

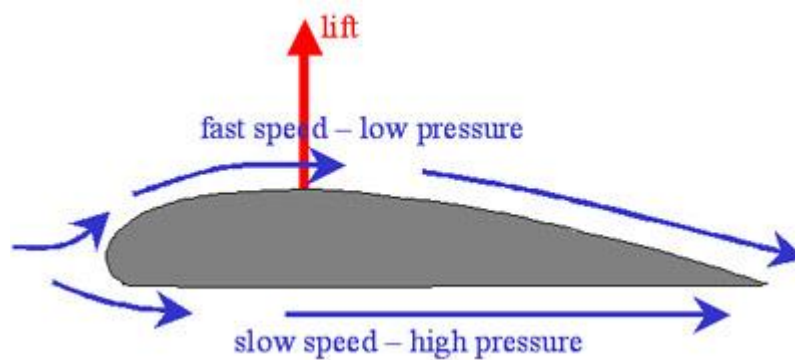
Lift – Four Forces

This resource will help you with the following stages;

Stage 4 – I understand how a wing derives lift.

Stage 4 – I can discuss with my Scouter Lift, Drag, Gravity and Thrust.

Lift - The shape of a wing is called an aerofoil. When an aerofoil wing pushes through the air, it creates an upwards push. This push is a force called lift. The aerofoil's curved shape causes air to flow faster over its upper surface than its lower surface. This reduces pressure above and produces lift.



The air splits over the front of the wing known as the leading edge. As the air moves under the wing nothing happens to it but as it moves over the top of the wing the air is accelerated and moves faster. This causes a decrease in air pressure on top of the wing, and because there is now a higher pressure underneath the wing it pushes upwards and creates lift.

Activity: If you blow across a sheet of paper it reduces the pressure of the air above the paper. The stronger the pressure beneath lifts the paper up.



There are **four** forces that act on an aircraft in flight;

- Thrust
- Lift
- Drag
- Gravity

Thrust is the force created by the jet engine or the propellers that pushes the aircraft forward.

Lift is the force generated by the wing that allows the plane to get off the ground.

Drag is the counterpart to thrust - it is the force that resists the plane as it moves through the air.

Gravity is the force that wants to pull the plane back to the ground.

