Friday, January 25, 2019

Your Learning Goal: Students will be able to analyze and interpret data to determine scale properties of objects in the solar system.

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Scaling the planets- 28L + R

Catalyst (28L): Draw a sketch of what you imagine our solar system would look like from a 'bird's eye' perspective. Focus on the SIZE of the planets and their DISTANCE from one another

Homework:

Complete the LEAF paragraph

Agenda:

1. Catalyst
2. Planets to scale
3. Solar system sketch
4. LEAF

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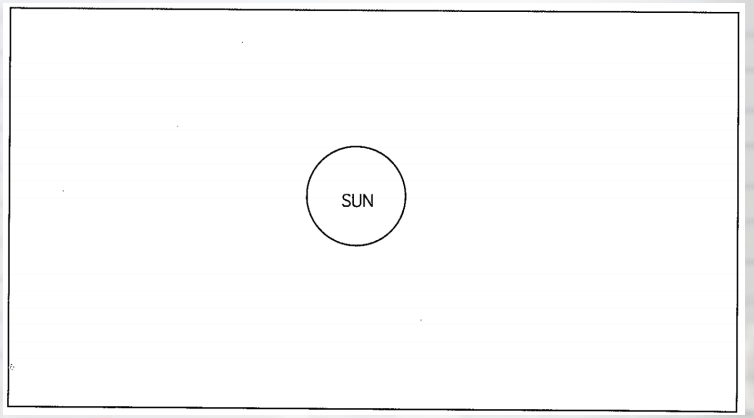
Date	Assignment	Pg #
1/22/19	A Planet is Born	27L + R
1/24/19	Scaling the Planets	28L + R

26R

Catalyst:

Draw a sketch of what you imagine our solar system would look like from a 'bird's eye' perspective.



