



THE SCALE OF THE SOLAR SYSTEM

This activity demonstrates to students the enormous distances in our solar system.

Materials:

Tape Measure/ Meter Stick(s)
Yellow Poster-board/Paper or Chalk
10 Popsicle sticks
A copy of “The Solar System (Planet Sizes to scale)”
Glue or Tape
Scissors

Preparation:

On this scale the Sun is 53 cm. in diameter. To make a representation of the Sun, cut out a circle 53 cm. (20.75 in.) in diameter in the yellow poster-board/paper, or use chalk to draw a 53 cm. diameter circle on the ground. Cut out the picture of each planet and tape or glue it to a Popsicle stick. Place each planet at the distance from the Sun given below.

<u>Planet</u>	<u>Distance from Sun</u>		
Mercury	22 meters	72 feet	
Venus	41 meters	135 feet	
Earth	57 meters	187 feet	
Mars	87 meters	285 feet	
Jupiter	297 meters	973 feet	
Saturn	545 meters	1787 feet	(about 0.5 km or 1/3 mile or 2 3/4 blocks)
Uranus	1095 meters	3594 feet	(about 1 km or 7/10 mile or 5 1/2 blocks)
Neptune	1716 meters	5630 feet	(about 1.7 km or 1.1 miles or 8 1/2 blocks)
Pluto	2254 meters	7395 feet	(about 2.2 km or 1.4 miles or 11.2 blocks)

It is important to have the students walk at least as far as Jupiter. This will give them a “feel” for the large distance to the outer planets. If the activity ends at Jupiter, point out that Saturn is almost twice as far from the Sun as Jupiter and Pluto is ~ 4X farther than Saturn.

Additional suggestions:

At the beginning of the activity, have students guess:
1- the size of the Sun based on the planet sizes
2- the distance of each planet from the sun

If yellow poster-board or paper is used for the Sun, tape the circle upright on something so that it can be seen from each planet. Then, have the students note the apparent size of the Sun as seen from each planet. (This is how large the sun would actually appear from each planet).