

All About Comets

- ☞ Comets are sometimes called 'dirty snowballs' or 'icy dirt balls'.
- ☞ Each comet has a solid center part called a nucleus. The nucleus of a typical comet is about 12 miles across.
- ☞ The nucleus contains ices and gases (water, carbon dioxide, methane, and ammonia), rock, dust and organic material.
- ☞ The coma surrounds the nucleus and contains gas and dust. It is the "atmosphere" of the comet.
- ☞ Comets go around the sun in long elliptical orbits and usually are invisible – except when they get close to the sun.
- ☞ As a comet gets close to the sun, it begins to evaporate. The cloud of gas and dust around the nucleus – the coma – gets bigger and bigger.
- ☞ The flow of energy and particles from the sun – the solar wind – sweeps the gas and dust into long tails.
- ☞ The tail actually has two parts – the dust tail and the ion tail. These can extend for millions of miles.
- ☞ The tail of the comet always points away from the sun no matter what direction the comet travels because the solar wind always blows out from the sun.
- ☞ Meteor showers sometimes occur when the Earth passes through the dust and particles left behind by a comet.
- ☞ Comets come from a region of icy bodies beyond the orbit of Neptune called the Kuiper Belt. These short-period comets are fairly predictable because they take less than 200 years to orbit the sun.
- ☞ Some less predictable comets arrive from a distant region called the Oort cloud. These comets can take as long as 30 million years to complete one trip around the sun.
- ☞ Some famous comets are Halley, Hyakutake, and Shoemaker-Levy 9. Around a dozen 'new' comets are discovered each year.
- ☞ Comets are 'leftovers' from the formation of our solar system around 4.6 billion years ago.
- ☞ They are among the least-changed objects in our solar system and hold important clues about the composition of our early solar system.
- ☞ Scientists are studying comets to learn more about what they are made of and how they formed. New missions – like Giotto, Stardust, Rosetta, and Deep Impact - have revealed some surprising results!