Hansen Planetarium Solar System Fact Sheet 2002

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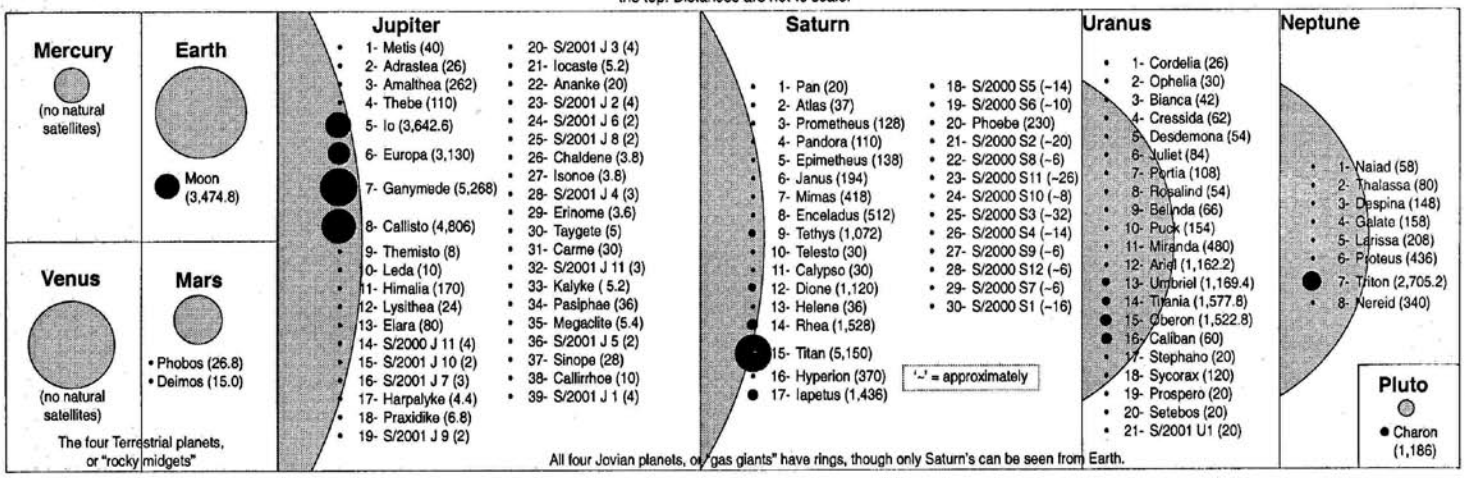
May be freely copied by professional educators for classroom use only. Additional laser copies of this sheet are available for 25¢ each. Send a SASE to Solar System Fact Sheet / Hansen Planetarium / 15 S. State St. / SLC, UT 84111-1590. The known satellites of the Solar System shown here next to their planets with their sizes (*maximum* diameter in km) in parenthesis. The planets and satellites (with diameters above 1,000 km) are depicted in relative size (with Earth = 0.500 inches) and are arranged in order by their distance from the planet, with the closest at the top. Distances are not to scale.



		Mercury	Venus	Earth	Moon	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto	Sun
Average Distance from Sun	Millions of Kilometers	57.91	108.21	149.60	.3844 from Earth	227.94	778.30	1,429.39	2,875.04	4,504.45	5,915.80	39.95 trillion km to nearest star
	Light Travel Time	3m13s	6m1s	8m19s	1.3s from Earth	12m40s	43m16s	1h19m28s	2h39m50s	4h10m25s	5h28m53s	4.22y to nearest star
	Astronomical Units	0.3871	0.7233	1.0000	0.0026 from Earth	1.5237	5.203	9.555	19.218	30.110	39.545	267,032 to nearest star
Length of Year	Period of Orbit	87.969d	224.701d	365.256d	27.32d to orbit Earth	1.8808y	11.862y	29.457y	84.020y	164.770y	248.67y	226 million y to orbit galaxy
Length of Day	Period of Rotation	58d15h31m	243d0h26mR	23h56m04s	27d7h43m	24h37m23s	9h55m30s†	10h39m22s†	17h14m24sR†	16h6m36s†	6d9h18mR	25-35d†
		y=years d=days h=hours m=minutes s=seconds R=retrograde †=Depending on latitude ?=Exact value not known										
Average Orbital Velocity	Kilometers per second	47.87	35.02	29.79	1.023	24.13	13.06	9.66	6.81	5.44	4.7	217.35 around center of galaxy
	Kilometers per hour	172,339	126,074	107,225	3,683	86,865	47,029	34,781	24,527	19,595	17,051	782,460 around center of galaxy
Equatorial Diameter	Kilometers	4,879.4	12,103.6	12,756.28	3,474.8	6,792	142,984**	120,536**	51,118**	49,528**	2,390	1,392,000
	Sun = 1	0.0035	0.0087	0.0092	0.0025	0.0049	0.1027**	0.0866**	0.0367**	0.0356**	0.0017	1.0
	Earth = 1	0.383	0.949	1.0	0.2724	0.532	11.209**	9.449**	4.007**	3.883**	0.187	109
Mass	Earth = 1	0.0553	0.8150	1.0	0.0123	0.1074	317.83	95.159	14.500	17.204	0.0022	332,946
Volume	Earth = 1	0.0562	0.857	1.0	0.0203	0.151	1,321.35	763.59	63.09	57.72	0.0066	1,300,000
Mean Density	Grams per cubic centimeter Water = 1	5.43	5.24	5.515	3.34	3.94	1.33	0.70	1.30	1.76	2.0	1.41
Surface Gravity	Earth = 1	0.378	0.905	1.0	0.166	0.379	2.53	1.07	0.903	1.14	0.062	27.96
Escape Velocity	Kilometers per second	4.25	10.36	11.18	2.38	5.02	59.5	35.5	21.3	23.5	1.2	617.5
	Kilometers per hour	15,300	37,303	40,249	8,553	18,081	214,300	127,700	76,600	84,700	4,300	2,223,000
Temperature Extremes	High °C	425	462	58	127	17	20,000*	12,000*	6,000*	6,000*	-210	15,000,000*
	High K	698	735	331	400	290	20,000*	12,000*	6,000*	6,000*	63	15,000,000*
	Low °C	-173	462	-88	-173	-143	438**	407**	346**	347**	-235	4,000**
	Low K	100	735	185	100	130	711**	680**	619**	620**	38	4,000**
		*Core **At 1 atmosphere (altitude where barometric pressure equals Earth's barometric pressure at sea level—1,013 mb)										
Atmosphere	Principal Gases	O_2, Na, H_2,He	CO_2, N_2	N_2, O_2	none	CO_2, N_2, Ar	H_2, He	H_2, He	H_2, He, CH_4	H_2, He, CH_4	CH_4, N_2,CO	H_2, He
# of Known Satellites		0	0	1	0	2	39 plus rings	30 plus rings	21 plus rings	8 plus rings	1	9 planets
Eccentricity of Orbit	Circular Orbit = 0	0.2056	0.0068	0.0167	0.0549	0.0934	0.0485	0.0555	0.0464	0.0095	0.2491	—
Inclination of Equator	To Planet's Orbital Plane	0.01°	177.36°	23.44°	6.68°	25.19°	3.13°	26.73°	97.77°	28.32°	119.6°	7.25° Sun's equator to ecliptic
Oblateness of Planet	Spherical Planet = 0	0	0	0.003354	0	0.005889	0.06487	0.0980	0.02293	0.01708	0	0