A Walk Through The Solar System

	Astronomical Object	Scale-model item	Steps between stops	Commentary Ideas
Starting Point	Sol, Our Sun, The Sun	an 8-9" playground ball or a FIFA size 4 or 5 soccer ball	***START HERE***	There are roughly 20 BILLION stars like ours in the Milky Way. And…about 20% of those stars have planets.
Inner Planets				
	Mercury	a pin head	15	Mercury is about the same size as Mars.
	Venus	a peppercorn (or an allspice seed)	13	Venus is about the same size as Earth.
	Earth	a peppercorn	11	For baseball fans: if the Sun is home plate, then Earth is nearly at first base. For cricketers: the scaled distance is about the length of the pitch.
	The Moon	*a candy sprinkle 2 3/8" from Earth*		
	Mars	a pin head	20	Remember, we have several robot explorers orbiting Mars and exploring the surface.
				In our scale model, the inner planets need just a bit more space than a baseball field (or a cricket infield).
Asteroid Belt				
	Inner edge of "core"	*time to begin pretending to dodge asteroids*	21	In reality, you wouldn't really need to dodge--although there are a half-million asteroids, they are in a huge region of space.
	Queen of the Asteroid Belt: dwarf planet Ceres	a grain of salt…or a pin tip	27	Ceres is the closest of the dwarf planets
	Outer edge of "core"	*no point pretending to dodge asteroids any more*	20	About 93% of the asteroids lie in this doughnut-shaped "main belt"
Outer Planets				
	Jupiter	a small "jacks" ball, or a walnut*	74	You're now more than the length of a football field out.
	Saturn	a large round candy--or a large acorn* or hazelnut*	168	We also have a robot explorer studying Saturn right now!
	Uranus	a jellybean, peanut*, or coffee bean	374	This is about a quarter-mile walk
	Neptune	a jellybean, peanut*, or coffee bean	421	It's a half-mile walk to this outermost planet.
				Decide now whether to stop here and point out more-distant objects or to make the trek to Pluto first.

* avoid using nuts as models if any participants may be hyper-allergic

A Walk Through The Solar System

	Astronomical Object	Scale-model item	Steps between stops	Commentary Ideas
Kuiper Belt	*Home of key dwarf planets & source of the short-period comets*			
	Inner edge		-	Note that the Kuiper belt begins just past Neptune
	King of the Kuiper Belt: dwarf planet Pluto			
	closest to the sun	*A stop to make on the way "home"*	*(381)*	*On the way BACK, count off these steps from Pluto's average distance--and notice that you end up inside the orbit of Neptune.*
	average distance	a pin tip or a grain of salt or fine sand	**365**	The New Horizons spacecraft flies by Pluto July 14, 2015
	farthest from the sun	*An extra distance for high-energy explorers*	*364*	*Does anyone really want to walk this far? Pluto wanders nearly to the outer edge of the Kuiper belt!*
	Outer edge		237	This is nearly a mile from your starting point.
Our Robot Explorers				
	Launched in 1973:	Pioneer 11, last contacted in 1995	1,358	This is about a one-mile walk.
	Launched in 1977:	Voyager 2	555	Voyager 2 overtook Pioneer 11 a few years ago.
	Launched in 1972:	Pioneer 10, last contacted in 2003	240	This is 1 1/2 to 1 3/4 miles away from start
	Launched in 1977:	Voyager 1	649	Voyager 1 will be the first robot explorer to exit the Heliopause.
The Heliopause	*The Sun's bow wave as it moves through space at 52,000 miles per hour -- 83,700 kph*		354	This is about 2 miles out--point out a local landmark about 2 miles from your starting point.
The Oort Cloud	*The last of the objects under the Sun's gravitational influence--including the long-period comets-- orbit the sun in this sperical shell.*			
	Inner edge	This would be 75 miles away!	185,369	Imagine walking from London to Stonehenge
	Outer edge	This would be 1500 miles from start!	3,679,553	Imagine a hike from Dallas to New York City
Beyond our Solar System:				
	Proxima Centauri, the nearest star	(Its light takes just over 4 years to get here--4,000 miles in our model.)	6,512,114	Imagine walking across the USA, from San Jose to Washington D.C. and THEN hiking south to Miami.
	The black hole at the center of the Milky Way		64,897,911,823	Imagine walking around the planet…a thousand times
	Andromeda, the biggest Local Group galaxy	(It gets closer every millenium--we're on a collision course)	6,151,592,011,106	6 trillion steps--like walking to Neptune...5 billion times!