



Background Information

What is Deep Impact?

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What is Deep Impact?

- **What is the Deep Impact mission?**

Deep Impact was a NASA mission to a comet. It sent a spacecraft that did a fly-by the comet (the fly-by spacecraft) and also an 'impactor' that was released into the path of the comet so that the two will collided.

- **Why collide with a comet?**

Before Deep Impact scientists were only able to observe comets remotely and look at the outside of the nucleus, the coma and the tails. What wasn't known was what the nucleus is like inside. For example, what the composition is and what structure it has (it could be solid or full of holes).

- **When was the spacecraft launched?**

Deep Impact was launched from Cape Canaveral in Florida, USA, on January 12th 2005.

- **When did the impact take place?**

The impact took place on the morning of July 4th 2005, at 05:52 GMT.

- **What is the name of the comet?**

The comet is called Tempel 1 and is about 6 km across. It orbits the Sun in about 5.5 years.

- **Did the impact change the orbit of the comet?**

The impact did not change the orbit of the comet because the mass of the impactor was too small compared to the comet itself. Scientists compared the impactor hitting the comet as being similar to a fly hitting the window of a lorry traveling down the motorway.

- **What were the results of the mission?**

The impact excavated debris from the interior of the nucleus, allowing photographs of the impact crater. The photographs showed the comet to be more dusty and less icy than had been expected. Based on the comets interior chemistry, astronomers were able to determine that a comet which forms further from the sun will have greater amounts of ices with low freezing temperatures.