**Modeling the Solar System**

**Known figures:**

Average distance to the sun: 150 000 000 km

Radius of Earth: 6378.1 km

Radius of Sun: 685 500 km

**Given: Large ball from the gym.**

1. Determine the radius of the large ball.
2. If the sun were the size of the large ball, how big of a ball would you need to represent the size of the earth? (Solve for the radius of the small ball.)

$$\frac{Radius\_{big ball}}{Radius\_{sun}}= \frac{Radius\_{small ball}}{Radius\_{earth}}$$

1. Find a ball that is that size.
2. Write a proportion that you can use to find the distance between the two balls to model the distance between Earth and Sun. In other words, how far apart should you put your “Sun” and “Earth” to demonstrate the distance between the Earth and the Sun?

*WORK:*

1. Use meter sticks to measure the distance. Put the sun at one end and the earth at the other end.

*\*\* Extension: Find the size and distance to other planets using the same “sun.”*