

# What Causes Hailstones?

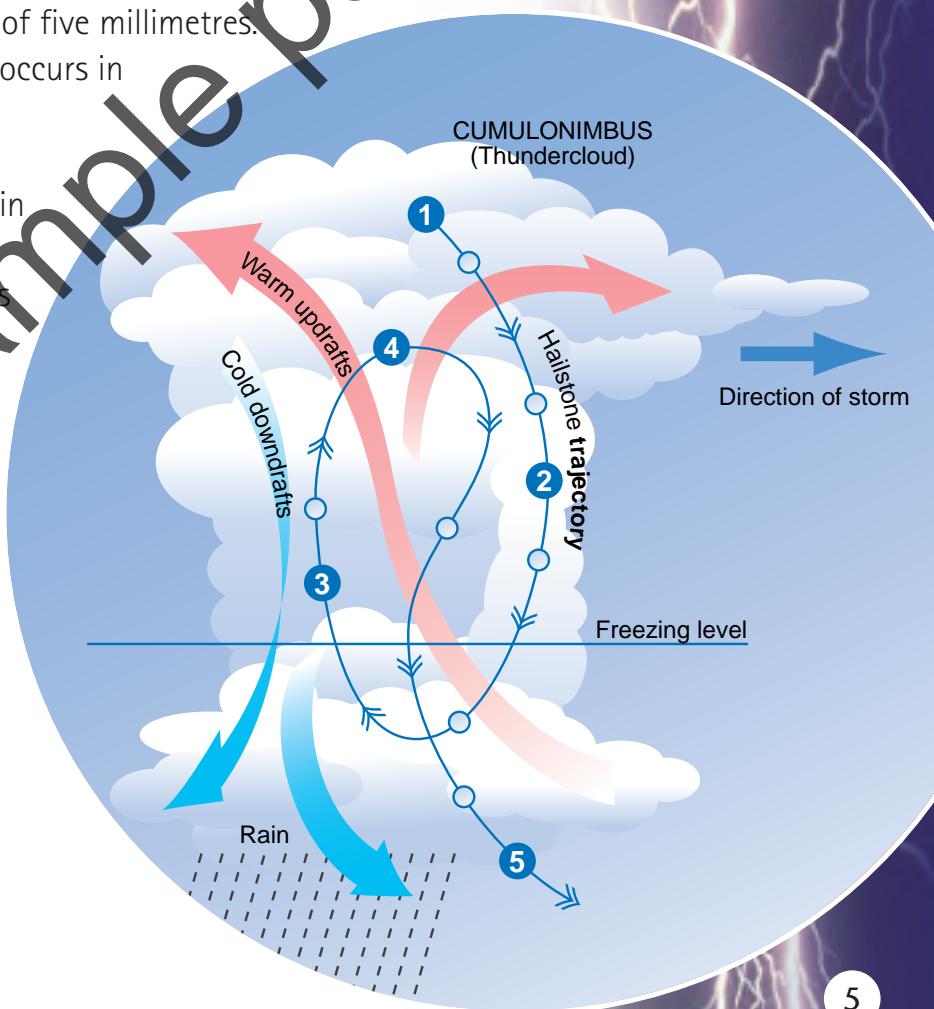
Inside the tall **cumulonimbus** clouds of a big storm, the temperature at the top of the cloud is often below freezing. At the bottom of the cloud, it is warmer. Air currents in the clouds, which are called **updrafts** and **downdrafts**, are very strong. Raindrops that form in the cloud may be tossed up and down by these air currents. The raindrops freeze as they are carried up to the top of the cloud, then thaw as they drop down and meet the warmer air. This may happen several times, and each time, the raindrop gets bigger and heavier.

The **transformation** of these droplets to ice crystals requires a temperature below zero degrees Celsius, as well as tiny particles of solid matter, such as dust.

When the raindrop eventually becomes so heavy that it falls out of the cloud, it may be as a large lump of ice called a hailstone. According to scientists, an icy **conglomeration** is called a hailstone when it reaches a diameter of five millimetres.

In all its forms, hail usually occurs in short spurts rather than as steady **precipitation**.

Hailstones are arranged in layers. If a hailstone is cut open before it melts, it looks like the inside of an onion. Hailstones can be as large as twelve-and-a-half centimetres in diameter. They can destroy crops, damage buildings, dent cars and kill small birds, and, occasionally, people.



# Hailstorm Facts and Figures

Here are some interesting facts and figures that you probably did not know about hailstorms.

## THE GREATEST TOLL

Generally, very few people are killed or injured by hailstones; for example, in Canada, where hailstorms are responsible for more than \$200 million dollars worth of damage each year, there has never been a **fatality**. However, in India, in 1888, a hailstorm is said to have caused 246 deaths.



## THE LARGEST HAILSTONE

Weather folklore is full of accounts of suspiciously large hailstones. Some hailstones have been described as the size of an elephant. Of course, this is an exaggeration. However,

The largest hailstone reported and accepted by United States Weather Bureau officials fell at Coffeyville, Kansas, on 3 September 1970. Weighing in at 758 grams, the hailstone measured forty-four centimetres in circumference.

## THE LONGEST HAILSTORM

A massive hailstorm that hit Nodaway County, in the United States of America, on 5 September 1898, left hail on the ground for fifty-two days. Ice-clogged fields remained unworkable for two weeks, bringing the small farming community to a halt.

## STRANGE, BUT TRUE

In 1894, a turtle encased in ice fell to the ground during a hailstorm in the Mississippi region of the United States of America.