Virtual Lab: The Solar System-What are the dimensions of the solar system?

Virtual lab website: <http://www.glencoe.com/sites/common_assets/science/virtual_labs/E28/E28.html>

For this virtual lab, you will be exploring distance within the solar system. First, read the chart below to learn how scientists measure distance in space.

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| Distance | Description | Image | Application  |
| Kilometer | a metric unit of measurement equal to 1,000 meters  | 1. http://www.heardutchhere.net/artwork/mileskilometers2.jpg
 | 1. Used to measure distance between planets and their moons
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| Astronomical unit | the average distance between the Earth and sun | AU.gif | Used to measure distance between planets |
| Light year | The distance that light travels in one year | 1 light year is the distance light can travel in vacuum in one year’s time. This distance is equivalent to roughly 9,461,000,000,000 km | Used to measure distance between stars |
| Parsec | Equal to about 3.26 light years (3.086 × 1013 kilometers).  | http://coolcosmos.ipac.caltech.edu/cosmic_classroom/cosmic_reference/images/parsec.gif | Used to measure distances between galaxies and distant objects in the universe |

Question 1 :How do the sizes of the inner planets (from the sun to the asteroid belt) compare to the sizes of the outer planets?

Question 2 :How do the distances between the orbits of the inner planets compare to the distances between the orbits of the outer planets?

Question 3 :How many times larger than Earth is the planet Jupiter? (Hint: Divide Jupiter'sdiameter by Earth's diameter.)

Question 4 :How many times larger than Pluto is planet Earth? (Hint: Divide Earth's diameter by Pluto's diameter.)

Question 5 :How much farther from the sun is the orbit of Neptune than the orbit of Earth? (Hint: Subtract Earth's average distance from the sun from Neptune's average distance from

the sun.)

Question 6 :What makes human travel to the other planets in our solar system difficult?

