

Halley's comet

[Science](#), [Astrology](#)



The comet's periodicity was first determined in 1705 by English astronomer Edmond Halley, who it was eventually named after. Halley's Comet last appeared in the inner Solar System in 1986 and won't appear again until mid-2061. Although the nucleus of the comet itself is not that large, the coma can extend to a very large size. As the gas molecules in the coma are ionized by the solar ultraviolet radiation pressure from the solar wind, a stream of particles emitted by the Sun pulls the coma's ions out into a long tail, which may extend more than 100 million kilometers into space. The nucleus itself is only 15 kilometers long, 8 kilometers wide, and 8 kilometers thick. In comparison, the earth has a diameter of 12, 756 km and the sun has a diameter of 1, 392, 000 km.

This means that Halley's Comet is only about 4% the size of earth but because of its coma, it appears much larger to the naked eye. While the planets orbit around the sun, Halley's Comet orbits towards and away from the sun, all the way out to Jupiter, perpendicular to the planet's orbits. Halley is classified as a periodic or short-period comet, one with an orbit lasting 200 years or less. This contrasts it with long-period comets, whose orbits last for thousands of years. Most short-period comets, those with orbital periods shorter than 20 years and inclinations of 20-30 degrees or less, are called Jupiterfamilycomets. Those like Halley, with orbital periods of between 20 and 200 years and inclinations extending from zero to more than 90 degrees, are called Halley type comets. Only 54 Halley-type comets have been observed, compared with almost 400 identified Jupiter family comets. The orbits of the Halley-type comets suggest that they were originally long-period comets whose orbits were altered by the gravity of the giant planets

and directed into the inner Solar System. If Halley was once a long-period comet, it is likely to have originated in the Oort cloud a sphere of bodies that has an inner edge of 50, 000 AU. Also, the Jupiter family comets are believed to originate from the Kuiper belt, a flat disc of icy masses between 30 AU and 50 AU, from the Sun. Another point of origin for the Halley type comets has been proposed.

In 2008, a new object with a retrograde orbit similar to Halley's was discovered. Named Drac, its orbit takes it from just outside that of Uranus to twice the distance of Pluto. It may be a member of a new population of small Solar System bodies that serve as the source of Halley type comets. A few things make Halley's Comet popular and unique. The obvious thing is that it is fairly easy to see when it does orbit, more so than most other orbiting comets. Also, it orbits every 70 years or so. This makes it unique because it means that most people have a chance to see it at least once. Every generation of people gets an equal opportunity to see it, which makes it special because now everybody can have a part in it. A lot of other comets only orbit every hundred years or so, so you just have to be lucky to be able to see them.

References:

1. <http://csep10.phys.utk.edu/astr161/lect/comets/halley.html>
2. <http://nineplanets.org/halley.html>
3. http://en.wikipedia.org/wiki/Halley%27s_Comet