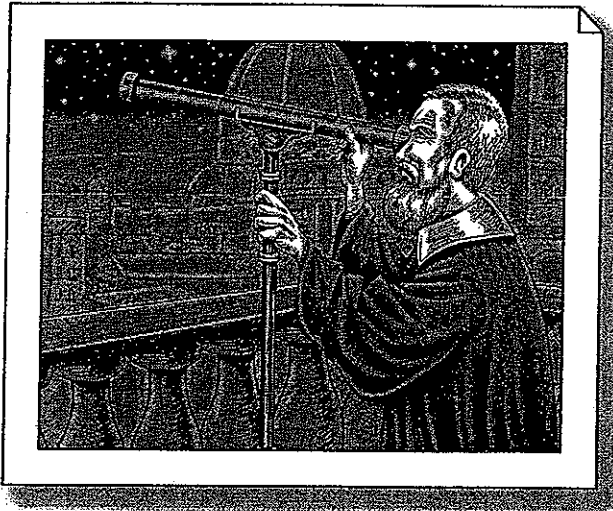




The Scientific Revolution

Until the mid-1500s, scientists agreed that the Earth was the unmoving center of the universe. The ancient Greek astronomer Ptolemy had come up with this theory in the second century A.D. His theory was accepted because it seemed like common sense and went along with the Church's views. The Church taught that God put Earth in the middle of the universe. However, scholars made discoveries in the 1500s and 1600s that changed the way people thought about science. This time in history is called the Scientific Revolution.



In 1543, Nicolaus Copernicus published a book that said Ptolemy's theory was wrong. Copernicus said that the Sun was the center of the universe, not the Earth. He also wrote that Earth was just one of several planets that revolved around the Sun. Most scholars did not believe Copernicus's theory. At that time, all scientific knowledge was based on ancient theories like Ptolemy's. If Ptolemy's theory was wrong, all scientific knowledge could be wrong!

Over the years, scientists looked for evidence of Copernicus's theory. In 1609, an Italian scientist named Galileo built a powerful telescope. It had a special lens that let him see things that had never been seen before. He saw mountains on the Moon, dark spots on the Sun, and four moons around Jupiter. The four moons revolved around Jupiter just like Copernicus said the Earth revolved around the Sun.

Galileo was not praised for his amazing discoveries. Instead, the Church was angry. Galileo's ideas clashed with the Church's belief that the heavens did not move. The Church did not want people to question its teachings. In 1633, Galileo was put on trial. Church officials told him to take back what he said or he would be put to death. Galileo agreed to say that he was wrong and that the Earth was the center of the universe. Legend says that Galileo muttered, "And yet Earth does move!" as he walked out of the court.

Scientists like Copernicus and Galileo started a new way of scientific thinking. Following their example, scholars like Sir Isaac Newton, Sir Francis Bacon, and René Descartes used a logical approach to solving problems. By the early 1600s, scientists used a process called the scientific method to study the natural world. Scientists collected and measured data and came up with a hypothesis, or possible explanation for the data. Then, they tested the hypothesis by observing or experimenting. Developed over many years, this step-by-step process is still used today.