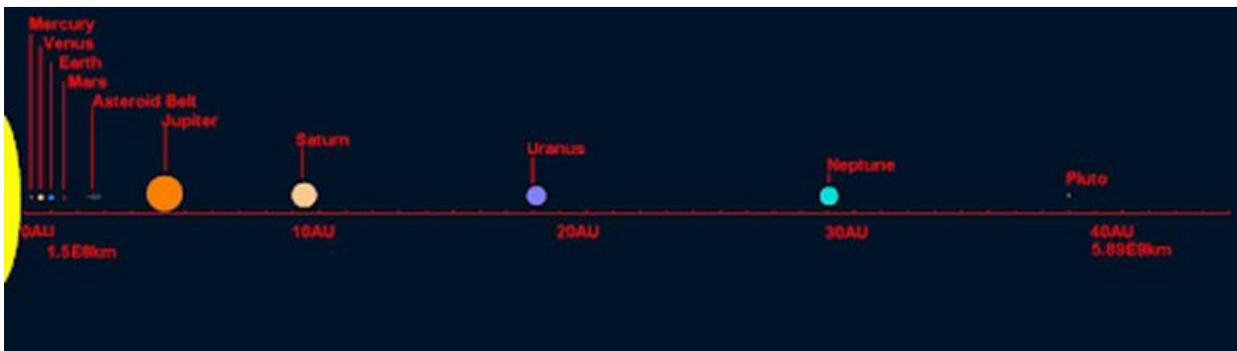




Scale of the Solar System

The Solar System is the system consisting of the Sun, eight major planets, hundred of moons, and thousands of smaller objects. These objects are really far apart from each other, too.



The Earth is almost 93 million miles (1 AU) from the Sun. It's so far that the light from the Sun takes eight minutes to get to the Earth, even though it travels at 186,282 miles per second. The Earth is the 3rd planet from the Sun, so think of how long it must take light to reach Neptune, the last planet from the Sun (4 hours and 12 minutes!).

Let's see how big the Solar System is by making a scale model!

A scale model is a recreation of an object, or objects, that is a fraction of the size. We're going to create the solar system using toilet paper and markers and even fit it in our backyard!

Activity

What you'll need: one roll of toilet paper, markers

How to create the model:

For our scale, we are going to use 2 squares of toilet paper for the distance between Mercury and the Sun.

Unroll two squares and draw a Mercury at the edge of the 2nd square.

Move on to the next planet, Venus.

Venus is 3.7 squares from the Sun, so count 1.7 squares from Mercury (you can guess where on the toilet paper the .7 ends, about 2/3 of a square). Don't rip your pieces, just keep them all connected!

Use this chart to create the rest of your model!

Planet / body	Distance from Sun (km)	Distance from Sun (AU)	Squares of TP Out to Planet's Orbit from the Sun
Mercury	57,910,000	.38	2.0
Venus	108,200,000	.72	3.7
Earth	149,600,000	1.0	5.1
Mars	227,940,000	1.52	7.7
Jupiter	778,330,000	5.20	26.4
Saturn	1,429,400,000	9.54	48.4
Uranus	2,870,990,000	19.22	97.3
Neptune	4,504,000,000	30.06	152.5
Pluto (Kuiper belt)	5,913,520,000	39.5	200.0



Photo from <http://www.uppergradesareawesome.com/>