Names_____ Period____

Creating a Scale Model of the Solar System

In this activity, you will create two different scales:

1. The planets to scale
2. The distances between the planets
3. Calculate the scale for the planets you cut out

Part 1

Your group has been given a sheet of paper with the planets to scale. First, identify the planets based on their size. Then, color the planets as accurately as possible. Next, cut out the planets.

Part 2

Your group will create a scale model of the solar system using yarn. First, fill in the table by calculating the scale of your model. Next, measure out the locations of the planets on the string. Then, tape the planets from Part 1 at the appropriate positions on the string.

To determine your scale, decide what 1 AU will equal. This could be 1 cm, 1 foot, 10 cm, 15 cm, etc. You will multiple each distance in AUs by your scale. *When creating your scale, keep in mind that the largest distance is about 30 AUs.*

1 AU = _____

Planet	Distance from the Sun (in AUs)	Scale	Scaled Distance from the Sun
Mercury	0.39	AU x _____	
Venus	0.72		
Earth	1		
Mars	1.52		
Jupiter	5.2		
Saturn	9.54		
Uranus	19.18		
Neptune	30.06		

When you are done, submit a picture of your completed, stretched out scale model of the solar system in Teams. *Ask your teacher if you need to go into the hallway to stretch out your string.*

Part 3

Based on the size of the planets you cut out (which are on a different scale than the model you created), calculate the following: *Hint: you can find a scale solar system calculator online*

- What would the diameter of the Sun be?
- Would it make sense to cut out a paper model of the sun for your scale model? Why or why not?
- How far from the Sun would Earth be?
- Would it make sense for use to make a model that is to scale for both size AND distance? Why or why not?