

Orbital and physical characteristics of the Solar System (Sun and planets)

Orbital characteristics

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Semi-major axis (m)	$5.7909 \cdot 10^{10}$	$1.0821 \cdot 10^{11}$	$1.49598 \cdot 10^{11}$	$2.27939 \cdot 10^{11}$	$7.785472 \cdot 10^{11}$	$1.42698 \cdot 10^{12}$	$2.87099 \cdot 10^{12}$	$4.503444 \cdot 10^{12}$	$5.90638 \cdot 10^{12}$
Semi-major axis (AU) ⁽¹⁾	0.387098	0.723332	1.00000261	1.523679	5.204267	9.58201720	19.229411	30.1036615	39.48169
Orbital eccentricity	0.205630	0.00678	0.01671123	0.093315	0.048775	0.055723219	0.044405586	0.01121427	0.248807
Orbital inclinación ⁽²⁾	7.005°	3.39471°	0.0000000°	1.850°	1.305°	2.485240°	0.76986°	1.76795°	17.14175°
Sidereal orbital period	87.9691 d	224.70069 d	365.25636 d	686.971 d	4331.572 d	10759.21 d	30799.095 d	60190 d	90613.31 d
	0.240846 yr	0.61519696 yr	1.0000174 yr	1.88082 yr	11.85919 yr	29.45711 yr	84.323326 yr	164.79 yr	248.0857 yr

Physical characteristics

	Sun	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Equatorial diameter (km)	1392 000	4878	12 102	12 756	6792	142 984	120 536	51 118	49 528	2300
Diameter / diameter of Earth ⁽³⁾	109	0.3826	0.9488498	1.00	0.533	11.209	9.4492	4.0073	3.8830	0.18
Mass (kg)	$1.989 \cdot 10^{30}$	$3.302 \cdot 10^{23}$	$4.8690 \cdot 10^{24}$	$5.9742 \cdot 10^{24}$	$6.4193 \cdot 10^{23}$	$1.8988 \cdot 10^{27}$	$5.6846 \cdot 10^{26}$	$8.6811 \cdot 10^{25}$	$1.0244 \cdot 10^{26}$	$1.25 \cdot 10^{22}$
Mass / mass of Earth	332 946	0.05527	0.81500	1	0.10745	317.83	95.152	14.531	17.147	0.0021
Mean density (kg/m ³)	1410	5427	5204	5515	3933.5	1326	687	1290	1638	2030
Equatorial surface gravity (m/s ²)	273	3.7	8.84	9.780327	3.68	24.72	10.42	7.76	11.1	0.66
Gravity / gravity of Earth ⁽⁴⁾	27.9	0.38	0.904	1	0.376	2.528	1.065	0.793	1.14	0.067
Escape velocity (km/s)	617.5	4.25	10.46	11.186	5.027	59.5	35.5	21.3	23.5	1.229
Sidereal rotation period	27.3 d	58.646 d	-243.0185 d	0.99726968 d	1.0259568 d	0.41354 d	0.44042 d	0.71833 d	0.6713 d	6.38723 d
	655h 12m	1407h 30m	-5832h 27m	23h 56m 41s	24h 37m 23s	9h 55m 30 s	10 h 34m 12s	17h 14m 24s	16h 7m	153h 17m
Axial tilt	7.25°	2.1°	177.3°	23.4392811°	25.19°	3.13°	26.73°	97.86°	28.32°	119.59°
Satellites	-	0	0	1	2	63	60	27	13	3

⁽¹⁾ Astronomical unit of distance. 1 AU = $1.495\ 978\ 706\ 91 \cdot 10^{11}$ m

⁽²⁾ Angle between the plane of the orbit of the planet and the ecliptic (plane containing the mean orbit of the Earth)

⁽³⁾ Equatorial diameter

⁽⁴⁾ Equatorial surface gravity

d = day = 86 400 s

yr = Julian year = 365.25 days