

Name _____ Date _____

Comet Notes

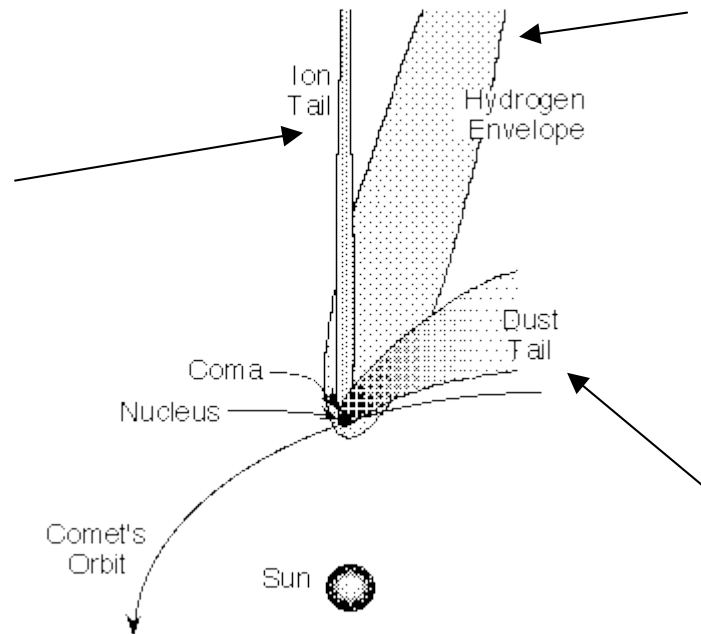
Comets: are called “_____” or “_____”. They are a mixture of both _____ and frozen _____ and _____ that for some reason didn't incorporate into _____ when the solar system was _____.

Parts of the Comet (when near the sun)

- **nucleus:** relatively _____ and _____, mostly _____ and _____ with a small amount of _____ and other solids;
- **coma:** dense _____ of _____, carbon dioxide and other neutral gases _____ from the nucleus; will _____ as it gets closer to the sun, becomes brighter than reflected light at about _____ AU
- **hydrogen cloud:** _____ (millions of km in diameter) but very _____ envelope of neutral _____;
- **dust tail:** up to _____ million km long composed of _____-sized dust particles driven off the _____ by escaping gases; this is the most _____ part of a comet to the _____ eye;
- **ion tail:** as much as several _____ million km long composed of _____ and laced with _____ and _____ caused by _____ with the solar wind.



Components Of Comets



Life of comet:

It takes about _____ passes around the _____ before a comet's ice and gas is _____ leaving a rocky object very much like an _____ in appearance. Most NEA may be _____ comets.

If a comet's orbit is near the sun, it will either _____ one of the planets, the sun, or be _____ out of the solar system.

Where do comets come from?

Comets are found in _____ main regions of the solar system: the _____ and the _____. There are two types of comets: _____-period comets and _____-period comets.

Short period comets – comets that _____ return to the solar system – probably come from the _____ beyond the orbit of Neptune. Astronomers estimate that this belt contains at least _____ million objects, which are thought to have remained essentially _____ since the birth of the solar system _____ billion years ago.

Long-period comets, which can take _____ of years to complete their orbits, are thought to emanate from the _____, a vast group of frozen bodies that _____ the solar system. The Oort Cloud is thought to extend _____ times the distance from the Earth to the Sun.

Oort Cloud comets, like their Kuiper Belt brothers, probably originated in the region of the solar system between _____ and _____, but were ejected from the Oort Cloud by close encounters with the gravity of the giant planets.

Comets are kicked out of the Oort Cloud and the Kuiper Belt by the pull of the _____ of another object – a _____, a _____, or another _____. They then begin their journey toward the inner solar system and the _____.

Drawing of the Oort cloud and the Kuiper (rhymes with viper) belt