

Lesson 1: Overview of the Solar System

Engagement Questions:

How is the motion of Venus and Uranus different than the motion of the other planets? _____

Describe the difference between *planetary spin* and *orbital motion*. _____

Is it possible for a planet to have both *planetary spin* and *orbital motion*? Explain. _____

What is an Astronomical Unit? Why is it important? _____

What is the value of an Astronomical Unit in kilometers? _____ km

Convert an Astronomical Unit into miles _____ mi

Convert an Astronomical Unit into light years _____ ly

Exploration Activity:

After determining the scale factor of _____ complete the table below.

Planet	Actual Diameter (in km)	Scaled Diameter (in mm)	Corresponding Sphere
Mercury	4879.4 km	2.1 mm	bb shot
Venus			
Earth			
Mars			
Jupiter			
Uranus			
Neptune			

Exploration:

How does the distance between the planets compare to the size of the individual planets or even the sun? Explain. _____

What observations can you make about the astronomical size of our solar system? _____

Explanation:

Explain how you and your team calculated the correct scaled diameters of the planets. You may use words, pictures or equations to explain your answer.

Evaluation:

How might you describe the solar system to a friend who knows nothing about the relative sizes of the sun and planets or the distances among them? _____
