



LAWS OF MOTION ANTICIPATION GUIDE

Read each statement and decide if it is True or False. Complete the left column before the reading by circling the T for True or the F for False. Complete the right column after you finish the reading. Did any of your answers change?

BEFORE READING		STATEMENT	AFTER READING	
T	F	Newton became president of the Royal Society.	T	F
T	F	An apple fell and hit Newton on the head.	T	F
T	F	Newton had to leave Cambridge due to World War II.	T	F
T	F	Every action has an equal and opposite reaction.	T	F
T	F	Newton was a professor at Harvard University.	T	F
T	F	Albert Einstein thought Newton was the smartest person ever.	T	F
T	F	Newton invented the reflecting telescope.	T	F
T	F	The first law of motion is also called the law of inertia.	T	F
T	F	The second law involves the formula: force = mass times acceleration.	T	F

DID YOU KNOW?

Newton estimated that the world would end no later than 2020.

Laws of Motion

Name: _____

Answer the questions below. Then on the coloring page, color each numbered section with the corresponding color. If there is any space left over, color it your choice! Follow the directions provided to cite evidence from the reading.

Questions	Text Evidence	Answer
#1 What was Newton's first name?	Find proof in the reading and <u>UNDERLINE</u> it in <u>PURPLE</u>	Isaac RED
#2 How many laws of motion are there?	Find proof in the reading and <u>CIRCLE</u> it in <u>GREEN</u>	Six BLUE STRIPES
#3 What is a unit of force called?	Find proof in the reading and <u>BOX</u> it in <u>RED</u>	Atom ORANGE
#4 When did Newton die?	Find proof in the reading and <u>BOX</u> it in <u>YELLOW</u>	1705 ORANGE
#5 Which law of motion is the basis of Newton's second law?	Find proof in the reading and <u>CIRCLE</u> it in <u>ORANGE</u>	Fourth BROWN
#6 Which country was Newton from?	Find proof in the reading and <u>UNDERLINE</u> it in <u>PURPLE</u>	England GREEN STRIPES

LAWS OF MOTION

Sir Isaac Newton was a scientist, mathematician, and astronomer from England. He was a genius in science, calculus, and physics. Albert Einstein thought that Newton was the smartest person ever.

Newton lived a solitary life without lots of friends. He preferred to write and work on his own. Newton was a professor of mathematics at Cambridge University in England. He also became a member of the Royal Society, a group of scientists from Cambridge. In 1703, he served as President of the Royal Society. In 1705, Queen Anne knighted him.

From 1667 to 1667, Newton had to leave Cambridge due to the Great Plague. He worked from home in Woolsthorpe. Here he developed his theories on calculus, gravity, and laws of motion.

In 1687, Newton published the famous Philosophiæ Naturalis Principia Mathematica ("Mathematical Principles of Natural Philosophy"). This publication outlined the three laws of motion and the law of gravity. It is one of the most significant science documents ever.

Newton's First Law of Motion states that any object in motion stays in motion (in the same direction and at the same speed) until a force acts on it. Likewise, an object at rest remains at rest until a force acts upon it. The first law of motion is also called the Law of Inertia. If you are traveling in a car and it stops abruptly, your body jerks forward. If you are stopped in a car and start driving suddenly, your body jerks backwards. These are examples of the Law of Inertia. Other examples to demonstrate the first law of motion are below:

- A rocket doesn't leave the launch pad until a force exerts upon it.
- A skater will keep skating across the ice until there is an outside force. This could be the boards (walls) at the rink, the skater turning to stop, or friction from the ice.
- A soccer ball stands still until someone kicks, rolls, tosses, or moves it.
- A runner that keeps running after the finish line.
- A bicycle that continues moving after you stop pedaling.
- If you bat a baseball, it will move forever until a force interferes. We have never seen a ball move forever, though. This is because of gravity. Gravity makes the ball drop. Also, air provides friction and resistance, making the ball slow down until it eventually stops.