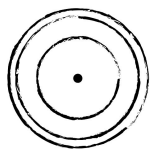


Orbit Guide



Below is a short list of some of the objects that orbit the sun, including some planets, dwarf planets, and many asteroids. In the table below, “distance from sun” is either the average orbital radius (for circular, planetary orbits) or is the semi-major axis (for elliptical orbits, see note).

Object Name	Object Type	Distance From Sun (AU)	Orbital Period (years)
Mercury	Planet	0.3871	0.2
Venus	Planet	0.7233	0.6
Earth	Planet	1.0000	1.0
101955 Bennu	Asteroid	1.1264	1.2
162173 Ryugu	Asteroid	1.1900	1.3
25143 Itokawa	Asteroid	1.3241	1.5
433 Eros	Asteroid	1.4579	1.8
Mars	Planet	1.5237	1.9
65803 Didymos	Asteroid	1.6446	2.1
951 Gaspra	Asteroid	2.2099	3.3
5535 Annefrank	Asteroid	2.2124	3.3
9969 Braille	Asteroid	2.3410	3.6
Vesta	Asteroid	2.3618	3.6
2867 Šteins	Asteroid	2.3633	3.6
52246 Donaldjohanson	Asteroid	2.3844	3.68
21 Lutetia	Asteroid	2.4350	3.8
253 Mathilde	Asteroid	2.6484	4.3
Ceres	Dwarf planet	2.7660	4.6
243 Ida	Asteroid	2.8610	4.8
21900 Orus	Asteroid	5.1266	11.6
15094 Polymele	Asteroid	5.1659	11.7
3548 Eurybates	Asteroid	5.1921	11.8
Jupiter	Planet	5.2034	11.9
11351 Leucus	Asteroid	5.2869	12.2
Saturn	Planet	9.5371	29.4
Uranus	Planet	19.1913	84.0

Neptune	Planet	30.0690	164.8
Orcus	Trans-Neptunian	39.4190	247.3
Pluto	Dwarf planet	39.4820	247.9
Ixion	Trans-Neptunian	39.6800	249.8
2002 MS4	Trans-Neptunian	41.9300	269.5
Salacia	Trans-Neptunian	42.1900	271.7
Varuna	Trans-Neptunian	43.1300	281.5

A Note About Orbit Shapes - Circular Or Elliptical?

Some object orbits can be nearly circular, moving at a nearly constant speed, like Earth's path around the sun. However, most orbits are at least slightly elliptical, taking oval paths and moving at varying speeds depending on their proximity to large objects. How do you describe the orbital radius of an elliptical orbit whose distance from the sun changes over the course of its orbital period? Generally, scientists use the **semi-major axis**: half of the longest diameter (or major axis) of an ellipse. For orbits that are only slightly elliptical, and for drawing scale orbits, this is a good approximation for the orbital radius.

