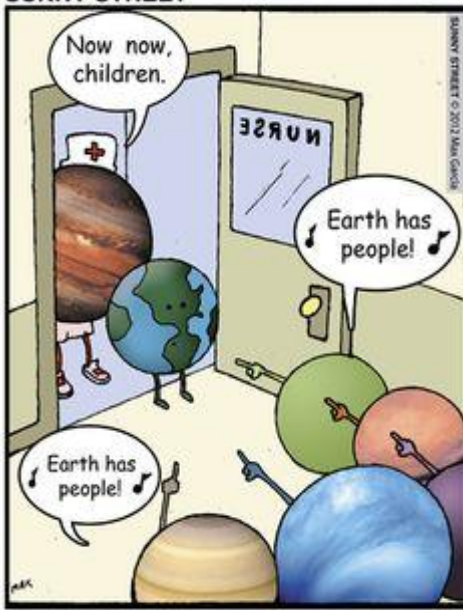




Introduction:

Astronomers use many different units to measure the distance between objects in space. A scale can accurately model the distances between the planets.

Purpose:

Visualize the magnitude of distances and sizes in our solar system.

Instructions:

1. Calculate the corresponding scale model values for distances and diameters on the tables on the back.
2. The distance values are from center of sun to center of planet. Cut strings that correspond to **the distances between planets**. You will need to do a tiny bit of math here.
3. Cut your planets to the appropriate sizes and decorate them.
4. Connect your planets (center to center) using the strings.
5. Find somewhere in the classroom to hang your planets.
6. IGNORE THE SUN. TOO MUCH PAPER AND STRING. Maybe if you are done early you can add a sun to yours. Talk to Schaub.

Questions:

1. Define “astronomical unit” in your own words and explain why it is a good measurement for distance in our solar system.
2. Why might there be a big gap in distance between Mars and Jupiter? If you’re not sure, take a guess.

Distance and Magnitude in Space Lab

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Name: _____

Block: _____

Data:

Planet Name	Distance to Sun (AU)	Distance to Sun (cm) (1 AU=10 cm)	Object	Diameter (km)	Diameter (cm) (1 cm = 10,000 km)
Mercury	0.4	4.0 cm	Pluto	2,000	0.2 cm
Venus	0.7		Neptune	50,000	
Earth	1.00		Uranus	51,000	
Mars	1.5		Saturn	120,000	
Jupiter	5.2		Jupiter	143,000	
Saturn	9.5		Mars	7,000	
Uranus	19.2		Earth	13,000	
Neptune	30.1	301.0 cm	Venus	12,000	
Pluto	39.5	395.0 cm	Mercury	4,000	
			Sun	1,390,000	