Science

1. The Geocentric model is a model of the Solar System with the ~~earth~~ earth at the center

2. The heliocentric model is a model of the Solar system with the sun at the center.

3. An orbit is an elliptical, curved path described by a planet, satellite, etc.

4) ~~(second meaning) the moon is revolutionized around the track.~~

a) fundamental is the main idea.

b) A Centimeter is a fundamental Unit, while Liters is not.

5) Grauity is the force or pull on an object.
→ The grauity of the situation was huge do the circumstances.

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2) The Eccentric model lasted so long because it explained many observations made by the Greeks and the church said it was correct.

4) If Ptolemy and Copernicus met face to face they would argue weather the Sun or Earth was the center of the Solar system, or if the stars were on orbit or fixed.

els of our Solar System- "Strengthening My Use of Documents"

. As a class, we will read the document out loud

2. Read the document again by yourself. Underline "content"(science) words found in this passage that are "critical" for a deep understanding of the document.

3. Read a third time and highlight "academic vocabulary" which may have multiple meanings if they were used in a different context.

4. Next to numbers 1,2,and 3 below, write a term or phrase that you underlined as "critical" for deep understanding. Write a sentence or two describing the meaning of this term as used in the document.

5. Next to numbers 4, 5, and 6, wrie a word that you highlighted. In a sentence or two explain the meaning of the word and also describe another use of the same word.

6. Work with an elbow partner and share your work. Be ready to share your combined ideas with the class.

The geocentric model was developed thousands of years ago by Greek philosophers and was the accepted model of the Solar System for centuries. Geocentric actually means earth centered. This model is also called the Ptolemaic system in honor of the Greek scientist and philosopher Claudius Ptolemy, although the thory was around years before him. The geocentric model places the Earth at the center of the universe with the Sun, Moon, stars, and planets circling it.

The heliocentric model, which means sun centered, gradually replaced the geocentric model. This new system places the Sun at the center of the Solar System with the Earth and all the other planets orbiting it. This theory revolutionized everything because it reversed centuries of established opinion. Although the idea of a heliocentric model had been around as early as 200 B.C., it did not gain popularity until the 16th century.

One reason why the geocentric model remained in popularity for so many years is because it did explain many observations made by the early Greeks. For example, the geocentric model explained why things fall toward Earth – gravity – as well why stars seems to stay the same distance from Earth based on its unchanging brightness. As astronomers saw problems with the geocentric theory, they altered it in order to account for these discrepancies. Another reason why this model remained in popularity so long was because it went along with the Roman Catholic Church's policy.

As technology advanced, more problems surfaced facing the geocentric model. In the 16th century, the astronomer Nicolaus Copernicus built on the work of earlier scientists and published his heliocentric theory in his book *On the Revolutions of the Heavenly Bodies*. In this book, he made some radical changes, such as asserting that the stars do not orbit the Earth and declaring that the Earth's rotation is what makes it appear as if the stars orbit our planet.

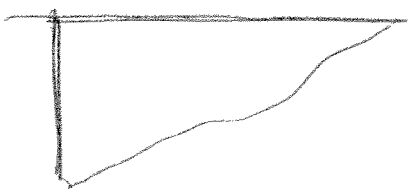
The irony is that after all the disputes over these different theories, neither one is necessarily correct. Einstein's Theory of Relativity upset both models. New evidence has also shown that the Solar System's center of gravity is not the exact center of the Sun. This means that either model is acceptable regardless of the fundamental differences between the theories. Astronomers use both the heliocentric and geocentric models for research depending on which theory makes their calculations easier. It definitely seems as if some things are relative after all.

1. Geocentric - earth centered model

2. Heliocentric - Sun centered model

- Gravity - a strong, pulling force, described & proved by Isaac Newton

3. orbit - elliptical, curved path described by a planet, satellite, etc.



4. revolutionized - a radical change
The printing press revolutionized reading and writing in history.

5. irony - word express meaning, that is often the direct opposite of the intended meaning
There is a lot of irony in glow-in-the-dark sunglasses.

6. disputes - An argument or debate
There are numerous disputes between societies and their governments.

- theory - a thought, an opinion of the way something works

- philosophers - deep thinkers.

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Name_

1. Describe the geocentric Model in complete sentences.
In the ~~geocentric~~ earth model, the sun is the center of the universe. The planets, sun, moon, and stars encircle the earth. The stars are also on an orbit. Orbits are clockwise.

2. Cite reasons why the Geocentric model lasted as long as it did before being replaced by the Heliocentric model. The geocentric model explained many observations made by the early Greeks. And the church said so

3. What changes did Nicolaus Copernicus make when building his new Heliocentric model?
Copernicus placed the sun at the center of the universe with planets orbiting around it clockwise around it. Also, the moon orbited just the earth, and the stars were out in space, not orbiting the sun.

4. If Ptolemy and Copernicus could meet face to face, what argument might arise between the two about their models?