

Rock and Ice: Asteroids and Comets

Asteroid Belt

1. What is the Asteroid Belt, and where in the Solar System is it located?
2. What is the reason why the Asteroid Belt is found where it is? Why don't the asteroids coalesce into a small planet?
3. Many science fiction movies present the asteroid belt as a hazardous minefield of huge, floating rocks in space. What is wrong with this view?

Kuiper Belt

4. Where is the Kuiper Belt located? How do the objects there differ from those found in the asteroid belt, and why?
5. Is Pluto a planet, or just another Kuiper Belt object? Provide arguments for both sides.

Oort Cloud

6. What is the Oort Cloud? Why do we refer to it as a separate population from the Kuiper Belt?
7. We've never seen an object inside the Oort Cloud – it's too far away for anything in it to be detectable with our current telescopes. So how do we know that it is there?

Comets

8. Comets are smaller than asteroids, but can potentially do much more damage if they impact Earth. Why is this?
9. Draw a comet's path around the Sun on the board, and indicate the comet's position at 4 or 5 different times. Draw the comet at each point, paying special attention to the position and orientation of the two tails.