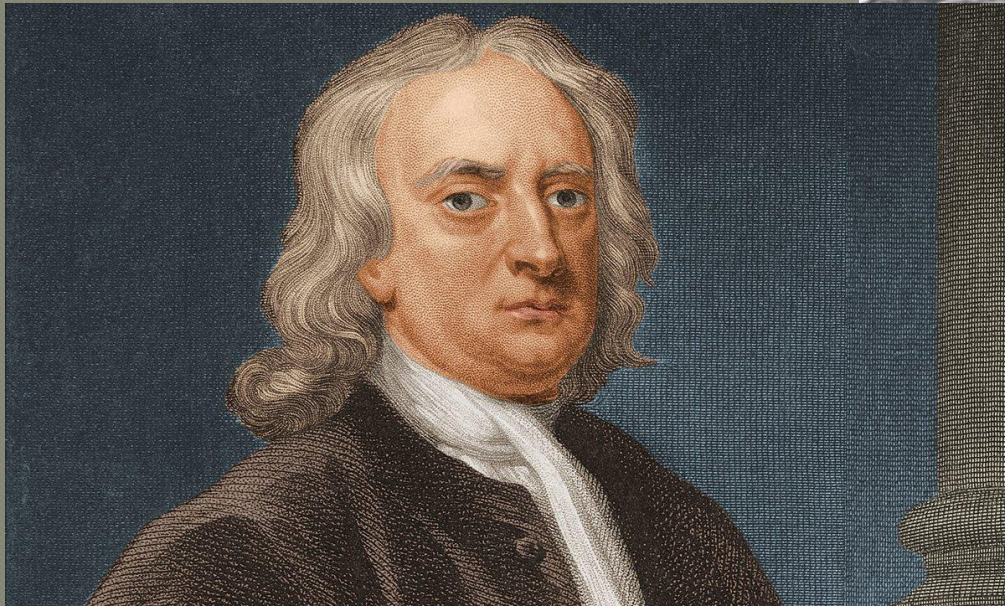# Isaac Newton

Performed student of the
Group AVT-28
Kluchnikov Maxim

Sir Isaac Newton is an English scientist and mathematician. He was born in 1642, on the 25th of December in the little village of Woolsthorpe in England. His father was a wealthy farmer but he had died before Isaac was born.

Newton's childhood was anything but happy, and throughout his life he verged on emotional collapse, occasionally falling into violent and vindictive attacks against friend and foe alike.

With his mother's return to Woolsthorpe in 1653, Newton was taken from school to fulfill his birthright as a farmer. Happily, he failed in this calling, and returned to King's School at Grantham to prepare for entrance to Trinity College, Cambridge. But the turning point in Newton's life came in June 1661 when he left Woolsthorpe for Cambridge University. Here Newton entered a new world, one he could eventually call his own.

In 1665 Newton took his bachelor's degree at Cambridge without honors or distinction.

- In 1665-1666, Newton performed a number of experiments on the composition of light. Guided initially by the writings of Kepler and Descartes, Newton's main discovery was that visible (white) light is heterogeneous--that is, white light is composed of colors that can be considered primary. Through a brilliant series of experiments, Newton demonstrated that prisms separate rather than modify white light. Contrary to the theories of Aristotle and other ancients, Newton held that white light is secondary and heterogeneous, while the separate colors are primary and homogeneous.

