



ASTRONOMY @ HOME

CREATE A CRATER!

Astronomy is one of the oldest types of science studied by humans. Possibly this is true because you do not need any tools to get started. You can just look up into the sky and make easy observations, or study the sky a long time to start learning even more about the sun, moon, stars, and planets.

What does the surface of the moon look like? It is completely flat and smooth? No, it's covered with craters! We can tell that the moon has craters from Earth because we can see shadows on the moon. Try this experiment to learn more about how these craters are formed.

MATERIALS & STEPS

- A metal or plastic tray, pan, or cookie sheet
- Corn starch, baking soda, or flour
- Marbles, bearings, and/or pebbles (Try them all for different results!)

Note: We recommend trying this experiment outside since it might get messy.

Spread a 1/2-inch layer of your powdery material onto the tray or pan. Place the tray on the ground. Hold one of your pebbles close to the tray and drop it gently. How did it change the smooth surface of the powder? You've just created a small crater. Hold another pebble high up in the air and drop it onto the tray. It might even bounce. How does this crater compare to the one you dropped from closer to the pan? You can try dropping pebbles from all different heights.

Craters are formed on the moon in a very similar way, when asteroids or other objects from space hit its surface.

VOCABULARY

Astronomy is the study of the sun, moon, stars, planets, comets, gas, galaxies, dust, and other non-Earthly bodies and phenomena.

A **crater** is a large, bowl-shaped cavity on the surface of a planet or moon, typically caused by an explosion or the impact of a meteorite or other celestial body.

An **asteroid** is a large, irregularly shaped object made of rock and metal that orbits our Sun.

FUN FACT

While asteroids are made primarily from rock and metal, comets are made of ice! How do you think it would change this experiment if you used an ice cube instead of a marble or pebble?

