

	<u>SUN</u>	<u>MERCURY</u>	<u>VENUS</u>	<u>MOON</u>	<u>EARTH</u>	<u>MARS</u>	<u>CERES</u>
<b>Mass (*10<sup>24</sup> kg)</b>	1,988,500	0.33	4.87	0.073	5.97	0.642	0.00016
<b>Diameter (km)</b>	1,391,400	4879	12,104	3475	12,756	6792	974.6
<b>Density (kg/m<sup>3</sup>)</b>	1408	5427	5243	3340	5514	3933	2077
<b>Length of Day (hours)</b>	624	4222.6	2802	708.7	24	24.7	9 hrs
<b>Solar Day</b>	24-30 d	6 months	4 months	mo. = 29d 12	24h	25h	9h
<b>Gravity (m/s<sup>2</sup>)</b>	274	3.7	8.9	1.6	9.8	3.7	
<b>Escape Velocity (km/s)</b>	617.7	4.3	10.4	2.4	11.2	5	0.51
<b>Rotation Period (hours)</b>	600	1407.6	-5832.5	655.7	23.9	24.6	9
<b>Sidereal Day</b>	25 d	2 mo = 59 d	8 mo. or 243 d	27.32 d	24 hrs	25 hrs	9 hrs
<b>Distance from Sun (*10<sup>6</sup> km)</b>		57.9	108.2	0.384*	149.6	227.9	413.8
<b>Perihelion (*10<sup>6</sup> km)</b>		46	107.5	0.363	147.1	206.6	382.6
<b>Aphelion (*10<sup>6</sup> km)</b>		69.8	108.9	0.406	152.1	249.2	445.4
		1.517391304	1.013023256	1.1184573	1.033990483	1.206195547	1.164140094
		1/4	3/4	1/12	1	2	4.6
<b>Orbital Period (days)</b>	8.76 * 10 <sup>10</sup>	88	224.7	27.3	365.2	687	1679
<b>Orbital Velocity (km/s)</b>	220	47.4	35	1	29.8	24.1	17.882
<b>Orbital Inclination (degrees)</b>		7	3.4	5.1	0	1.9	3
<b>Orbital Ecc - 0 is circle</b>		0.205	0.007	0.055	0.017	0.094	0.07976
<b>Obliquity to Orbit (degrees)</b>	67.23°	0.034	177.4	6.7	23.4	25.2	4
<b>Mean Temperature (C)</b>		167	464	-20	15	-65	-106
<b>Surface Pressure (bars)</b>		0	92	0	1	0.01	
<b>Number of Moons</b>	10000+	0	0	0	1	2	0
<b>Ring System?</b>		No	No	No	No	No	no
<b>Global Magnetic Field?</b>	Yes	Yes	No	No	Yes	No	
<b>m*dist (kilogram*meters/hr)</b>				has crust field	6,113,280	has crust field	
<b>Angular Momentum via Axis</b>	1.55*10 <sup>14</sup>	1,169	160,000		25,500,000	7,450,000	41
<b>sidereal spin/orbit res</b>	3.08*e <sup>-10</sup>	2/3	1.0814 or 27/25	1	1/365	1/687	2.23 * e <sup>-4</sup>
<b>SPIN/ORBIT RESONANCE</b>	3.08*e <sup>-10</sup>	2	.5196	1.0817 or approx 29/27	1/365	1/687	2.23 * e <sup>-4</sup>
<b>Centripetal Force to Sun</b>		12.81	55.136		35	1.6362	0.000124
	<u>SUN</u>	<u>MERCURY</u>	<u>VENUS</u>	<u>MOON</u>	<u>EARTH</u>	<u>MARS</u>	<u>CERES</u>

<u>JUPITER</u>	<u>SATURN</u>	<u>URANUS</u>	<u>NEPTUNE</u>	<u>PLUTO</u>	<u>ERIS</u>	
1898	568	86.8	102	0.0146	0.0028	<b>Mass (*10^24 kg)</b>
142,984	120,536	51,118	49,528	2370	2,400	<b>Diameter (km)</b>
1326	687	1271	1638	2095	1180-2310	<b>Density (kg/m3)</b>
9.9	10.7	17.2	16.1	153.3	25.9	<b>Length of Day (hours)</b>
10h	11h	17h	16h	6 d 9h	26 h	
23.1	9	8.7	11	0.7		<b>Gravity (m/s2)</b>
59.5	35.5	21.3	23.5	1.3	1.31	<b>Escape Velocity (km/s)</b>
9.9	10.7	-17.2	16.1	-153.3	25.9 hrs	<b>Rotation Period (hours)</b>
				6d 9h		
10 hrs	11 hrs	17 hrs	16 hrs	-6.3875d	26 hours	
778.6	1433.5	2872.5	4495.1	5906.4	10,123.00	<b>Distance from Sun (10^6 km)</b>
740.5	1352.6	2741.3	4444.5	4436.8	5.687	<b>Perihelion (10^6 km)</b>
816.6	1514.5	3003.6	4545.7	7375.9	14.581	<b>Aphelion (10^6 km)</b>
1.1027684	1.119695401	1.095684529	1.022769715	1.662436891	2.563917707	<b>OD as Interval Span of Oct</b>
12	29	84	164	248	557	Orbital periodo in Earth Years
4331	10,747	30,589	59,800	90,560	203,416	<b>Orbital Period (days)</b>
13.1	9.7	6.8	5.4	4.7	3.436	<b>Orbital Velocity (km/s)</b>
1.3	2.5	0.8	1.8	17.2	?	<b>Orbital Inclination (degrees)</b>
0.049	0.057	0.046	0.011	0.244	0.44177	<b>Orbital Eccentricity</b>
3.1	26.7	97.8	28.3	122.5	47	<b>Obliquity to Orbit (degrees)</b>
-110	-140	-195	-200	-225	-230	<b>Mean Temperature (C)</b>
Unknown*	Unknown*	Unknown*	Unknown*	0.00001		<b>Surface Pressure (bars)</b>
79	62	27	14	5	1	<b>Number of Moons</b>
Yes	Yes	Yes	Yes	No	no	<b>Ring System?</b>
Yes	Yes	Yes	Yes	like mars		<b>Global Magnetic Field?</b>
				<b>has atmosphere</b>		
2.43 x10^12	4.85 x10^11	8.38 x10^9	9.83 x10^9	336	389.9	using 2/5M*R^2*period *2pi
9.52 * e^-5	4.148 * e^-5	2.31 * e^-5	1.12 * e^-5	6.63E-05	5.3 * e^-6	sidereal spin/orbit res
9.52 * e^-5	4.148 * e^-5	2.31 * e^-5	1.12 * e^-5	6.63E-05	5.3 * e^-6	solar day/solar year
418.34	37.2816	1.3973	0.6617	0.000055	0.00000611	using M*v^2/R and mean dis
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