Meteorites & Meteors

A Meteorite is a lump of interplanetary debris that survives a high-speed passage through the atmosphere and hits the ground.
A meteor is a piece of matter (sand, dust, grit) that gives off a streak of light when it burns up in the Earth's atmosphere. These are sometimes called Shooting Stars, although of course they are not stars at all. Once the meteorite has landed we would call it a meteroid.

At certain times of the year the Earth encounters swarms of dust that give rise to Meteor Showers, during which dozens of meteors can flash out each hour. For example, the bright Perseid meteors of mid-August radiate from the constellation of Perseus. They are caused by dust shed from comets orbiting the Sun.

The specks of dust that cause meteors burn up at a height of 100 km (60 miles) so there is no chance of being hit on the head by one! But occasionally much large lumps of rock or metal enter the Earth's atmosphere and hit the ground. These are known as meteorites. If a meteorite is moving quickly enough when it hits the ground it can blast out a gigantic crater. In the desert of northern Arizona, USA, lies a crater 1.2 km (0.75 miles) across that was formed about 25 000 years ago by a meteorite. The meteorite, which was made of iron, is estimated to have weighed 250 000 tonnes, most of it was vaporised in the heat of the impact (see picture).

Most meteorites are much smaller than this, and are usually slowed down by the Earth's atmosphere before they can reach the ground, although they can still cause damage. In 1954 a woman in Alabama, USA, was bruised by a meteorite that crashed through the roof of her house and hit her on the hip. She is the only person known to have been struck by a meteorite.

About 500 meteorites hit the Earth each year, but most of these land in the oceans or remote areas and are never found.

The heaviest known meteorite, made of iron, weighs 60 tonnes and lies where it fell in prehistoric times in Namibia, south-west Africa.