



Deep Impact

Interesting Mission Facts



Created for Deep Impact, A NASA Discovery Mission
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Educator/Student - Enrichment

1. The term “comet” comes from the Greek “kometes” meaning long hair, referring to the tail.
2. The Deep Impact flyby (observing) spacecraft is about the size of a Volkswagen Bus.
3. The Deep Impact impactor (projectile) spacecraft is about 3 X 3 feet, about the size of a desk and weighs 370 Kg (820 lbs).
4. The entire combined spacecraft weighs about 1 ton.
5. The closing speed of the comet to the impactor is 10 times faster than a speeding bullet.
6. The size of the crater is expected to range in diameter from that of a house to that of a football stadium and to be several stories deep.
7. The ejecta curtain (sprays of ice and rock) coming out of the crater might look like what you see when you throw a rock into a can of paint (funnel shaped spray).
8. If you view the impact of Comet Tempel 1 from Earth with a large telescope it might look like a bright flash followed by a glowing stream. It would take a couple of minutes after the flash for the "stream" to separate from the center of the comet.
9. The impact will not knock the comet out of its orbit because the force of the collision between the impactor and the comet is less than that of a moving truck hitting a BB. It does not affect speed or direction to any noticeable degree.
10. It takes 7 1/2 minutes for the flyby spacecraft signal to reach Earth. Once the mission is within its last hour, there is no time for the team on Earth to communicate effectively with the twin spacecraft. That is one of the reasons auto navigation systems are being built into the flight plan.

11. The communication time between the flyby spacecraft and the impactor takes less than one second.
12. The impactor does not actually speed toward the comet. The impactor aims to place itself in the path of the approaching comet and it is actually the comet that hits the impactor and vaporizes it. The flyby spacecraft has moved away and below the comet path to observe the impact. After the impact, the comet passes over the top of the observing flyby spacecraft and continues on its orbit around the Sun.
13. For more information, see our [Fact Sheet](#).