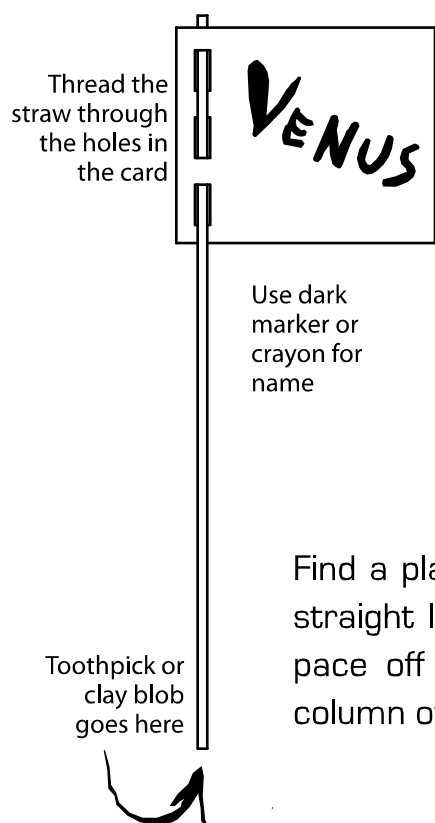# An Interplanetary Hike

Today you are going to explore the solar system by making a SCALE MODEL of the distances. In this model each step that you take will stand for thirty million miles in the real solar system.

WHAT YOU NEED: 6 neon cards, 11 thin straws, 11 toothpicks or clay blobs, a heavy pen or dark crayon, a pair of scissors, and a day that is nice enough to go outside. This activity will be more fun with a friend to help you.

Thread the straw through the holes in the card

V**e**N**u**s

Use dark marker or crayon for name

Toothpick or clay blob goes here

WHAT TO DO: First, make a set of flags to stand for each of the planets, the sun and the moon. Follow the example in this picture. You will have to cut each of the cards in half.

Put a toothpick halfway into the bottom of each flag so that it can stick into the ground.

If the ground is too hard (like a sidewalk), skip the toothpick and use clay blobs to fasten the flags to the ground.

Find a place outside where you can take a hundred steps in a straight line. Place the sun at the beginning of this line. Now pace off the distances to each planet as shown in the last column of the distance table.

The moon goes right next to the Earth, about this far away:

MOON   EARTH

About the width of your little finger!

Imagine that you are a spaceship headed out across the solar system. Then, when you get to Pluto, turn around and try to see the Earth and sun. From Pluto the Sun would be so far away, it would look like little more than a bright star.

DISTANCE TABLE	Distance to the SUN	Total steps from SUN	Pace off the solar system like this:
SUN	0 miles	0	START HERE
Mercury	36 million miles	1	1 step to Mercury
Venus	67 million miles	2	1 more step to Venus
Earth	93 million miles	3	1 more to Earth & moon*
Mars	142 million miles	4	1 more to Mars
Jupiter	483 million miles	13	9 more to Jupiter
Saturn	885 million miles	25	12 more to Saturn
Uranus	1.8 billion miles	50	25 more to Uranus
Neptune	2.8 billion miles	78	28 more to Neptune
Pluto	3.7 billion miles	103	25 more to Pluto

*At this scale, the Earth and moon are separated by the width of your little finger. Think of that! That's not very far compared to the size of the solar system, but it is the farthest that mankind has ever traveled.

Nearest Star: our nearest star is the SUN. The next closest star is Alpha Centauri. How close would Alpha Centauri be in our walking model? You would have to take a lot of paces. In fact, you would have to pace for about 200 miles! Can you think of a city about 200 miles from where you are now?
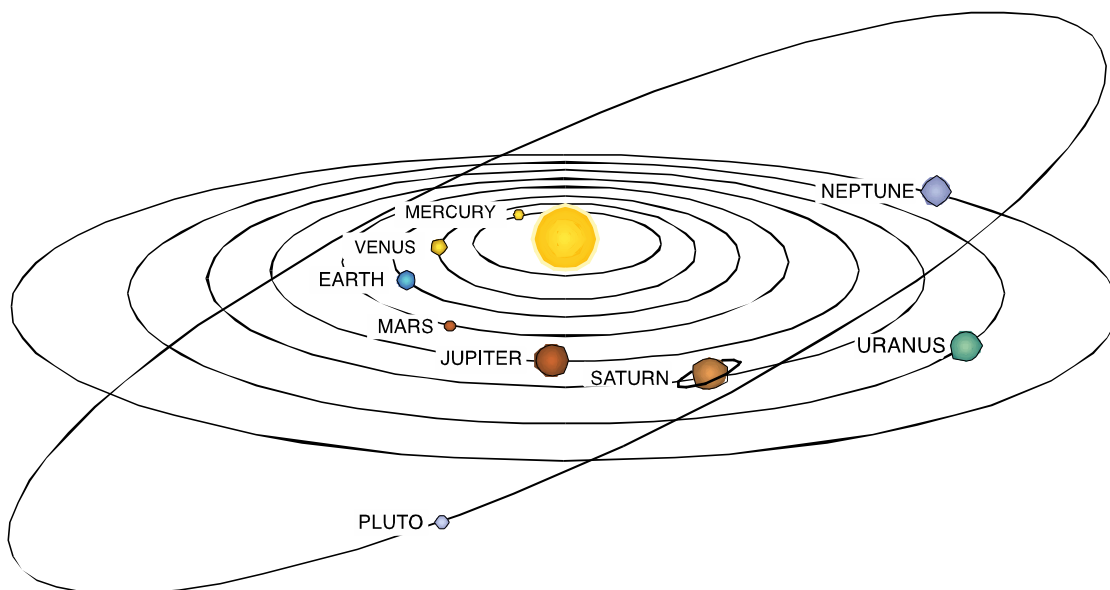
When you are done, please remember to pick up your flags!