

Facts about Flight

- While birds have been flying for millions of years, it's something relatively new to humans and we rely on some important scientific principles to achieve it.
- Beginning with simple kites, humans have moved on to develop gliders, airships, helicopters, commercial planes and even supersonic flight.
- Supersonic flight (breaking the sound barrier) is achieved when an object travels at a speed faster than sound (1235kph, 768mph).
- The Wright Brothers, Orville and Wilbur, were American aviation pioneers who created the first successful airplane, thanks in part to their invention of 3-axis control, enabling the pilot to effectively control the plane.
- While a number of flight pioneers were working on their own powered flight at the time (including New Zealand's Richard Pearse) the Wright Brothers are widely credited with the first controlled and sustained human flight on December 17, 1903.
- Planes have wings that feature an airfoil (aerofoil) shape, this is important as it helps overcome the effect of gravity pulling down on the plane.
- The wing creates lift as it moves through the air, a process that can be explained by Bernoulli's principle. Because of the airfoil shape, air flows faster over the top than the bottom, creating higher pressure underneath the wing which then pushes the plane up through the lower air pressure.
- An engine provides thrust to move the plane forward at a speed great enough to overcome drag and allow the wings to create the lift necessary to fly.
- Airships and blimps are lighter than air and use buoyancy for flight. They are typically filled with gas (such as helium) that is less dense than the surrounding atmosphere.
- The only living things capable of powered flight are [insects](#), [birds](#) and [bats](#).
- While some can glide, bats are the only mammals that can achieve sustained level flight.

