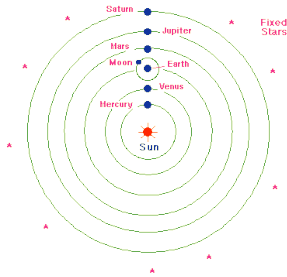


The Scientific Revolution

The Heliocentric System



1.) How did scientists such as Copernicus and Galileo change the way people viewed the universe?

2.) What was the new way of thinking that emerged and describe?

3.) In what areas did Isaac Newton make advances?

4.) How did the scientific method change the way people thought?

Beginning in the 1500s, new ideas about science changed the way Europeans thought about the world. This period of change was called the Scientific Revolution. Since ancient times, people had believed that the Earth was at the center of the universe. However, in the 1500s and 1600s, scientists such as Copernicus and Galileo showed that the planets revolved around the sun.

At first the discoveries of Copernicus and Galileo upset many Europeans. Over time, however, a new way of thinking about science emerged. Scientists began to observe the world around them and develop ideas about why things happened. They did experiments to test these ideas. This new way of thinking was called the scientific method.

With the scientific method; scientists made important advances in many areas. Isaac Newton discovered a force that kept the planet in their orbits around the sun. He called that force gravity. In chemistry, Robert Boyle made important discoveries about gases. In medicine, a French doctor named Pare developed an ointment for preventing infection and began using stitches to close wounds.

The scientific method changed the way people thought. Two important thinkers were Francis Bacon and Rene Descartes. Bacon stressed experimentation and observation as the best way to learn truth. Descartes argued that human reasoning was the best way to gain understanding.



Why do you think scientists using the scientific method need to repeat their work? Explain

The Scientific Method

Problem

Identify the problem (question)
Collect information
Form a hypothesis

Procedure

Test the hypothesis
Experimental Design

Observations & Data

Make observations
Assemble tables and graphs

Conclusions

Support or reject hypothesis
based on data
Report and publish results

Name: _____
Global History II

Date: _____
Mrs. Kempton & Mr. Patten

The Scientific Revolution

Define:

What Sparked Revolution?

Newton:

Copernicus:

Explain the significance of these key figures of the Scientific Revolution

Descartes:

Galileo:

The Scientific Revolution

Define: Questioning of old ideas about the world

What Sparked Revolution?
The questioning spirit of the Renaissance.

Newton:
☺ Used math to prove the existence of a force that keeps planet in orbit
☺ Gravity

Copernicus:
☺ Challenged the belief that the Earth was the center of the universe
☺ Heliocentric Theory

Explain the significance of these key figures of the Scientific Revolution

Descartes:
☺ Emphasized the power of human reasoning to find the truth

Galileo:
☺ Proved heliocentric theory using his telescope
☺ Challenged the authority of the Church and Aristotle