado when it touches the ground.
- Destructive, but they usually last only for a short time and stay in a small area.
- A tornado is a rapidly spinning tube of air that touches both the ground and a cloud above.
- Tornadoes are sometimes called twisters.
- The Fujita Scale is a common way of measuring the strength of tornadoes. The scale ranges from F0 tornadoes that cause minimal damage through to F5 tornadoes which cause massive damage.
- A tornado that occurs over water is often called a waterspout.
Tornado

• A tornado is a violent rotating column of air extending from a thunderstorm to the ground.
• Most tornadoes form from thunderstorms. You need warm, moist air from the Gulf of Mexico and cool, dry air from Canada. When these two air masses meet, they create instability in the atmosphere.
Thunderstorms

• **What is a thunderstorm?**
  A thunderstorm is a storm with lightning and thunder. It’s produced by a cumulonimbus cloud, usually producing gusty winds, heavy rain and sometimes hail.

• **What causes a thunderstorm?**
  To make a thunderstorm you need moisture, unstable air and lift. You need moisture to form clouds and rain. You need unstable air that is relatively warm and can rise rapidly. Finally, you need lift. This can form from fronts, sea breezes or mountains.
  **What causes thunder?**
  Thunder is caused by lightning. When a lightning bolt travels from the cloud to the ground it actually opens up a little hole in the air, called a channel. Once then light is gone the air collapses back in and creates a sound wave that we hear as thunder. The reason we see lightning before we hear thunder is because light travels faster than sound!
Lightning

• What causes lightning? Static Electricity. Positive and negative charges that creates friction inside of the cloud.

• What is sheet lightning? When positive and negative charges create friction inside of a cloud. It appears as flashes of light that light up the entire clouds. It is caused by the build up of charges.

Lightning is an electric current. Within a thundercloud way up in the sky, many small bits of ice (frozen raindrops) bump into each other as they move around in the air. All of those collisions create an electric charge. After a while, the whole cloud fills up with electrical charges. The positive charges form at the top of the cloud and the negative charges form at the bottom of the cloud. Since opposites attract, that causes a positive charge to build up on the ground beneath the cloud. The grounds electrical charge concentrates around anything that sticks up, such as mountains, people, or single trees. The charge coming up from these points eventually connects with a charge reaching down from the clouds and - zap - lightning strikes!