Make Your Own Asteroid

AGE RANGE: Pre-school/Elementary School • PREP TIME: 5 minutes • LEARNING TIME: 20 minutes

Modeling Asteroids

Asteroids are rocky and metallic remnants from the early Solar System that can vary in size and composition. They can have craters or they can be smooth. They consist of a mix of rocks, ice, dirt, dust, and sometimes metal. Making your own asteroid gives kids a tangible understanding of asteroid formation, composition, and diversity in the Solar System.
Share your asteroid on social media by tagging @NCScienceTrail.

STEP 1

Gather the following items:
1. Clay (two or more colors)
2. Foil
3. Pebbles, beads, or small objects
4. Markers
5. Images of real asteroids

Optional: Scales to measure mass, water and containers to measure volume (for older kids)

STEP 2

Select two or more colors of clay and create a roundish clay "asteroid" shape 2-3 inches in diameter. Be creative with the shape! Asteroids come in all shapes and sizes.

STEP 3

Add foil, beads, pebbles or other small objects. Asteroids are made of all sorts of materials. Make it fun!

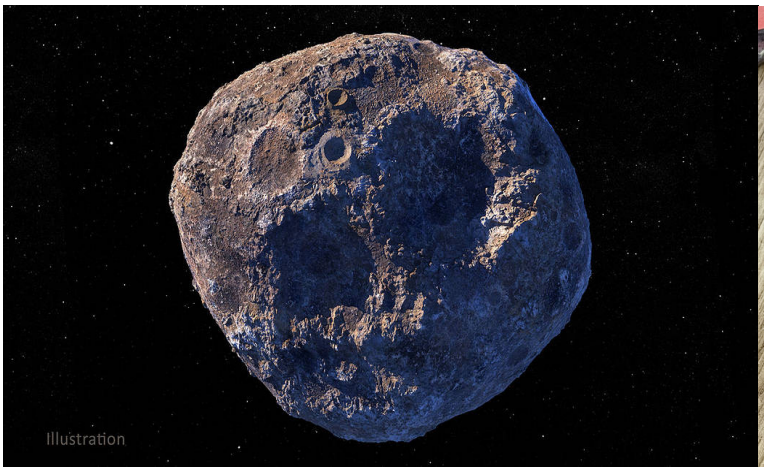
STEP 4

Color your asteroid with markers to represent different surface features or composition.

Resources:

Jet Propulsion Laboratory
California Institute of Technology

https://www.jpl.nasa.gov/edu/teach/activity/modeling-an-asteroid/



After the activity ask yourself these questions:

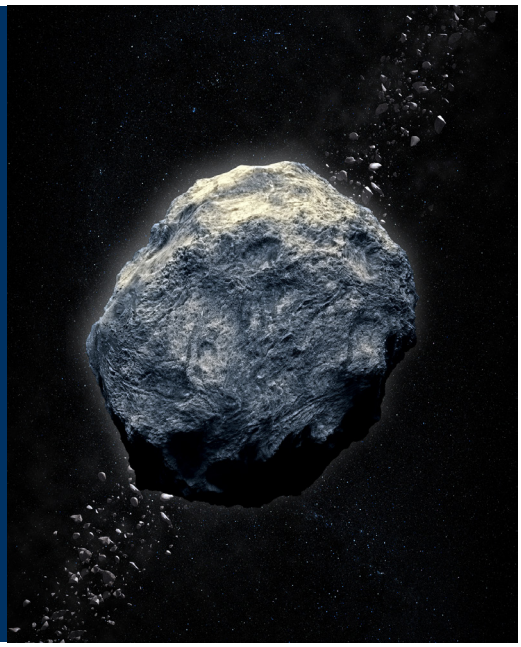
Which materials did you choose for your asteroid, and why?
How does your asteroid compare to the pictures of real asteroids?
What similarities and differences do you see?
Is your asteroid strong enough to withstand a collision with another asteroid?
How would your asteroid reflect sunlight as it spins?

What is an Asteroid?

Asteroids are leftover rocky parts of the solar system.

Some have not changed very much in 4.5 billion years and some have partly melted. Others have completely melted and formed an iron-nickel core with rocky material on top.

All asteroids have craters that were made by collisions between asteroids – big and small. These rocky, metalic pieces flying through space tell us about the formation and history of the Solar System. Some have loose particles on their surfaces while others are bare rock.



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