

Vocabulary:

Astronomical Unit - 1AU = approximately 150 million kilometers (93 million miles)
(149,597,870 kilometers or 92,955,807 miles to be exact!)

Activity:

We will construct a distance model of the solar system to scale, using colored beads as planets. The chart below shows the planets and asteroid belt in order along with their distance from the sun in astronomical units.

1. **First, complete the chart by multiplying each AU distance by our scale factor of 10 centimeters per Astronomical unit.**
2. **Next, use the new distance to construct a scale model of our solar system. Start your model by unwrapping a 5.0 meter piece of string.**
3. **Use the distances in centimeters that you have calculated in the chart to measure the distance from the sun on the string to the appropriate planet and tie the colored bead in place.**

Keep two important solar system facts in mind.

- The first is that the planets **never** ever align in a straight line. Occasionally sky watchers are treated to the sight of two bright planets apparently close together as viewed from our planet.
- The second fact is that your string solar system is a **radius** of the orbits of the planets. To see how large the solar system is hold the sun in one location and swing the planets in a circle around it. If you move counter-clockwise you will be moving the planets in the direction they move as viewed from above their plane. The whole circumference of the solar system probably will not fit into our classroom.