

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

CLASS: \_\_\_\_\_ TEACHER: \_\_\_\_\_

**Geocentric versus Heliocentric Models of Celestial Objects  
Earth Science Assignment**

This assignment accompanies the following *Geoteach.com* lessons: **Geocentricity at a Glance** and **Heliocentricity at a Glance**.

**Directions:** Print this assignment and answer all questions in complete sentences placing responses in the spaces provided.

1. Considering both the Geocentric and Heliocentric Models of the Solar System, which model is correct and why?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Why do you think that centuries ago people believed that the Earth was at the center of the Universe?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Describe the difference between a **real motion** and an **apparent motion** of a celestial object and give an example of a daily apparent motion.

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. What is **Retrograde Motion** and why does such an illusion occur when Mars is observed from Earth over the course of one year?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. In the Geocentric Model of the Solar System what was used to explain the Retrograde Motion of outer planets?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Is Retrograde Motion a real or apparent motion?

Answer: \_\_\_\_\_

7. If you had to state one important difference between the Geocentric and Heliocentric Models of the Solar System that would explain nearly all the apparent motions seen in the sky on a daily basis, what would that difference be?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. What causes constellations to change positions in the night sky throughout the year?

Answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. In the Heliocentric Model of the Solar System what is the real cause of the sun rising and setting each day?

Answer: \_\_\_\_\_

10. In both the Geocentric and Heliocentric diagrams, what important "Earth motion" is not visible that explains temperature variations throughout the year?

Answer: \_\_\_\_\_  
\_\_\_\_\_

Geocentric versus Heliocentric Models of Celestial Objects Assignment is  
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**Supplemental Resources** that will assist in the understanding of concepts presented in this lesson:

*Retrograde Motion* - [Retrograde-O-Matic 2000](#)- Excellent Interactive Animation  
*Geocentricity* - [The Universe of Aristotle and Ptolemy](#)

Seasonal Constellations- Changing Positions of Constellations in the Sky

**Observing the Sky: Constellations - Seasonal** When you go there, be sure to click on the links for each of the 4 seasons. The picture will change. Notice the constellations in the night sky.

**Motion of the Sun and Stars - The Night Sky** Be sure read the page and click "Next" to play the animation.