Craters Across the Solar System

Many moons and planets show signs of impacts.

Thousands of craters cover the Moon's surface.

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We've found craters big and small throughout the solar system. Craters form when a space object, like an asteroid, comet, or meteoroid (meteoroids are much smaller than asteroids), hits a rocky body like a planet or moon. These craters can be seen all over the solar system, including on Mercury, the Moon, Earth, Mars, and Pluto. On Earth, weathering from soil erosion, rain, and earthquakes can cover up and wear away older craters. But on places like the Moon and Mercury, which experience far less weathering, craters tend to stick around for a long time.

Some craters are enormous—one crater on Mars is more than 1,000 kilometers (621 miles) in diameter—while others are so small they can only be seen with a microscope. Sometimes craters even overlap; one forms right on top of another! Older craters will always be underneath newer craters, which allows scientists to estimate their relative ages.

This meteor crater formed relatively recently (50,000 years ago) when an asteroid about the size of three school buses struck Earth.