The two years he spent there were an extremely fruitful time: he made his three great discoveries — the discoveries of the differential calculus, of the nature of white light, and of the law of gravitation.
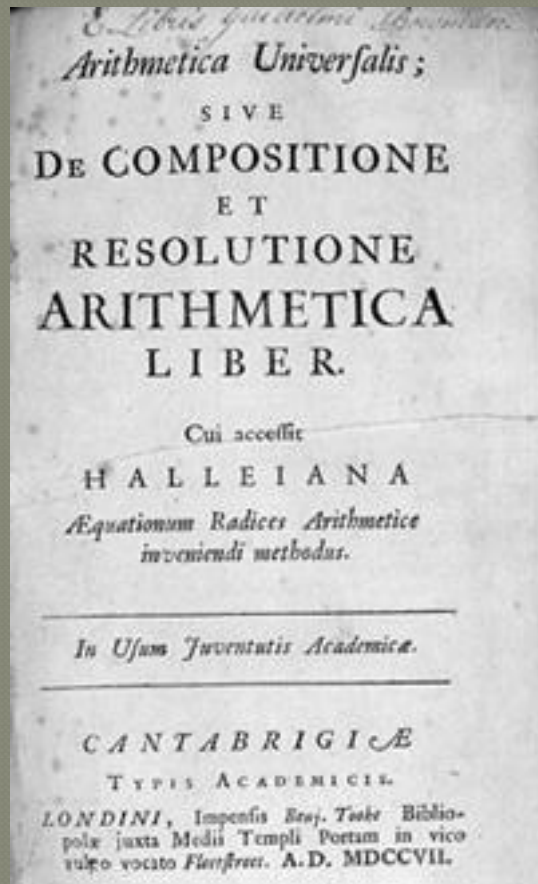
In Book III, subtitled the *System of the World*, Newton extended his three laws of motion to the frame of the world, finally demonstrating 'that there is a power of gravity tending to all bodies, proportional to the several quantities of matter which they contain.
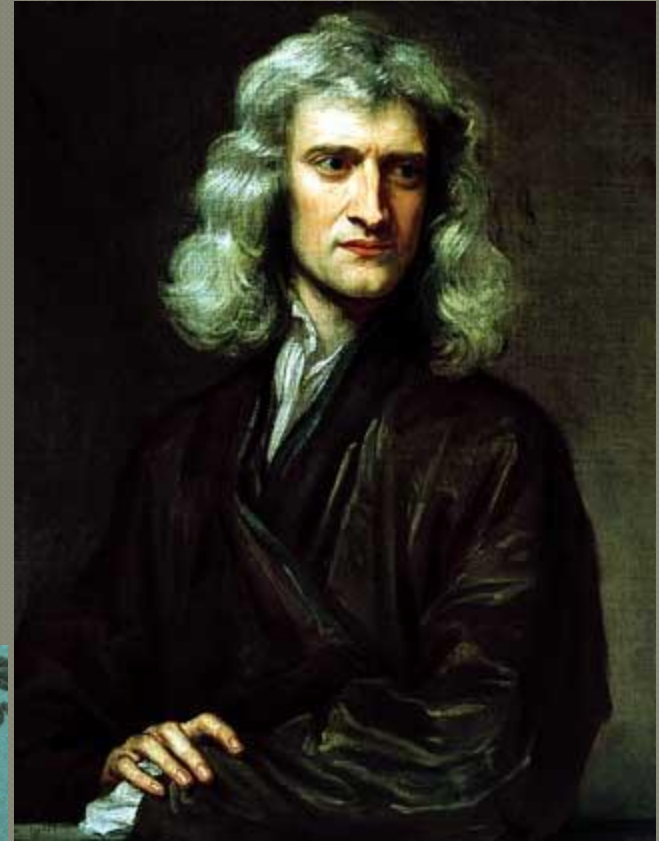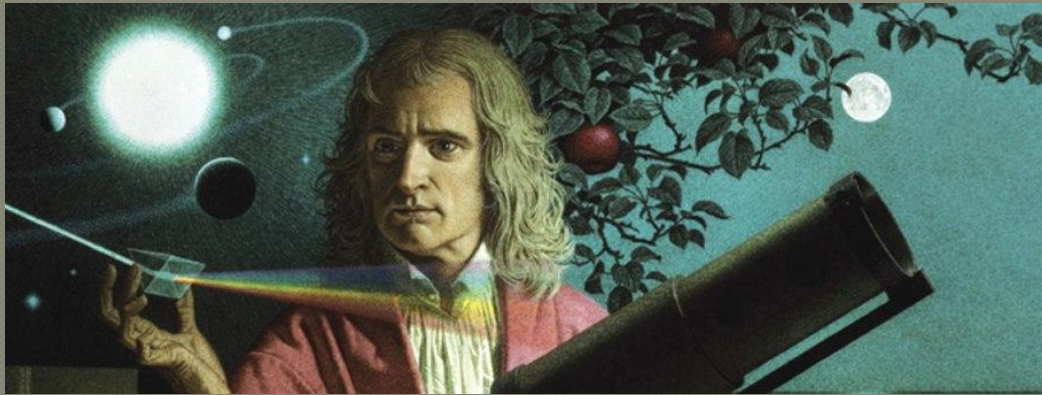
In 1687 Newton published his greatest work "Mathematical Principles of Natural Philosophy", which showed how a universal force, gravity, applied to all objects in all parts of the universe.

