MAKE YOUR OWN

SOLAR SYSTEM WALK

BIG IDEA

Discover the relative sizes and distances of objects in our solar system

SETTING AND PREPARATION

- The solar system walk is best done outdoors. Scout your location in advance – ideally you'll want a straight path for about 1000 yards (or just over ½ mile one-way).
- Consider if your group can manage the whole distance (just over 1 mile roundtrip). Is it better to stop earlier and just discuss the remaining objects?
- Although a straight line is ideal, it's not necessary. Curving paths can work, and you can even have your walk fold back on itself.

TIPS AND PROCEDURE

1. You'll embark on a whirlwind vacation through the solar system, starting from the Sun, and stopping to visit eight planets and a couple of dwarf planets. The solar system walk ends at the Kuiper belt, where Pluto resides. It does not go all the way to the Oort cloud, a very distant shell of icy bodies orbiting the Sun.
2. This journey is based on a "thousand-yard model," with the Sun-to-Pluto distance scaled down to about 1000 yards (or 1000 big steps). On this scale, 1 inch in the model equals about 100,000 miles in reality. Therefore, for every big step someone takes that covers 1 yard (36 inches), they travel through 3,600,000 (3.6 million) miles in space.
3. You may wish to assign people to be responsible for a particular object. They might count the steps there, plant the stake in the ground, or hold up the object for everyone to see.
4. Are there children eager to have an active role? You might have them guess which stop is next, count the steps there, or look for a pebble or rock of the appropriate size for the next planet. Or ask if they can provide one fact about the planet you've stopped at.

CREDITS

This activity is modified from "Earth as a Peppercorn" - www.noao.edu/education/peppercorn/pcmain.html

The Statewide Star Party is made possible by the generous support of the North Carolina Space Grant

continued on the back

continued from the front

MAKE YOUR OWN SOLAR SYSTEM WALK

Scale: 1 inch in this model represents ~100,000 miles in reality.
Therefore, 36 inches (or 1 yard, or 1 big step) represents ~3.6 million miles.
Don't worry about getting the distances and diameters exactly right. Close is good enough.

# Big Steps	**Object**	**Scaled Diameter (1 inch = 100,000 miles)**
start here	Sun	8 ½ inches *volleyball*
10 steps to reach...	Mercury	0.03 in. or 0.7 mm *pinhead*
9 more steps to...	Venus	0.07 in. or 1.8 mm *peppercorn*
7 more steps to...	Earth	0.08 in. or 1.9 mm *peppercorn*
13 more steps to...	Mars	0.04 in. or 1 mm *pinhead*
32 more steps to...	Ceres (asteroid belt)	0.01 in. or 0.1 mm *smaller than pinhead*
62 more steps to...	Jupiter	0.9 in. or 22 mm *chestnut or pecan*
110 more steps to...	Saturn	0.7 in. or 18 mm *hazelnut or acorn*
245 more steps to...	Uranus	0.3 in. or 7 mm *peanut or coffee bean*
276 More steps to...	Neptune	0.3 in. or 7 mm *peanut or coffee bean*
240 more steps to...	Pluto (Kuiper belt)	0.01 in. or 0.3 mm *smaller than pinhead*

WITH THANKS AND FOR MORE INFORMATION, VISIT: www.ncscifest.org

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL