

Moons

Moons and planets

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A planet is an object that goes around a star. A moon is an object that goes around a planet-- sounds easy. Some of them are shaped like asteroids, not necessarily round.

Moons can be pretty small. They have to be bigger than a bread box, bigger than a toaster. If they're the size of a toaster, most people wouldn't consider them moons. They'd consider them objects in space, dust debris. But I don't know that we have defined where the cut-off is between where it becomes a moon versus where it's just debris.

Our Solar System's number of moons has been steadily increasing over time. If you look in textbooks 20 years ago, the number will be much smaller than it is today, because we have continued to find many, many moons around Jupiter and Saturn. And I cannot tell you right now the exact number of moons in the Solar System. I'd have to go look it up because it does change on an annual basis.

Earth has one moon. Mars has two. Venus and Mercury don't have any.

However, when you get to the gas giants, the large bloated planets that go around our Sun, they have immense amounts of gravity. And their wide orbits have enabled them to pick up many moons. Some of them probably formed in orbit around the planets. Others are captured asteroids and comets.

Mars is closer to Jupiter, not too far from the asteroid belt compared to the other inner planets. So there's a possibility that Mars's moons are captured asteroids, asteroids that wandered a little too close to Mars and were captured by its gravity. That is a possibility, though.

Earth's Moon, we suspect-- the current best idea for why Earth has a moon is based on the giant impact hypothesis, this idea that an object half as wide as the Earth came slamming into the Earth early on, just as Earth was forming. And this collision resulted in both objects becoming liquefied, vaporised in part. The object that impacted the Earth, its core, we think, combined with the Earth's core and the rest of the material from that object and from the outer part of the Earth splattered into

space into this big disc of debris that eventually consolidated to become the Moon.