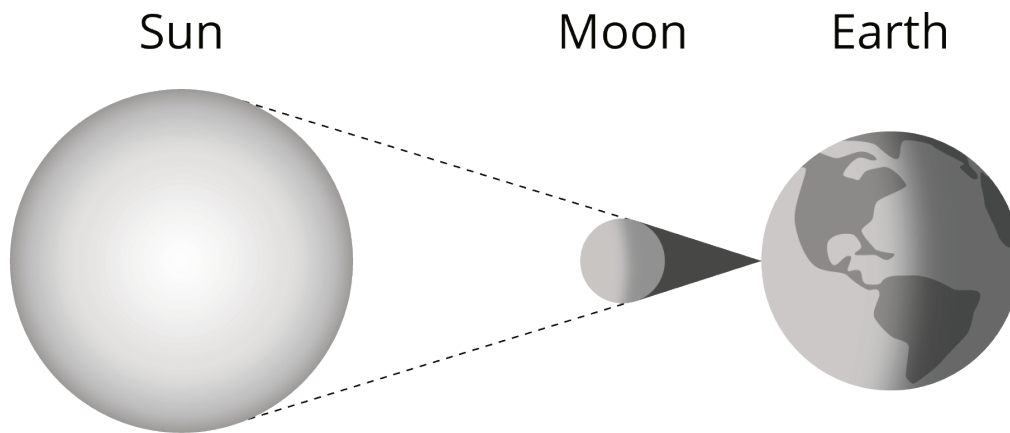


Unit 3 Lesson 2: Scale of the Solar System

1 Solar Eclipse (Warm up)

Student Task Statement

NOT TO SCALE



The diameter of the Sun is 1,391,000 km. The diameter of the Moon is 3,475 km. The distance from Earth to the Sun is 149,600,000 km.

How far would the Moon have to be from Earth for the Moon to appear the same size as the Sun?

2 Shrinking the Solar System (Optional)

Student Task Statement

The class is going to make a scale drawing of the planets in the solar system and their distances from Earth. Your teacher will assign you a planet to draw and place on the scale drawing. A circle with a diameter of 2 cm represents Earth.

1. What information do you need in order to draw your planet and place it accurately on the class's scale drawing?
2. Your teacher will give you some information. Record the information here. Calculate any additional information you need.
3. Draw the scale drawing of your planet on a separate sheet of blank paper. Label it with measurements. When you're finished, place it the correct distance from Earth on the class's scale drawing.
4. You probably weren't able to place your planet the correct scaled distance from Earth. Why not?

3 Shrinking the Solar System, Take 2 (Optional)

Student Task Statement

Imagine that Earth is about the size of the period at the end of this sentence. That's a diameter of 0.3 mm.

1. How big is the scaled version of your planet now?
2. How far from Earth is it?
3. Can the scale drawing of the solar system fit in the classroom now?

Images for Activity Synthesis

