

Solar System Wall Chart

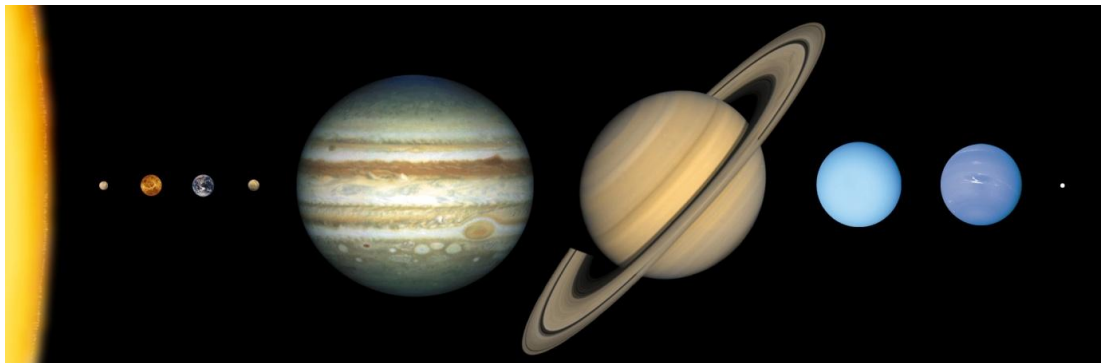
Level: 8-12 years **Time:** 30 minutes **Grouping:** Individuals and/or pairs.

Materials: A4 paper, ruler, compass, scissors, coloured markers, tape.

Resources: Planet table, pre-drawn planet sheet.

Vocabulary: Solar system, planet, radius, diameter, distance, orbit, measure, the seasons.

Learning objectives: To identify the 9 planets. To understand relative size and distance.



Activity

1. Cut out 9 paper circles, each with radius equal to R in the Planet table. Use a ruler or compass to measure each radius in cm. Or use a pre-drawn planet sheet.
2. Colour each circle for each planet as shown.
3. Arrange the 9 planets on the wall in a direction away from the sun, each with distance equal to D in the Planet table. Use human steps (or hands) to measure the distance. Stick the planets to the wall. You can also use a 1.1-m-radius sun, drawn on the board.

Assessment (easy to hard per level needed)

Which is the largest planet in our solar system? Which is the smallest?

Which planet is closest to the sun? Which is furthest? Which two planets are closest to earth?

How many times does earth fit into Jupiter?

Why can you only see Venus at sunset or sunrise?

What causes night and day? Can you show with people?

What causes the seasons? Can you show with people?

Why do you think life is possible on earth but not other planets?

Bibliography

"The Planets -- Investigating Our Planetary Family Tree: A Family Affair," NASA. Retrieved from <http://iphone22.arc.nasa.gov/public/iexplore/missions/pages/yss/december.html>

Planets Table

		R		D
Planet	Radius (x 1000 km)	Relative Radius (earth = 1)	Distance from Sun (x 1000,000 km)	Relative Distance (au)
Mercury	2.5	0.4	58	0.4
Venus	6.0	0.9	110	0.7
Earth	6.5	1.0	150	1.0
Mars	3.4	0.5	230	1.5
Jupiter	70	10.8	780	5.2
Saturn	60	9.2	1430	9.5
Uranus	26	4.0	2870	19.2
Neptune	25	3.8	4500	30.1
Pluto	1.7	0.3	5900	39.4

Notes:

For the planet sizes, you can use any measure you want. 1 cm for the earth is a good classroom size. The radius of the sun is 700,000 km (= 1.1 m at this scale).

The pre-drawn planet sheet uses diameters.

For the planet distances, 1 “au” is the astronomic unit, which is equal to the distance between the sun and the earth.

Extras:

Ask more questions, *e.g.*, Is there something missing between Mars and Jupiter?

Use jar lids for tracing circles.

Create a mobile

Add in planetary periods for rotational times.