

## Comets

Halley's Comet could be called the “Old Faithful” of the night sky. Approximately every 76 years, its orbit around the sun brings it into the view of Earth. Sometimes its path brings it close to the Earth. At other times, it is barely visible, but every 76 years or so it appears.

The comet looks like a fuzzy star with a long tail of light following it. Comets are like giant dust balls, clumps of frozen dust and gases collected from some of the oldest particles of our solar system. They travel in orbits around the sun, just as the planets do. When they are out at the edges of the solar system, they look like dirty chunks of ice, but as their orbit takes them closer to the sun, the solar wind brings them to life. The solar wind is a stream of energized particles blowing away from the sun. When this occurs, the comet heats up, producing a luminous tail of electrically charged gases, something like a neon sign. Often, a comet will show a second tail made of dust curving away from the nucleus, or center, of the comet.

As comets approach the sun, this tail follows. But as the comets head back away from the sun, the tail precedes, or travels ahead of, the main body of the comet. After the comet passes closest to the sun, it goes back to the outer solar system, perhaps well beyond the orbit of Pluto. As it travels, it begins to cool and the gases stop escaping, so that once again, the comet appears as nothing more than a dirty snowball. However, some comets don't have such a lucky escape. Occasionally, a comet may pass so close to the sun that it crashes into the star, never to be seen again.

Comets have been known for thousands of years. Chinese records dating from before 240 BC mention “broom stars.” The name “comet” comes from the Greek word *kometes*, which means “head of hair.” Because comets were not understood, people started thinking of them as omens or prophecies of important events. We now know much more about why and when comets appear, and by the time Halley's Comet returns in the year 2062, our understanding will be even greater.

## Unit 5

- In 1909, the author Mark Twain predicted correctly that his death would coincide with the appearance of Halley's Comet (in 1910) because his birth had (in 1835). Was the comet an omen or was it a coincidence?
  
- How are the activities of a comet similar to a ritual? How are they different?
  
- In the past, the appearance of comets has been associated with traumatic events. Why do you think this is so?