

How Many Moons?

Explore the Solar System's moons through counting and beading.



Caution: This activity is recommended for children 3 years of age and older. Beads are a choking hazard for children under 3.

Materials Needed:

A variety of large beads (about 70-80 beads); string, yarn, or pipe cleaners to string beads together; tape; small ball; 8 small bowls for counting (optional).



Instructions:

Step 1: Present the small ball to your child(ren) and ask them to imagine it is a planet. Earth has just one moon, but other planets in our Solar System have many more moons!



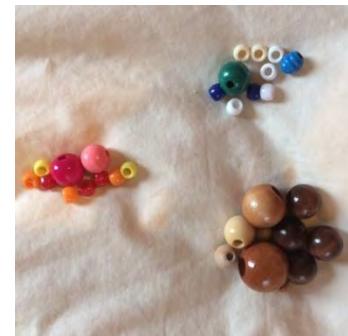
Step 2: Now explain you are going to make a necklace of moons for your planet. Moons orbit a planet, spinning around it.

Choose one of the planets that has many moons. Jupiter has 79, Saturn has 82, Uranus has 27, and Neptune has 14.

Note: These planets likely have more moons yet to be discovered.

Step 3: Make little piles of beads to represent moons. Find many different kinds of moons for your planet. Have fun sorting them by color, shape, or size.

Some moons in our Solar System are very small, while others are big. Some are rocky, some are icy, and some may have liquid water under their surfaces. Some moons aren't even round!



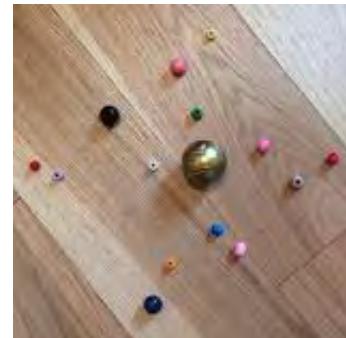
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Step 4: If your child is learning to count, help them count several piles of ten to show how many moons are around your planet. Example: For Saturn, count out 8 piles of 10 beads each, for a total of 80 moons. You can use small bowls to count out each group of ten. *Note:* This doesn't need to be an exact counting activity. You can count out 80 moons for Saturn instead of 82, or 30 moons for Uranus instead of 27.

Step 5: Arrange the moon beads around the planet ball. Place the moons at different distances from the planet, to show how each moon has a different orbit around the planet. Admire your planet and moons!

Step 6: Make a moon necklace for your planet. Tie a knot at one end of your yarn, and string each moon bead on the yarn. Hint: Wrap a piece of tape on the end of your yarn to make stringing the beads easier.

Step 7: Arrange your moon necklace around your planet!



Imagine how the night sky would look if you lived on this planet! How many moons would you see? Which moon (bead) is your favorite? Which moon would you like to send astronauts to explore?

Moons of the Solar System

There are over 200 moons in our Solar System. They are very diverse, from Jupiter's giant moon Ganymede to Mars's tiny moons Phobos and Deimos. Some are rocky, some are icy, and others even have volcanoes and geysers! Some moons may even have liquid oceans under their icy surfaces. NASA scientists hope to someday discover signs of life beyond Earth, and moons are a part of this search.



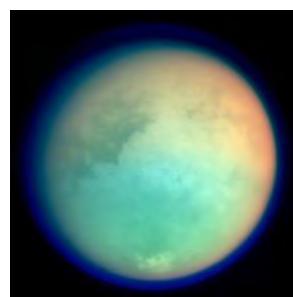
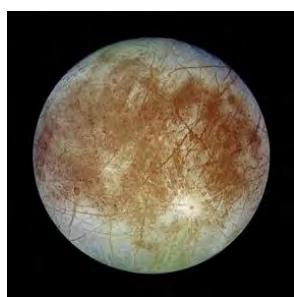
In the Solar System, Saturn has the most moons, with 82. Jupiter is close behind, with 79 moons. Neither Mercury nor Venus have any moons. Our neighbor planet Mars has 2 moons.

Did You Know? The dwarf planet Pluto has five moons. Charon, the largest, is half the size of Pluto!

Photo montage of Jupiter and its four largest moons (not to scale). Image: NASA/JPL.

Discover more about moons in the Solar System:

spaceplace.nasa.gov/how-many-moons/en/



Left to Right: Jupiter's moon Io (NASA/JPL/University of Arizona), Jupiter's moon Europa (NASA/JPL/DLR), Saturn's moon Titan (NASA/JPL/Space Science Institute), Saturn's moon Hyperion (NASA/JPL).