

Physical and Orbital Data for the **Planets** and **Dwarf Planets**

In Order from the Sun	Distance from Sun (in AU's)	Mean Diameter (in miles)	Orbital Period (in Earth years)	Rotation Period (in Earth days)	Orbital Eccentricity	Inclination of Orbit to the Ecliptic (in degrees)
Mercury	.39	3,032	.24	58	.21	7
Venus	.72	7,521	.6	-243	.01	3.4
Earth	1	7,926	1	1	.02	0
Mars	1.52	4,212	1.88	1.03	.09	1.9
Ceres	2.77	590	4.6	.38	.08	11
Jupiter	5.2	86,992	11.86	.41	.05	1.3
Saturn	9.54	72,700	29.46	.44	.06	2.5
Uranus	19.19	31,504	84.01	-.72	.05	.8
Neptune	30.06	30,571	164.82	.67	.01	1.8
Pluto	39.5	1,534	248.6	-6.4	.25	17
Haumea	43.1	1,056	283.3	.16	.19	28
Makemake	45.8	870	309.9	.32	.16	29
Eris	68	1,445	560.9	?	.44	44

Data for the table taken from: <https://openstax.org/books/astronomy/pages/f-physical-and-orbital-data-for-the-planets>

Distance from Sun – An **AU** is an astronomical unit. It is the average distance between the Earth and the Sun, 93,000,000 miles.

Orbital Period – The time it takes an object to orbit the Sun. Shown on the chart in Earth years.

Rotation Period -- Viewed looking down from the north, planets and dwarf planets rotate on their axes and revolve around the Sun in a counterclockwise direction. Except Venus, Uranus and Pluto. Although they revolve around the Sun in the same direction as the other planets and dwarf planets, they rotate on their axes in a clockwise direction. This is called **retrograde rotation**. On the chart above, for Venus, Uranus and Pluto, it is shown with negative numbers.

Orbital Eccentricity – A measurement of how an object's orbit is shaped like an ellipse. An ellipse is an elongated circle. All of the orbits of all the objects orbiting the Sun are ellipses.



Inclination of Orbit to the Ecliptic – The plane of the Earth's orbit around the Sun is called the ecliptic. The planes of other objects orbiting the Sun are not perfectly in line with our orbit – the ecliptic. They are inclined. The inclination of an object's orbit is a measurement -- in degrees -- of how steeply inclined that object's orbit is to Earth's. The chart above shows Eris' orbit being inclined 44 degrees. The drawing below illustrates this:

