

A BRIEF HISTORY OF PHYSICS

Who made the biggest contribution? This is perhaps one of the most controversial issues in the history of physics. Although everyone has almost the same answers in mind, it is very difficult to choose a person. But in fact, the pioneer of people's journey in the world of physics, which continues today, is Isaac Newton. The adventure that started in the 17th century continued with Einstein, Bohr, Kepler, Galilei, Planck and many others. What should not be forgotten in this journey is when people started to think. Newton made the first effort to explain the universe. He fits events into rules and procedures. Although it was Albert Einstein who took his discoveries to the next level, Newton laid the foundations of physics. He put forward the law of planetary orbits explaining the planetary motions, and explained his findings by mathematical means. Later, he made groundbreaking contributions to the science of optics, explaining that white light is actually a combination of different colors.¹ Newton, who passed the sunlight through a small hole in a dark area through a prism, created a color spectrum and explained the formation phases of the rainbow. He blended Kepler's law with the centrifugal force and found the gravitational force.² He argued that the attraction between substances that exert an attraction towards each other is directly proportional to their masses. He talked about the necessity of interrogating objects in space and on earth with the same law. He created the 3 fundamental laws of motion. Today all mechanics are based upon this discovery.³ By creating these laws he allowed us to explain how everything moves and stays still. These studies are really impressive, but of course there are other scientists who have done such great work. What distinguishes Newton from them is that he was the first to take the step. The fact that he examines the universe and the world we live in together, the light at the heart of quantum mechanics, actually lays the groundwork for the developments in the next centuries. His versatility, endless curiosity and red apple have made him an idol, thus providing the opportunity to pass on his curiosity to others. Today, Newton's fundamental physics lay at the foundation of quantum mechanics and modern physics. Newton's mechanics are used in the theory of relativity for galaxies and quantum mechanics applied to subatomic particles. The effort to make sense of the formations resulted in his being an intelligence beyond his era. He paved the way for people who would work in the field of study by finding calculus, because the laws he found were above the mathematics of the time. Newton's high-level intelligence made physics more understandable by everyone, simplified events and theories. He made inferences about our world from what happened around our planet in the universe. The fact that he connects the field and reveals the holistic perspective of physics makes him the person who makes the most meaningful contributions to the branch of physics, as well as mathematics and astronomy, and lays the foundations of the future.

¹ 'The Scientist Who Changed the World: Sir Isaac Newton', *Griceviz*, 2020, <https://griceviz.com/dunyayi-degistiren-bilim-insani-sir-isaac-newton>, (17 July 2022).

² 'Isaac Newton' contribution to Science was monumental', *The Hindu*, 2016, <https://www.thehindu.com/features/kids/isaac-newton-contribution-to-science-was-monumental>, (11 August 2022).

³'Isaac Newton's Groundbreaking Inventions', *Bilim Kurgu Kulübü*, 2020,
<https://www.bilimkurgukulubu.com/genel/bilim-teknoloji/isaac-newtonin-cagir-acici-buluslari>, (20 August 2022).