

Classroom/Teacher Guide

Planet/object	Object (sizes are approximate)
Sun	Play parachute about 13' across
Pluto	Pea (from pods) (1/4 inch)
Earth's moon	Blueberries (1/3 inch)
Mercury	Marbles (small, about 1/2 inch)
Venus	Ping-Pong balls
Earth	Golf Balls
Mars	Acorn/grape (about 3/4 to one inch)
Jupiter	Beach ball (about 15-16 inches)
Saturn	Pumpkin (about 13 inches)
Uranus	Melon (about 5 ½ inches)
Neptune	Grapefruit (about 5 inches)
Charon (Pluto's moon)	Apple seed (bring whole apples)
Nyx, Hydra, Kerberos (Pluto's smaller moons)	A pinch of sand or granular sugar
Rings of Saturn	Hula hoop
	Paper bowls/Ziploc bags

Read **If Pluto Was A Pea** in class.

Discuss the different objects in the solar system – the sun, the planets, dwarf planets, asteroids and comets.

Have the children lay out the parachute in the center of a large space (the gym is best- they can play with the parachute after the exercise). Depending on class size, each child can represent an object or two or three children can represent the object together. You can give the kids nametags and also tag the objects.

For the large items the child can just hold them. For the smaller items you might like to put them in Ziploc bags or bowls.

1. First have the kids try to guess the order of the planets etc and lay them out. Let them have several attempts until they get it right.

2. When the children have the order right have them spread out and “orbit” by walking slowly around the “sun” to demonstrate the relative length of “years” on each planet.
3. Ask them to set their object down (Smaller objects should be set in the paper bowls) and join you around the Earth and Moon. The task here is to try to estimate the right distance for the moon from the earth. Depending on the age of the kids this can be math problem or just let them keep guessing until their guess is close (1.05 meters/41 inches).
4. If the weather is fine, the kids can go on a walk from the school (along a long straight road is best but you can use the map on your phone to track distance) leaving the “Sun” at the school and placing Mercury (0.16 km/0.10 miles), Venus (0.30 km/0.19 miles), Earth (0.41 km/0.25 miles) and Mars (0.62 km/0.39 miles) and even Jupiter (2.14 km/1.33 miles) at their respective distances. Don't forget to put the moon into orbit around Earth at 1.05 meters/41 inches.
5. If the weather is not fine children can play with the golf balls or Ping-Pong balls, beach ball or the parachute.
6. After the walk or games you can make a fruit salad!

Follow up/take-home assignment ideas.

Planet acrostic poems	Planets word search
Planets crossword	Planets word scramble
Word match planet names to the objects in book	Planet essays or stories
	Planet/solar system art project

Vocabulary

Planet	Comet	Orbit	Sun	Golf	Earth
Moon	Ping-Pong	Apple	Tent	Pea	Marble
Grapefruit	Melon	Solar	System	Smallest	Acorn
Pumpkin	Centimeter	Smaller	Great	Dwarf	Meter