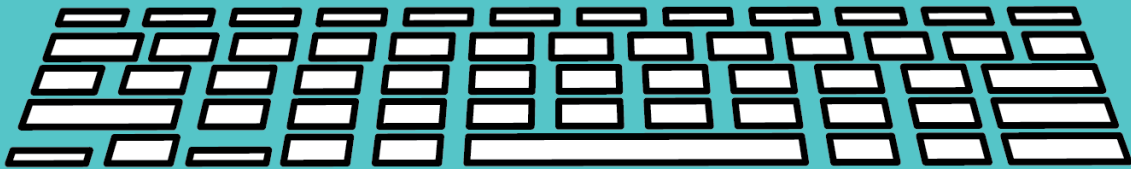
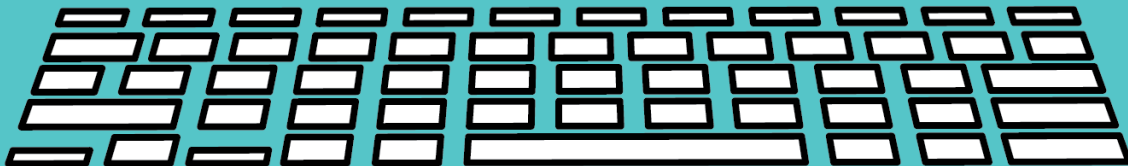


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ESTIMATED
THAT THE
WORLD
WOULD END
NO LATER
THAN 2100

Short Answer	Type Answer Here
1. What was Newton's first name?	
2. How many laws of motion are there?	
3. What is a unit of force called?	
4. What year did Queen Anne knight Newton?	
5. Rowing a boat is an example of which law?	
6. What country was Newton from?	
7. What year was Newton president of the Royal Society?	
8. What fruit hit Newton on the head?	



Short Answer	Type Answer Here	Fill in the Blank	Type Answer Here
1. What was Newton's first name?		9. Newton had to leave Cambridge due to the Great ____.	
2. How many laws of motion are there?		10. Every action has an equal and ____ reaction.	
3. What is a unit of force called?		11. Newton was a professor at ____ University.	
4. What year did Queen Anne knight Newton?		12. Albert ____ thought Newton was the smartest person ever.	
5. Rowing a boat is an example of which law?		13. Newton invented the reflecting ____.	
6. What country was Newton from?		14. ____'s 2nd law involves the formula: force = mass times ____.	
7. What year was Newton president of the Royal Society?		15. The first law of motion is also called the Law of ____.	
8. What fruit hit Newton on the head?		16. Newton became a member of the ____ Society.	



LAW'S OF MOTION

Sir Isaac Newton was an English natural philosopher, 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 was a scientist and a mathematician. He preferred to write and work on his own. He 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 1683, he served as President of the Royal Society. In 1705, Queen Anne made him a knight.

Meanwhile, from 1665 to 1667, Newton was forced to leave Cambridge because of the Great Plague. So, he worked from home in Woolsthorpe. Here he developed his theories on calculus, optics, and the laws of motion.

In 1687, Newton published his 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 an object in motion stays in motion (in the same direction and at the same speed) unless a force acts on it. Likewise, an object at rest remains at rest until a force acts upon it. This 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. Similarly, if you are sitting 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, blades turning to stop travel, 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 the force of gravity makes the ball drop. Also, air provides friction and resistance, making the ball slow down until it eventually stops.

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Newton's Second Law of Motion states that the larger the mass, the more force is needed to stop or accelerate an object. Force can make an object speed up, accelerate, change direction, or slow down. Newton's second law involves the formula: force = mass times acceleration ($F=ma$). Lighter objects respond to force by moving more quickly. With the baseball bat example, a baseball would fly through the air faster and longer than a watermelon would. Here are some other examples to demonstrate Newton's second law:

- The harder you swing a baseball bat, the further the ball will go.
- A bag of bricks is much harder to lift than a bag of feathers. The heavier object (more mass) requires more force to lift the item.
- Two cars colliding at a fast rate of speed will have more impact and damage than two cars that bump each other at the drive-through restaurant.

Newton's Third Law of Motion states that every action has an equal and opposite reaction. There are always two forces at the same time, even if it doesn't feel like it. With the rocket example above, the exhaust from the rocket pushes down. At the same time, the gases move upward.

These two forces send the rocket into the sky. Here are some other examples to explain Newton's third law:

- A person pushes against a wall. The wall "pushes" back.
- A person standing on the ground feels the downward force of gravity. The ground "pushes" back.
- Pushing a boat into the water pushes the water backwards to propel the boat forward.

A slingshot stretches when it gets pulled. When the slingshot releases, the tension of the rubber band exerts a force that launches the object.

- A bouncing ball has energy, force, and velocity moving downward. As the ball hits the ground, the earth "pushes" back to make it bounce.
- Jumping off a diving board is a similar example to the bouncing ball. However, with the diving board, the opposite force is the elastic material of the board.

Experts say that Isaac Newton's theories on gravity when an apple fell and bopped him on the head made his discoveries, they were important enough to name the unit of force after him - newton. Newton was a pioneer. He discovered gravity, set the foundation for classical mechanics, invented calculus and the reflecting telescope.

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