

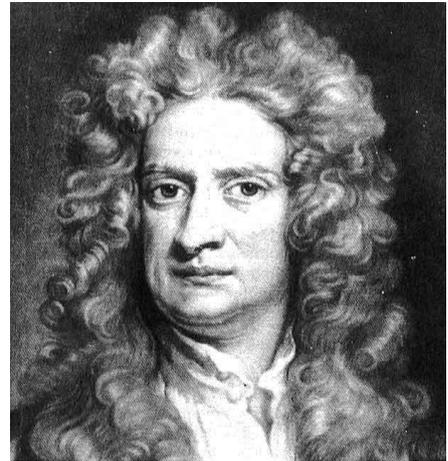
Up Lifting Scientists

Sir Isaac Newton

England (1642 – 1726)

Sir Isaac was a mathematician, astronomer, theologian and physicist and one of the most important scientists in history. He helped to explain many things that we see in the world around us, including motion, gravity, comet paths, the Solar System, tides, telescopes, light and colours, rainbows and the speed of sound. You may have heard of Newton's 3 laws of motion, and he helped develop calculus (the mathematical study of change), that you will learn about in high school maths classes. Newton's third law – for every action there is an equal and opposite reaction – helps us to understand how aeroplanes are able to fly.

Experiment – paper aeroplanes, wing shapes



Daniel Bernoulli

Switzerland (born 1700 – died 1782)

Daniel was a mathematician and physicist, who added to our knowledge of fluid mechanics, which is the study of the behaviour of liquids and gases and the forces on them. He helped us to understand more about energy transformations, tides and the flow of fluids, including blood. Bernoulli's principle states that when the speed of a gas increases, the pressure decreases (and the other way around too). For an aircraft to take off, there must be less air pressure above the wing than below it.

Experiment – ping pong blower



Henri Coanda

Romania (born 1886 – died 1972)

Henri was an inventor, an aerodynamics pioneer and a builder of experimental aircraft. He worked as an aeronautical engineer in France and England, and was particularly interested in aerodynamics, the study of air and other gases in motion. The Coanda effect describes how a gas or liquid can flow around the shape of an object, rather than just continuing in a straight line.

Experiment – pouring water over the back of a spoon

