Main parts of an Aeroplane

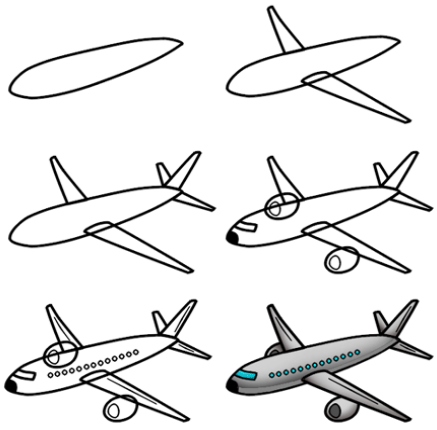
This resource will help you with the following stages;
Stage 2 - I can show my Scouter five main parts of an aeroplane.
Stage 4 - I know the control surfaces of an aircraft.

This can be explained in the Scout den using a model aeroplane. Understanding the main parts of an aeroplane and how the control surfaces work gives us a basic understanding of what makes up an aeroplane and starts them thinking about how it might actually work.

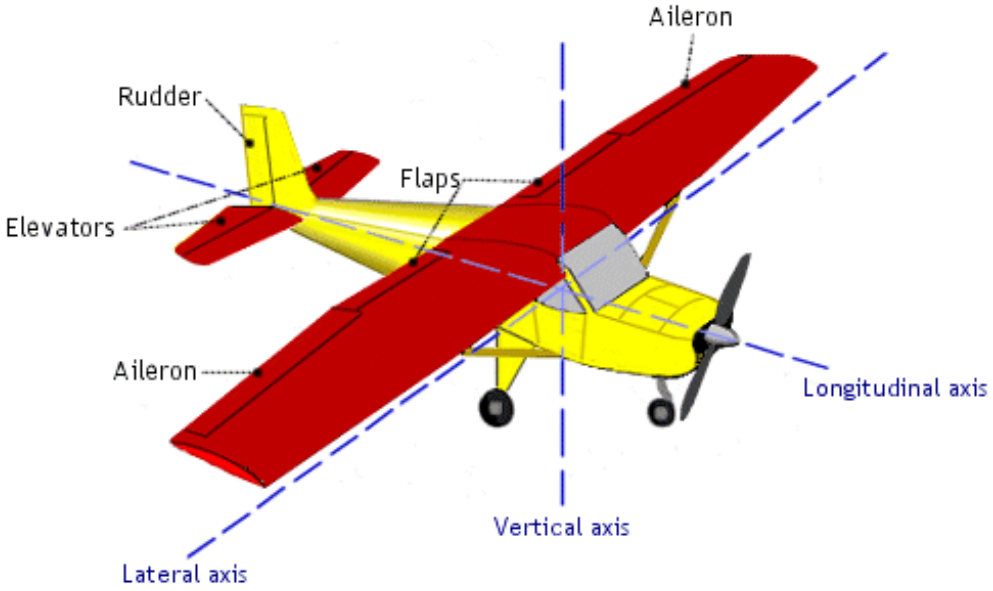
An aeroplane is a powered, fixed wing aircraft that is propelled forward by thrust from a jet engine or propeller. An aeroplane comes in a variety of sizes, shapes and wing configurations.

An aeroplane is made up of many parts, each part as important as the next. The following are 5 of the main parts:

- **Fuselage**- The long thin body of an aeroplane is called the fuselage, this holds all parts of the aeroplane together.
- **Wing**- Aeroplane wings feature a shape called an airfoil which is designed to create lift as the plane moves through the air.
- **Tailplane**- Also known as the horizontal stabiliser, its purpose is to maintain equilibrium during flight.
- **Powerplant (Engines)** – The engines generate thrust to overcome the drag and to move the aeroplane in a forward direction.
- **Cockpit**- This is where the pilot sits to control and command the aircraft, this is located at the front of the fuselage.



Primary Flight Control Surfaces of an Aeroplane



Imagine three lines running through an aeroplane and intersecting at right angles at the aeroplanes centre of gravity.

- Rotation around the front-to-back axis (Longidutinal) is called **roll**.
- Rotation around the side-to-side axis (Lateral) is called **pitch**.
- Rotation around the vertical axis is called **yaw.**

Pitch - controlled by **Elevators,** on the horizontal tail surface, the elevator tilts up and down, decreasing or increasing lift on the tail. This tilts the nose of the aeroplane up and down.

Roll - controlled by **Ailerons,** on the outer rear edge of each wing the two ailerons move in opposite directions, up and down, decreasing lift on one side while increasing it on the other. This causes the aeroplane to roll from left to right. The pilot uses the ailerons to turn the aeroplane**.**

Yaw - controlled by **Rudder,** on the vertical tail fin, the rudder swivels from side to side, pushing the tail in a left or right direction. A pilot usually uses the rudder along with the ailerons to turn the aeroplane**.**