

Pocket Solar System - Guideline

Building scale model of the solar system is a challenge because of the vast distances and huge size differences involved. This model is to show the relative distances between the planets from each other and the Sun. The model will show the children where all of the planets are situated in our solar system.

Material:

- 1 meter of register tape per camper
- pencils (colouring pencils for planets).

Pocket Solar System

The order of the worlds of the Solar System going out from the Sun and their average distances are:

Object	Avg Distance in kilometers	Avg Distance in miles	Avg Distance in AU*
Mercury	58 million	36 million	0.4
Venus	108 million	67 million	0.7
Earth	150 million	93 million	1
Mars	228 million	142 million	1.5
Ceres ** (representing the Asteroid Belt)	414 million	257 million	2.6
Jupiter	778 million	484 million	5.2
Saturn	1,427 million	887 million	9.5
Uranus	2,870 million	1,784 million	19
Neptune	4,498 million	2,795 million	30
Pluto ** (representing the Kuiper Belt)	5,906 million	3,670 million	40 (range is 30 – 50 AUs)

*AU stands for "astronomical unit" and is defined as the average distance between the Sun and the Earth (about 93 million miles or 150 million kilometers).

**The International Astronomical Union (IAU), the organization in charge of naming celestial objects, classified these objects as "dwarf planets" in 2006.

Creating your Pocket Solar System:

1. Mark the Sun on one end of the register tape and Pluto on the other end
2. Fold the paper in half and mark Uranus at the fold (Leave a label at the bottom of the page, so the planet can be drawn in)
3. Fold the paper again, from Uranus to the Sun. At the two new folds mark one as Saturn (closest to the Sun) and Neptune (closest to Pluto)
4. Fold the Sun to Saturn and place a mark for Jupiter at the fold
5. Fold the Sun to Jupiter and label the crease AB (asteroid belt)
6. Fold the Sun to AB and label Mars at the fold
7. Fold the Sun to Mars, and without unfolding, fold in half (You should have three creases)
8. Label the crease closest to the Sun Mercury, second Venus, and third Earth (closest to Mars)
9. Take your time illustrating each planet, being as accurate and creative as you want!
10. If you want a challenge, draw the planets in relative size (E.g. Venus is smaller than Earth but larger than Mars)