

EXPLORING THE SOLAR SYSTEM

Pocket Solar System

Try this!



Make a scale model of the solar system that you can put in your pocket! Take a one-meter strip of paper, and put the Sun sticker on one end and the Kuiper Belt sticker on the other.



Follow the steps on the instruction sheet to add stickers for the remaining eight planets. Where do they go?



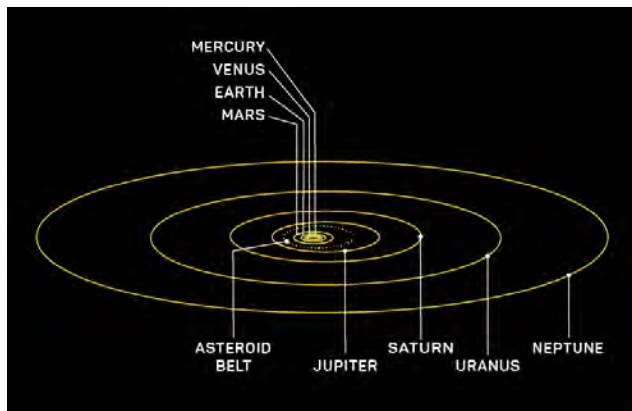
People have sent many satellites into space to study our solar system. You can draw some of them onto your model, too! Find Jupiter on your model and draw in NASA's Juno mission spacecraft.

What other NASA missions do you want to add to your model? Where would you go if you could plan your own mission into space?

There's a lot of empty space in our solar system—distances between planets are vast!

The solar system is made up of eight planets and many other objects orbiting the sun. In addition to planets, there are moons, comets, asteroids, dust, and gas, all influenced by the gravitational pull of the Sun.

The scale model you made shows how far away the planets would be from the Sun and each other, if the entire solar system were shrunk down to a meter across! Your model shows the planets lined up so you can see them all at once. In real life, the planets are usually scattered around the Sun along their orbits.



The planets in our solar system orbit the Sun in elliptical or near-circular paths.

Earth and the other planets in the inner solar system are relatively close together, compared with the planets that lie beyond the asteroid belt in the outer solar system. After our Sun, the next closest star to Earth is Proxima Centauri. If we wanted to add Proxima Centauri to our pocket solar system, it would be almost 7 kilometers (4 miles) away. You'd need a really long strip of paper!

NASA's science missions explore our solar system, and beyond. It takes a long time to travel vast distances, so missions can last for decades.



The Juno spacecraft is studying Jupiter.

Many people work together to plan and carry out such big projects—from mechanical engineers to planetary geologists. They agree on research goals, design and build tools and instruments for spacecraft, and figure out how to launch the craft and get the data back to Earth.

If you were planning a mission into the solar system, where would you go and what would you study? Who would be on your team? What would you do while you waited for your spacecraft to travel those long distances?