28L

1/24/19

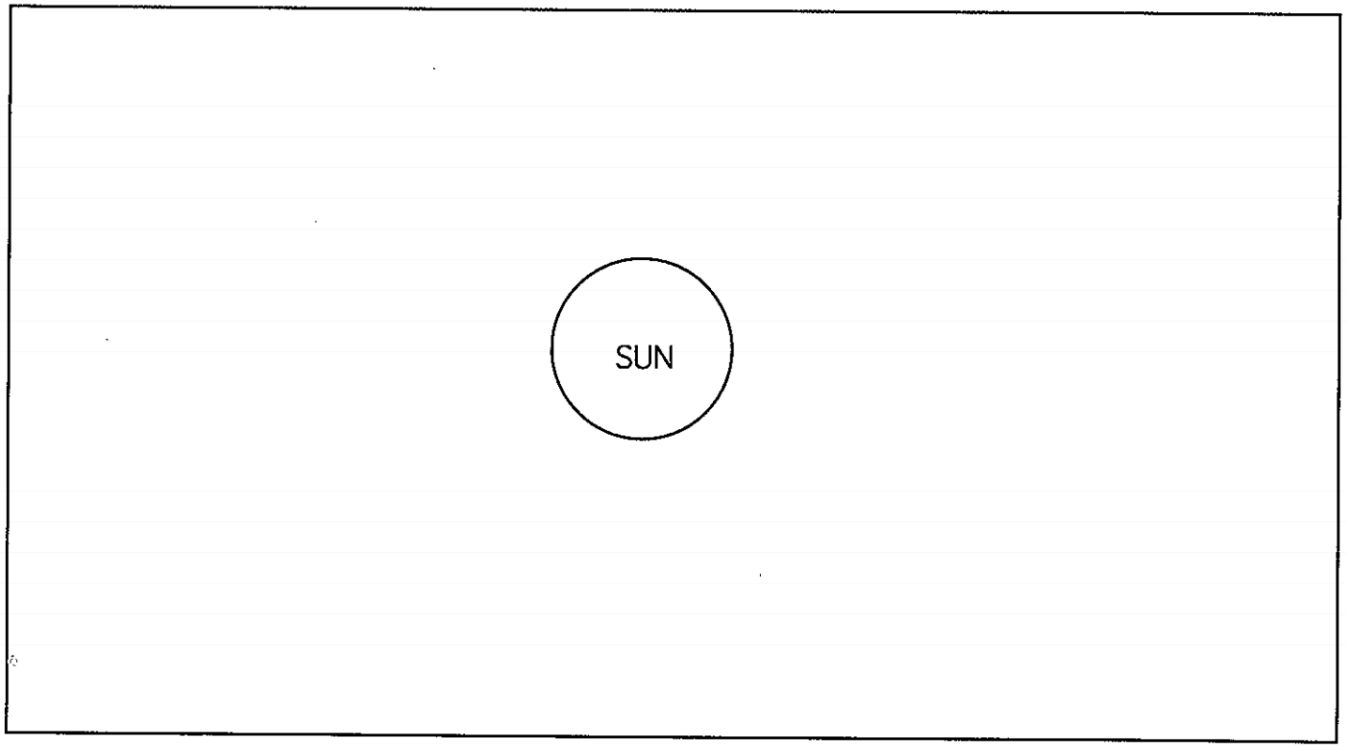
Scaling the Planets

28R

Catalyst 28L

Draw a sketch of what you imagine our solar system would look like from a ‘bird’s eye’ perspective.

Focus on the SIZE of the planets and their DISTANCE from one another



What would a scaled model really look like?

https://www.youtube.com/watch?v=Kj4524AAZdE&frags=pl%2Cwn

How do we measure such large distances?

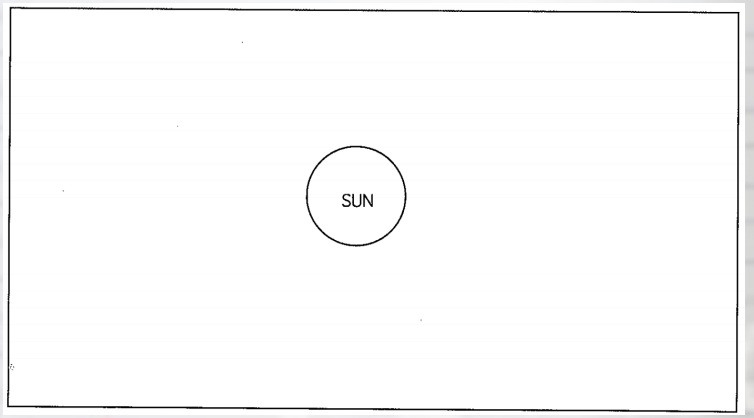
AU (Astronomical Units)

- AU is a simplified number used to describe a planets distance from the Sun
- 1AU is equal to the average distance from the Earth to the Sun
- A planet closer to the Sun than Earth will have a distance < (less than) 1AU
- A planet further from the Sun than Earth will have a distance of > (greater than) 1AU

28R

Catalyst:

Draw a sketch of what you imagine our solar system would look like from a 'bird's eye' perspective.



28L

1/24/19

Scaling the Planets

AU = Astronomical Units

- AU is a simplified number used to describe a planets distance from the Sun
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28R

Planetary Distance from the Sun

Planet	Distance from Sun (AU)	Conversion	Scaled Distance on Model (cm)
Mercury	0.39 AU	0.39 AU x 10cm/ 1AU	
Venus	0.72 AU		
Earth	1.00 AU		
Mars	1.52 AU		
Jupiter	5.20 AU		
Saturn	9.54 AU		
Uranus	19.20 AU		
Neptune	30.06 AU		

