

A Scale Model of the Solar System

In this activity, you will create a model showing the eight known planets of the solar system and their distances from the Sun.

Procedure:

1. Make a data table with the following headings:

Planet	Radius (km)	Scale Radius (cm)	Average Distance from Sun (AU)	Scale Distance from Sun (cm)
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2. Refer to pg. 316-317 to complete your table.
3. In the first column, list the eight planets in order of their average distance from the Sun.
4. Determine the scale radius of each object, correct to one decimal place, by using the scale $1 \text{ cm} = 10\,000 \text{ km}$. Complete column 3 in your table.
5. Using a compass and a pair of scissors, cut out a piece of coloured paper to represent each planet.
6. Determine the scale distance from the sun, correct to the one decimal place, by using a scale of $20 \text{ cm} = 1 \text{ a.u.}$ (If your planet is 10 a.u.'s from the Sun, the distance from the Sun would be 200 cm). Complete column 5 in your table.
7. Using a metre stick, measure out 8 m of paper tape. From one edge, where the Sun will be located, use the metre stick to mark the position of the eight planets.
8. Using tape or glue, attach the planets to the paper tape at the correct locations.

