

# Lightning



A thundercloud is formed when warm, wet air moves upwards in the sky and cools very quickly. Some of the rain drops inside these clouds freeze and turn into ice. The ice and the rest of the rain drops start bumping into each other as the cloud moves around, causing a lot of electricity. An electric spark shoots out to remove some of the build up of electricity in the cloud. This electric spark is called lightning. Lightning may travel from one part of a cloud to another, from one cloud to another, from a cloud to earth or from earth to a cloud.

There are two main types of lightning, sheet and forked lightning. Sheet lightning lights up the whole sky but flashes inside a storm cloud and does not come down to earth. Forked lightning begins when a flash of lightning zigzags to the ground; once it reaches the ground another flash shoots back immediately up into the sky. The flash we see is therefore a fork of lightning jumping between the ground and a cloud and looks like zigzag lines.

Lightning is so hot it is five times hotter than the surface of the sun. It reaches temperatures of 30,000 °C. Since things expand when heated the air around the lightning expands and expands. It does this so quickly that it explodes causing a big bang, called thunder. If there is a storm near you, you will be able to hear the thunder at the same time as you see the lightning, but if the storm is away in the distance you will see the lightning first because light travels much faster than sound. To work out roughly how many miles away a storm is from you, count the seconds between



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the flashes of lightning and the bang of thunder and then divide by five (for

kilometres divide by three).

Sometimes you can hear thunder rumbling in the distance. This is sound waves from the thunder bouncing from cloud to cloud and reflecting back to you.

If you ever find yourself outside during a thunder and lightning storm never stand underneath a tree, tall building or out on open ground. Lightning takes the shortest path to the ground so it will usually pick a tall object such as a tall tree, house, a tower, or a person standing alone in a flat field to go through to get to the ground. Lightning may also hit the same place or the same person several times. A safe place to be is inside your house or in your car.

