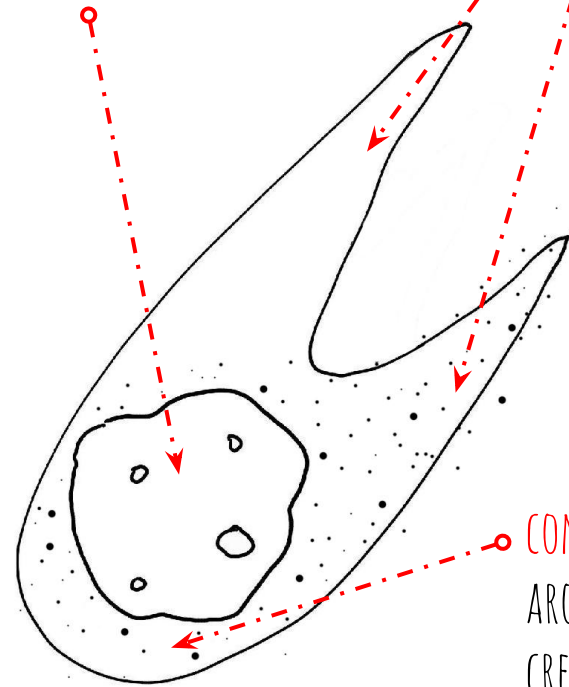


# THE ANATOMY OF A COMET

**NUCLEUS** - A FROZEN CHUNK OF ICE, GAS, AND SOME DUST, USUALLY A FEW MILES ACROSS

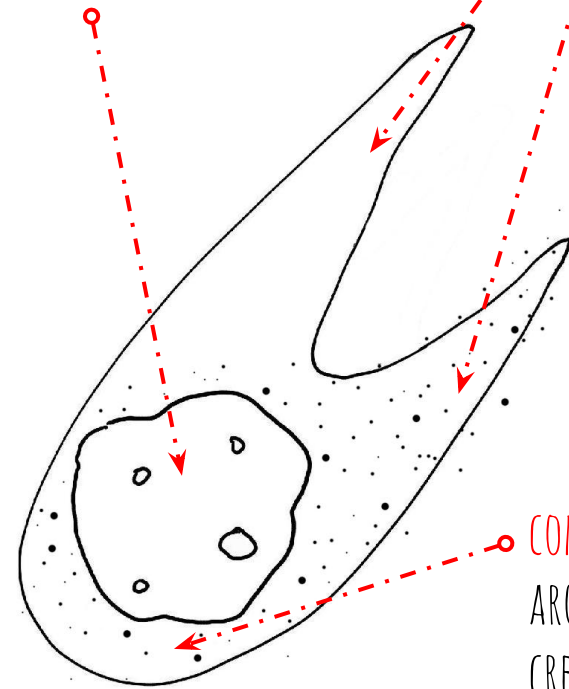


**TAIL** - TWO TAILS (ONE DUST, ONE GAS) ARE FORMED WHEN LIGHT AND PARTICLES FROM THE SUN BLOW THE COMA IN THE OPPOSITE DIRECTION

**COMA** - A THIN ATMOSPHERE AROUND THE NUCLEUS CREATED WHEN ICE AND GAS IN THE COMET ARE HEATED BY THE SUN

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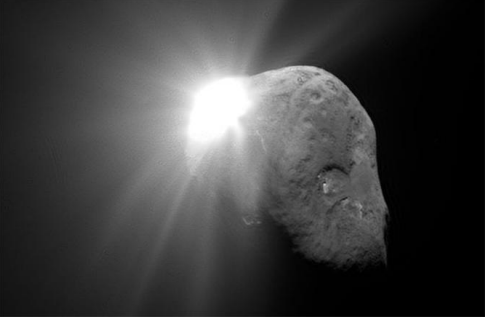
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# COMETS IN ACTION!

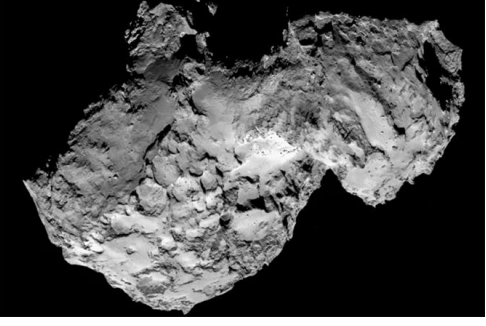
**Halley's comet** passes by Earth every 75 years. It was last seen in 1986. That year, ESA's Giotto probe flew by and took this picture showing the comet's nucleus and coma. Giotto was damaged by Halley's dust, but survived the encounter.



**Tempel 1** is five miles in diameter. NASA's Deep Impact mission flew by in 2005 and shot a probe at the comet. This photo shows the resulting collision and the debris that was later collected and studied.



**Comet 67P/CG** was photographed in great detail by ESA's Rosetta mission in 2014. After a 10-year journey, Rosetta entered the comet's orbit and deployed a lander named Philae to its surface - for the first time in history.



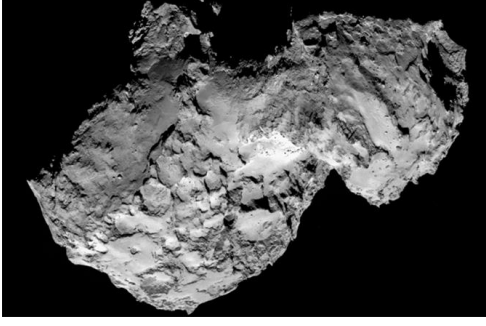
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# WHAT'S THE DIFFERENCE?

## COMETS, METEORS, AND ASTEROIDS

**Comets** are balls of ice and dust that grow tails when they come close to the sun. Comets come from some of the furthest parts of the solar system - the Kuiper Belt and Oort Cloud. The Kuiper Belt is a ring of icy objects that include some objects near the size of Pluto. The Oort Cloud surrounds the solar system and is made up of comets that can shoot towards the sun from any direction.



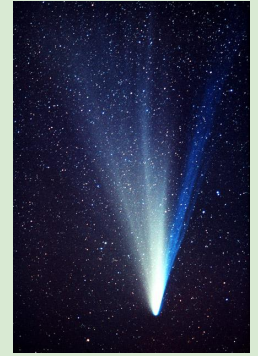
Comet West

Taken by John Laborde at the  
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Taken during the  
Leonid Meteor Shower

By Ed Sweeney

**Meteors**, known as "shooting stars", occur when small pieces of dust - "meteoroids" - impact the Earth's atmosphere and burn up, causing a short streak of light. If the meteor makes its way to the ground, it is called a "meteorite." Sometimes Earth passes through the dust trail left behind from a comet and many meteors are produced - this is a meteor "shower."

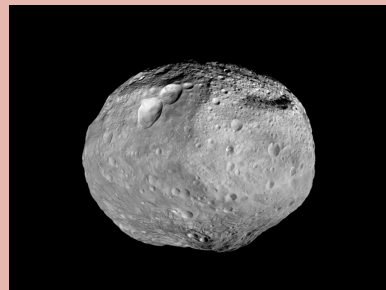


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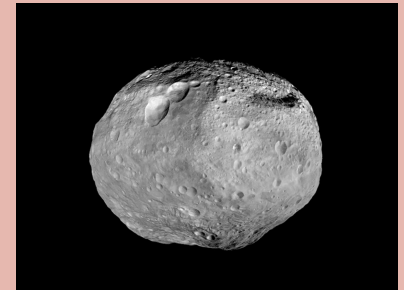
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Vesta

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