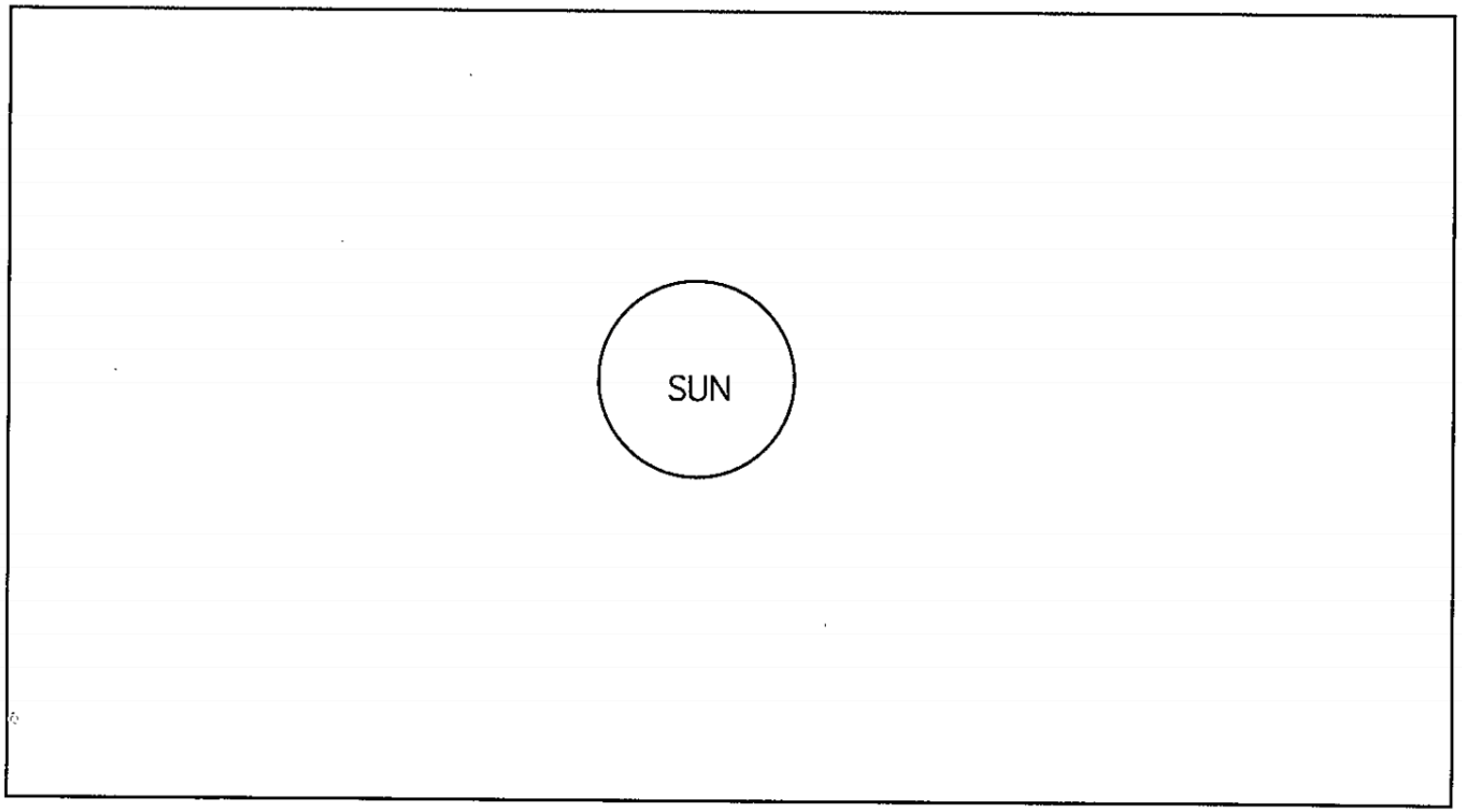
Planetary Diameter compared to Earth

Planet	Planet Diameter (km)	Conversion	Scaled Diameter on Model (cm)
Mercury	4800 km	4800km / (12750km/1cm)	.376cm = .4cm OR 4mm
Venus	12100 km		
Earth	12750 km	1 cm	
Mars	6800 km		
Jupiter	142800 km		
Saturn	120660 km		
Uranus	51800 km		
Neptune	49500 km		

Create your Scaled Sketch

Using your data, as a group, create a scaled model of our solar system with all 8 planets. You should make your measurements as accurate as possible.

Add some realistic color and label them too!



Catalyst:

Draw a sketch of what you imagine our solar system would look like from a 'bird's eye' perspective.

LEAF: How was your initial sketch of the planets different from your final sketch? What was similar? Use data from your tables as evidence.

28L

1/24/19

Scaling the Planets

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28R