



Weather for Kids



where we hope you learn about the fascinating weather that affects us day to day. This is a great learning resource for parents and teachers.

THUNDERSTORMS

What is a thunderstorm?

A thunderstorm is a storm where you hear thunder and see lightning. Usually there is heavy rain in a thunderstorm. Thunderstorms are electric storms.

When there is about to be a thunderstorm, a *cumulonimbus* cloud forms, often in a clear blue sky. (When a cloud's name ends in *nimbus*, it means rain or snow is falling from the cloud.) The cloud increases in size and begins to build up peaks, which become very dark.

Cumulonimbus clouds mean that there is going to be a thunderstorm, with wind, rain and even hail on a summer day.

The loud sound that thunder makes is due to the heat of the flash of lightning. This heat causes the air to suddenly expand (grow bigger) and then contract (grow smaller). The noise we hear is the sound of this violent expansion and contraction.

The sound of thunder may go on rolling for several seconds. This is mainly due to echoes from the ground, from mountains or hills and from buildings.





Are thunderstorms only in summer?

Thunderstorms normally occur in hot, humid weather so are mostly in summer. There are winter thunderstorms, however, which occur along the edge of a cold weather front.

The worst thunderstorms happen in the tropics, where the air can become very hot and very humid. In tropical countries the rainy season often begins with a series of violent thunderstorms.

Every day across the planet Earth there are about 1,800 thunderstorms.



What causes a thunderstorm?

- ✓ Thunderstorms happen when the air has become very warm and heavy with water vapour.
- ✓ Heated air expands, rises and forms clouds.
- ✓ When the warm air rising from the ground is very full of water vapour, it continues to rise and builds up great peaks of cloud.
- ✓ Inside this cumulonimbus cloud, a storm is raging as the warm air rushes in.
- ✓ Air pilots know that they must never fly through a thunder cloud as the force of the winds inside can damage the aircraft.
- ✓ When the cloud can support no more water, the rain falls, very suddenly and heavily.



Why is a thunderstorm electric?

- ✓ The air rising to the top of the thunderclouds carry a negative charge of electricity.
- ✓ The raindrops, however, as they begin to fall to the bottom of the cloud, develop a positive charge of electricity.
- ✓ When these charges meet in a violent storm inside the cloud, electricity is sparked in the form of lightning.



Facts about thunderstorms

- ✓ Every thunderstorm has lightning.
- ✓ The upward wind speed inside the cumulonimbus cloud can reach up to 100 miles per hour.
- ✓ The worst thunderstorm area in the world is Kampala, the capital of Uganda. Kampala has an average of 240 days with thunderstorms every year.
- ✓ Severe thunderstorms can produce hailstones of three-quarters of an inch in diameter (the distance from side to side). A thunderstorm like this can cause terrible damage to crops.
- ✓ Never shelter under a tree during a thunderstorm. Trees can be struck by lightning or have their branches torn off during a thunderstorm.

