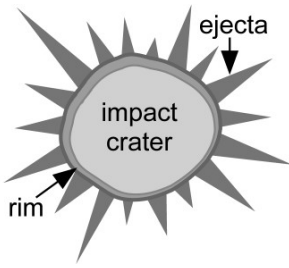
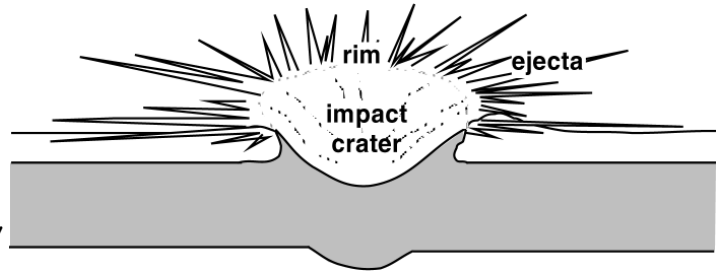


There are a lot of pieces of rock floating around in space—do they ever hit anything?

Impact craters are formed when pieces of asteroids or comets strike the surface of a planetary body. Craters are found on all the terrestrial planets, on the Earth's Moon, and on most satellites of planets.

What you do in this activity is different than real cratering events in some ways. When a crater is formed on a planetary surface, the energy of the impactor can break apart—even vaporize—the impactor.



Materials

- Newspaper
- Pie pan for each group
- Flour
- Cocoa
- Fork
- Meter sticks
- TIDE detergent
- Marbles of various sizes
- Black light

Directions

1. Cover your area of the floor with newspaper.
2. Fill a pie pan with a thick layer of flour. Smooth out the flour so that it is as flat as possible.
3. Cover the top of the flour with a light dusting of detergent then an additional layer of cocoa. Use a fork to smooth the surface.
4. Place the pie pan on the floor or on the ground.
5. Measure 30 cm above the pan.
6. Drop one of your impactors into the pan from the 30 cm height.
7. Remove the impactor, and repeat step 6 with a different size impactor, creating a second impact site in the pan so that it is not too close to the first impact.
8. Remove the impactor, and draw a picture. Measure the size of your impact craters and record their diameters.
9. Smooth the flour, sift on new layers of detergent and cocoa, and repeat steps 6-7 for impacts from heights of 20 cm and 10 cm.
10. Shine the black light on the surface and observe.

Questions about the experiment

1. How did the appearance of the surface of the flour change after it had been hit by the impactor?
2. What does the cocoa reveal about how impacts change the surface?
3. How does the size of the impactor affect the crater?
4. How does the height from which the impactor is released affect the crater?

This activity is from: Voyage: A Journey Through Our Solar System Grades 5-8, Lesson 10: Impact Craters: A Look at the Past



