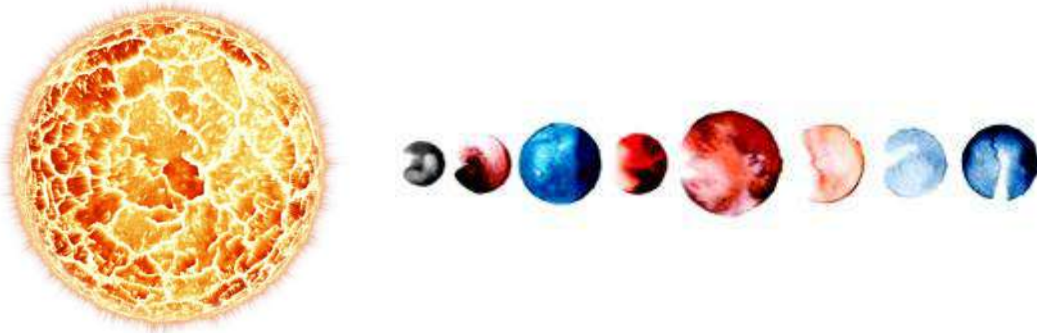


Goal: Students will make a scale model representation of the solar system.



Follow these directions:

I If you need to review dilations to understand scale factors, visit

<http://www.mathguide.com/lessons2/Dilations.html>.

II. Go to <https://solarsystem.nasa.gov/solar-system/our-solar-system/overview/> (see 'Planets' and 'By The Numbers' tabs) and fill in the information on the Planet Information sheet at

<http://www.mathguide.com/activities2/PlanetInformation.pdf>.

III. Go to <https://www.youtube.com/watch?v=5HHSyKEJd2c> to learn how to do math using Excel.

IV. Scale Model Requirements

You are hired to create an exhibit at the Adler Planetarium. The exhibit will contain a scaled view of the eight (8) planets in our solar system.

A) The planets have to be in scale by their average orbits from the sun.

B) The entire length of the model can be no longer than 4 meters and no shorter than 2 meters.

C) The model must contain the sun and the eight planets.

D) The planets themselves have to be to scale (but different than the orbit scale).

V. Use the Scale Solar System sheet (located at

<http://www.mathguide.com/activities2/ScaleSolarSystem.xlsx>). The 'Scaled Orbit Distance' column must be determined strictly using Excel and a single scale factor (marked yellow on the sheet).