



Comet Models

Based on the Deep Impact Mission



Created for the Deep Impact Mission, A NASA Discovery Mission
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Here are some comet models you can try to build. Then design your own model. You can also use these models to explore some of the facts and concepts about comet science.

Comets have a dark surface we can't see through. From what is it made?

Make several ice cream balls or use baking potatoes and cover them with different materials:

- Is it a hard crust? – Use chocolate shell. (hardens into a layer)
- Is it a slushy crust? – Use chocolate syrup
- Is it powdery – Use cocoa powder or cake mix
- Is it rough and thick – Use broken cookies

Cover the surface of your “comet” so that the inner contents can't be observed. (The Deep Impact Mission will visually observe how the impact is made to the surface of the crust to learn more about its makeup.) Try to have another team design an experiment to see what is beneath the surface of your comet? Which kind of surface do you think we will find on a comet and why?

What do you think we will find beneath the surface of a comet?

Look for a candy bar that you believe might show what it is like under the surface of a comet. Is it a dark or light? Is it smooth or full of “debris” – peanuts, candy etc? Are there layers beneath the surface or not, and is it a delicate or sturdy in formation? Why do you think you have picked a good model?

How will you build and evaluate your own model?

Have the class bring materials from home and have teams decide on a mission design, comet theory or comet question they would like to communicate. Have them design a model to communicate their question about a comet. Have them build it and design a test to try to confirm their theory or answer their question. Was it a good model and can they improve it? If there is time, work on an improved designed based on evaluation of the first model.