

SIR ISAAC NEWTON



Is. Newton

Isaac Newton was born in 1643 in Woolsthorpe-by-Colsterworth, England. The son of a farmer, Isaac tried farming as a teen but disliked it. He enrolled in Trinity College. At the time, the college's teachings were based on those of ancient Greek scientists, but Newton preferred the work of more modern mathematicians and astronomers like Copernicus and Galileo. In 1665, he began to develop an advanced kind of math we now call calculus.

In 1687, Newton published a book called the *Philosophae Naturalis Principia Mathematica*, or *Principia* for short. The *Principia* described Newton's discoveries on gravity, the force that attracts objects to the center of the earth. As the story goes, Newton was sitting under an apple tree when he saw an apple fall to the ground. Seeing that the apple fell in a straight line, Newton realized that some force must have pushed or pulled it, leading to his discovery of gravity. Historians now believe this story was a fable, but it is still one of the most famous tales in the history of science.

The *Principia* also contained Newton's discoveries on the nature of motion, or the movement of objects. You may have heard that "to every action there is an equal and opposite reaction". This is one of Newton's famous "laws of motion", perhaps his most famous. It means, for example, that a ball rolling down a hill will continue to roll unless it hits an object or someone picks it up.

In 1705, Queen Anne, then the Queen of England, gave Newton knighthood. Newton's work improved every kind of mathematics existing in his time. For this reason, he is considered one of the most important scientists in history.

VOCABULARY

Look at the text and define these key concepts:

Gravity _____

Motion _____

What form of mathematics did Newton help invent?

What is Newton's most famous law of motion?

Can you think of another real-life example of Newton's laws of motion besides the one described in the text?

Imagine we lived in a world with no gravity. What would our daily life be like? How would we get around from place to place? What could we do when we needed to stay in one spot? Write a descriptive paragraph and illustrate it in the space below.
