



Comet Models

Based on the Deep Impact Mission



Created for Deep Impact, A NASA Discovery Mission

Maura Rountree-Brown and Art Hammon

Educator/Student - Inquiry

Questions?? Contact Maura.Rountree-Brown@jpl.nasa.gov

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, theories 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 create a crater on the surface of a comet and 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 beneath the surface of a comet. Is it dark or light? Is it smooth or full of “debris” – peanuts, candy etc? Are there layers beneath the surface or not, and is it delicate or firmer in composition? Why do you think you have picked a good model?

How will you build and evaluate your own model?

Bring materials from home and have your team decide on a mission design, comet theory or comet question you would like to communicate. Design a model to communicate your question about a comet. Build it and design a test to try to confirm your theory or answer your question. Was it a good model and can you improve it? If there is time, work on an improved designed based on evaluation of the first model.