

Name _____ Date _____ Hour _____

Astronomy #3 - Planetary Comparisons

Use the Solar System Data Chart to answer the questions below.

| | |
|---------|---------|
| Got It! | Not Yet |
| 8-6 | 5-0 |

Solar System Data

| Celestial Object | Mean Distance from Sun (million km) | Period of Revolution (d=days) (y=years) | Period of Rotation at Equator | Eccentricity of Orbit | Equatorial Diameter (km) | Mass (Earth = 1) | Density (g/cm ³) |
|------------------|-------------------------------------|---|-------------------------------|-----------------------|--------------------------|------------------|------------------------------|
| SUN | — | — | 27 d | — | 1,392,000 | 333,000.00 | 1.4 |
| MERCURY | 57.9 | 88 d | 59 d | 0.206 | 4,879 | 0.06 | 5.4 |
| VENUS | 108.2 | 224.7 d | 243 d | 0.007 | 12,104 | 0.82 | 5.2 |
| EARTH | 149.6 | 365.26 d | 23 h 56 min 4 s | 0.017 | 12,756 | 1.00 | 5.5 |
| MARS | 227.9 | 687 d | 24 h 37 min 23 s | 0.093 | 6,794 | 0.11 | 3.9 |
| JUPITER | 778.4 | 11.9 y | 9 h 50 min 30 s | 0.048 | 142,984 | 317.83 | 1.3 |
| SATURN | 1,426.7 | 29.5 y | 10 h 14 min | 0.054 | 120,536 | 95.16 | 0.7 |
| URANUS | 2,871.0 | 84.0 y | 17 h 14 min | 0.047 | 51,118 | 14.54 | 1.3 |
| NEPTUNE | 4,498.3 | 164.8 y | 16 h | 0.009 | 49,528 | 17.15 | 1.8 |
| EARTH'S MOON | 149.6 (0.386 from Earth) | 27.3 d | 27.3 d | 0.055 | 3,476 | 0.01 | 3.3 |

1. Rank the mass of the 8 planets from the the smallest (S) to the largest mass (L).

(S) _____, _____, _____, _____, _____, _____, _____, _____ (L)

2. What do the planets with the MOST mass have in common with each other? _____

3. What are the four most dense planets in our solar system? _____, _____
_____ and _____.

4. Are the most dense planets the Inner or Outer Planets? _____

5. Earth has similar characteristics to Venus. Name two based on this chart.

_____ and _____

6. What planet has the longest period of revolution? _____ What explanation can you give for this? _____

7. Which planet in our solar system has the fastest period of rotation? _____

8. What body in our solar system is the largest? _____ What data did you use to determine this? _____