In 1696, with the help of Charles Montague, a fellow of Trinity and later earl of Halifax, Newton was appointed Warden and then Master of the Mint. His new position proved 'most proper,' and he left Cambridge for London without regret.
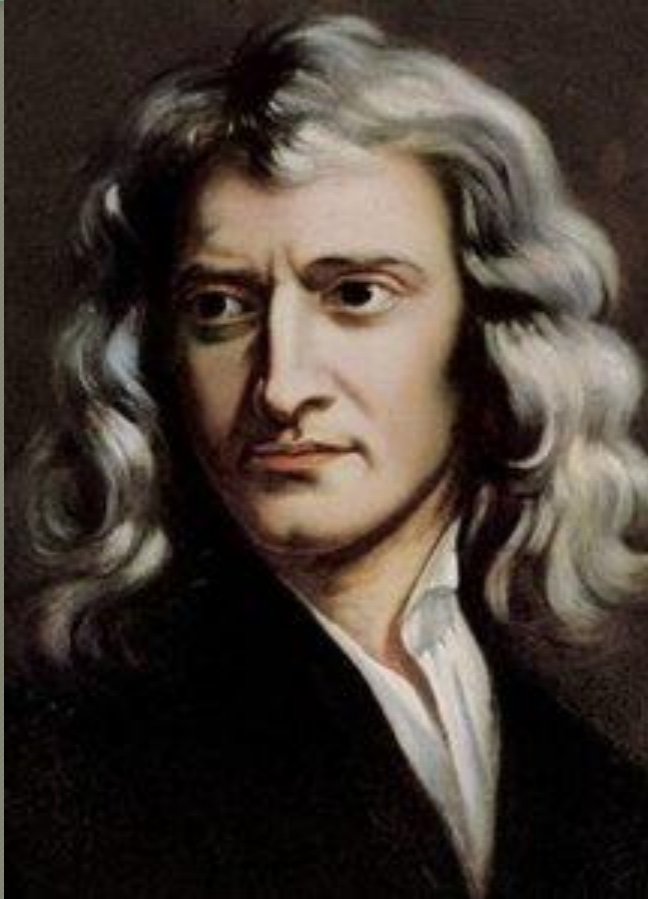
His last decades were passed in revising his major works, polishing his studies of ancient history, and defending himself against critics, as well as carrying out his official duties.

He died in London on March 20, 1727 (March 31, New Style).
He never married and lived modestly, but was buried with great pomp in Westminster Abbey.

Newton published an edition of Geographia generalis by the German geographer Varenius in 1672. His own letters on optics appeared in print from 1672 to 1676. Then he published nothing until the Principia (published in Latin in 1687; revised in 1713 and 1726; and translated into English in 1729). This was followed by Opticks in 1704; a revised edition in Latin appeared in 1706. Posthumously published writings include The Chronology of Ancient Kingdoms Amended (1728), The System of the World (1728), the first draft of Book III of the Principia, and Observations upon the Prophecies of Daniel and the Apocalypse of St John (1733).
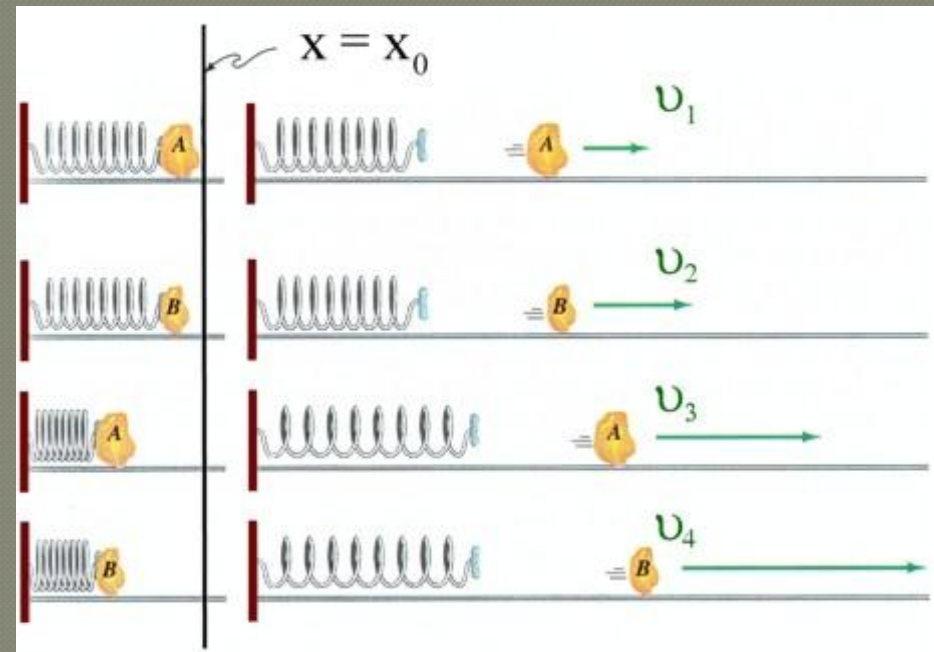

С. И. ВАВИЛОВ

ИСААК НЬЮТОН
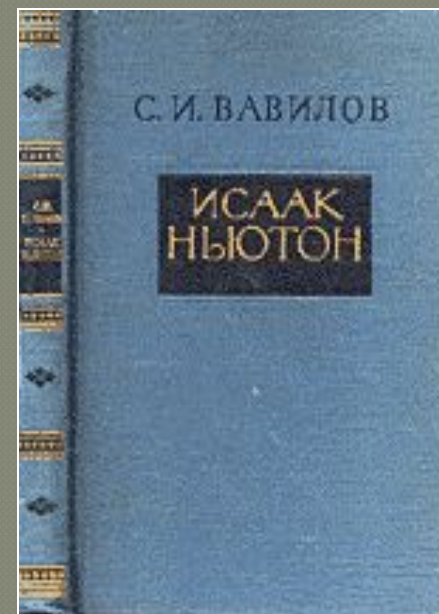
The First Law

* Every body continues in its state of rest, or uniform motion in a straight line, unless it is compelled to change that state by forces impressed on it (inertia).
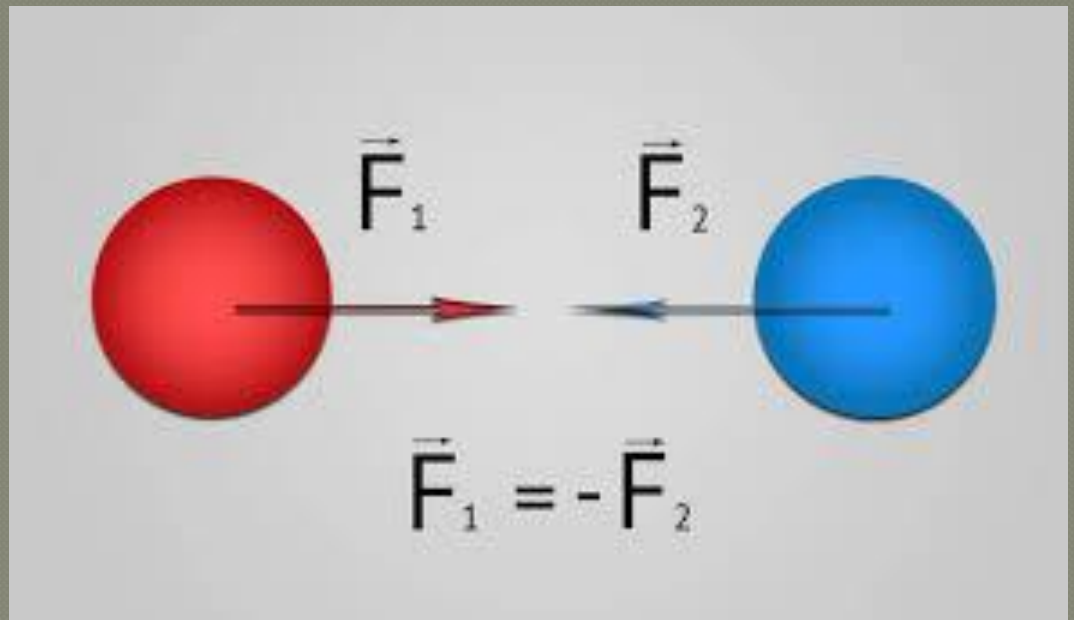
The Second Law

- The change in motion is proportional to the motive force impressed and is made in the direction of the straight line in which that force is impressed
- (F = ma)

The Third Law

- To every action there is always an opposed and equal reaction.

- Thank you for attention!