

Name \_\_\_\_\_

Date \_\_\_\_\_

## Isaac Newton

Sir Isaac Newton was an English physicist, mathematician, astronomer, and natural philosopher. He is considered one of the most important scientists of all time. He was born in January 1643 in Woolsthorpe in Lincolnshire, England.

At the age of 18, Newton went to Cambridge to study mathematics. However, in 1665, the university shut down because of the bubonic plague and he returned home to continue his studies.

It is said that one day while he was in his garden at Woolsthorpe, he saw an apple drop from a tree. This made him start thinking why the apple should fall downwards instead of any other direction. He came to the conclusion that the downward fall of the apple must be because the Earth attracted the apple and this resulted in him working out the theory of gravitation.

It was also during this same time that Newton started to examine the nature of white light by passing a beam of sunlight through a prism. He noticed that passing a beam of sunlight through a prism spread out into a colored band of light, which is known as a spectrum. These colors are the same colors as the ones in a rainbow. By conducting many experiments, he reached the conclusion that sunlight is a combination of all the colors of the spectrum and that sunlight separates when passed through a prism because of each color in the spectrum has a different refrangibility property. The refrangibility property is the ability of light rays to be refracted or bent by a substance.

He also started developing his ideas on calculus.

In 1667, he returned to the University of Cambridge and in 1669, he became a professor of mathematics. In 1668, his work on light resulted in Newton building the first reflecting telescope, which was the basis for many modern large telescopes.

In 1672, Newton became a Fellow of the Royal Society. In 1687, he published his most famous work called the "*Mathematical Principles of Natural Philosophy*." This book, known as the *Principia*, is one of the most influential books in the history of science and contains his work on the laws of motion, the theory of tides, and gravitation.

In 1707, he published another work called "*Opticks*" that discussed his theory of light. He also published other works on history, theology, and alchemy.

Newton was in charge of the Royal Mint for a few years, where he carried out some reforms in coinage. He was also twice a member of parliament, though it is said that he was not interested much in politics.

In 1705, he was knighted by Queen Anne.

He died in March 1727 and is buried in Westminster Abbey in England.

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## Isaac Newton Questions

### Multiple Choice:

1. Sir Isaac Newton is:
  - a. Mathematician
  - b. Physicist
  - c. Natural Philosopher
  - d. All of the above
2. Sir Isaac Newton was interested in working on many theories except:
  - a. Law of gravitation
  - b. Laws of motion
  - c. Politics
  - d. Calculus
3. Sir Isaac Newton thought of working on the law of gravitation because:
  - a. He was eating apples
  - b. He noticed an apple falling downward
  - c. The bubonic plague
  - d. He conducted many experiments on white light

### List 2 books published by Sir Isaac Newton:

4. \_\_\_\_\_

5. \_\_\_\_\_

### True or False:

- \_\_\_\_ 6. Newton concluded that sunlight is a combination of all the colors of the spectrum and that sunlight separates when passed through a prism.
- \_\_\_\_ 7. Property of refrangibility is the ability of light rays to be refracted or bent by a substance.
- \_\_\_\_ 8. Newton's work called 'Opticks' contains Newton's work on the laws of motion.
- \_\_\_\_ 9. Newton was extremely interested in politics and worked for a few years in the Royal Mint.

## Isaac Newton Answers

### Multiple Choice:

1. Sir Isaac Newton is:
  - a. Mathematician
  - b. Physicist
  - c. Natural Philosopher
  - d. **All of the above**
2. Sir Isaac Newton was interested in working on many theories except:
  - a. Law of gravitation
  - b. Laws of motion
  - c. **Politics**
  - d. Calculus
3. Sir Isaac Newton thought of working on the law of gravitation because:
  - a. He was eating apples
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  - c. The bubonic plague
  - d. He conducted many experiments on white light

### List 2 books published by Sir Isaac Newton:

**4. Mathematical Principles of Natural Philosophy**

**5. Opticks**

### True or False:

- T**   6. Newton concluded that sunlight is a combination of all the colors of the spectrum and that sunlight separates when passed through a prism.
- T**   7. Property of refrangibility is the ability of light rays to be refracted or bent by a substance.
- F**   8. Newton's work called 'Opticks' contains Newton's work on the laws of motion.
- F**   9. Newton was extremely interested in politics and worked for a few years in the Royal Mint.