

# Make a Model Solar System

Build your own model and discover our Solar System!

## Materials:

Planets: Play dough, clay, small toy balls, or aluminum foil.

Sun: A balloon or larger ball.

Asteroid Belt and Kuiper Belt: Small rocks, clay, aluminum foil.

Saturn's rings: Markers or crayons, heavy paper, glue, scissors, craft knife.



Image: NASA.

*You do not have to create the planets to scale. However, you can use this image as a guide to making your sun and planets about the correct size in relation to each other.*

## Instructions:

**Step 1:** Gather your materials. If using clay or aluminum foil, shape it into round shapes, one for the Sun and each planet. Use the image above for approximate sizes of planets.

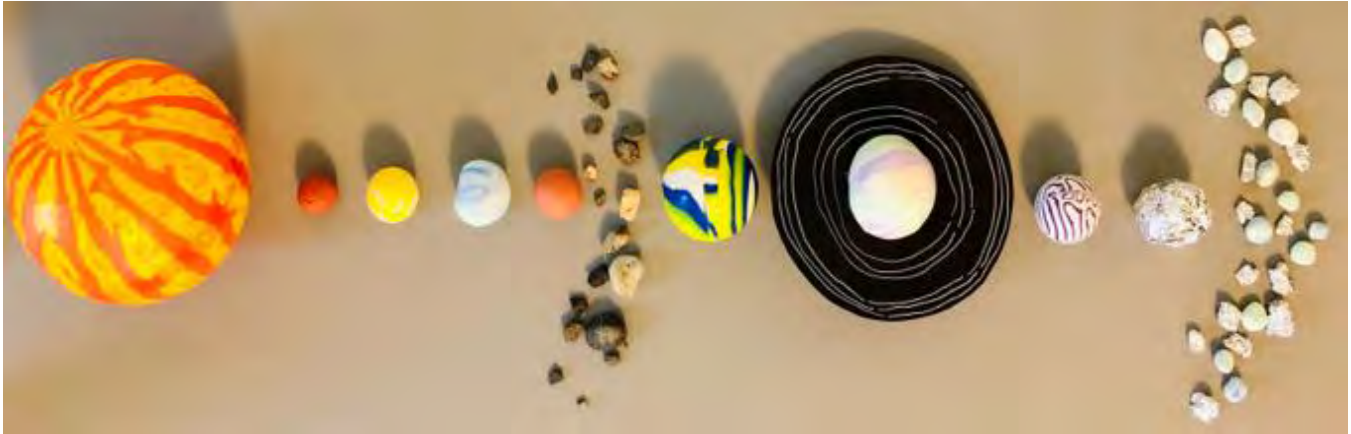
*Hint: Use a washable marker to color white Crayola Model Magic. "Mix" with your fingers to make swirly colors that look like planets!*

**Step 2:** After making Saturn, carefully cut the ball in half with a craft knife. Use scissors to cut a paper circle, about twice the diameter of the planet. Draw rings on the paper using markers or crayons. Glue one half of the ball to the top of the paper, then glue the other half to the bottom.



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Introduce the Solar System to your child(ren)!



First, place the **Sun** on the floor. Explain that the Sun is big and is the center of the solar system.

Then, pick up **Mercury**. Explain that Mercury is small. It is the closest planet to the sun. Move Mercury in an orbit around the Sun and set it down.

Next, ask your child to hold **Venus** and move it in a slightly larger orbit around the Sun, then set it down next to Mercury.

Keep doing the same with each planet in order. As you get further from the Sun and the orbit gets larger, your child can walk around the Sun, holding the planet.

**You can also introduce the Kuiper Belt and the Asteroid Belt. Use pebbles or make them with clay or foil.**

**Asteroids** are small rocky objects that also orbit the sun. Most asteroids are in the Asteroid Belt, between the orbits of Mars and Jupiter.

The **Kuiper (ky-purr) Belt** is a ring of icy bodies outside of Neptune's orbit. **Pluto** is the most famous object in the Kuiper Belt. Pluto is a dwarf planet; these objects are much smaller than the eight "regular" planets.

**Watch a video modeling this activity with young children:**

[www.youtube.com/watch?v=CrTElnDPCgk](http://www.youtube.com/watch?v=CrTElnDPCgk)

# Solar System Fun Facts

Share a fact about each object as your child holds the planet and moves it around the Sun. Here are some examples:



**The Sun** is so big, one million Earths could fit inside it. The sun's light takes 8 minutes to reach the Earth.



**Mercury** is the smallest planet in the Solar System and closest to the sun. It is covered in craters.



**Venus** is almost as big as Earth. It is the hottest planet because of its thick atmosphere of carbon dioxide.



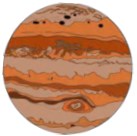
**Earth** is our home planet. It is full of water and life. It's the only planet we know of that supports life.



**Mars** appears red because of rusty iron in the ground. It has the tallest mountain in the Solar System, 21 kilometers (13 miles) high!



**The Asteroid Belt** is an area between the orbits of Mars and Jupiter where there are lots of asteroids: rocky objects that orbit the Sun and are much smaller than planets.



**Jupiter** is the biggest planet in the solar system. It is so big that all of the other planets in our solar system could fit inside of it!



**Saturn** is made of gases, including a lot of helium. It is very light; it would float in water (if there was a bathtub big enough)!



**Uranus** has 9 icy rings. The one on the outside edge is made of boulders of ice several feet thick!



**Neptune** is the farthest planet from the Sun. It is dark and cold. Neptune takes 165 Earth years to travel around the sun once.



**The Kuiper Belt** is a ring of icy bodies outside of Neptune's orbit. **Pluto** is the most famous object in the Kuiper Belt. Pluto is a dwarf planet; these objects are much smaller than the eight "regular" planets.

Learn more about the solar system:

[solarsystem.nasa.gov](http://solarsystem.nasa.gov)

*Note: Images are not to scale.*