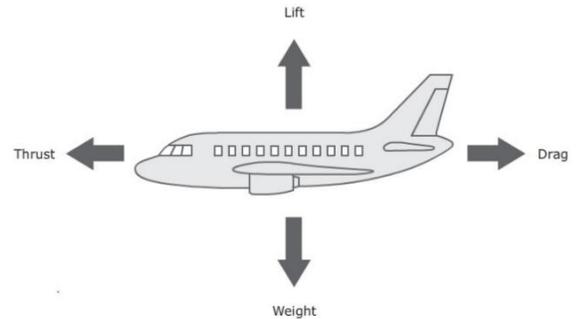


ANSWER KEY

1. Airplanes fly because they are able to generate a force called **LIFT**.
 - It moves the airplane upward.
 - The wings create most of the lift.
 - It is the force that holds an airplane in the air.



2. **THRUST**
The force that moves an aircraft in the direction of the motion.
 - It is created with a propeller, jet engine, or rocket.
 - Air is pulled in and then pushed out in an opposite direction.

3. **DRAG**
The force produced by the resistance of the air to the forward motion of the airplane.
 - It is the force that acts opposite to the direction of motion caused by the thrust, so it tends to slow an object down.

| |
|--------|
| LIFT |
| THRUST |
| DRAG |
| WEIGHT |

4. **WEIGHT**
The force that acts in a downward direction.
 - It is the force created by the pull of gravity toward the center of the earth.

5. **ROLL**
This happens by moving the wings up and down.

6. **PITCH**
This happens when the nose of the plane moves up and down.

7. **YAW**
This is when the nose of the plane moves from side to side.

| |
|-------|
| ROLL |
| PITCH |
| YAW |

8. **WINGS**

They are shaped with smooth surfaces that are slightly curved.

- Air moving around the wing produces the upward lift for the airplane.

The **AILERONS** are hinged on the wings and move downward to push the air down and make the wing tilt up. This moves the plane to the side and helps it turn.

- The shape of the wings determines how fast and high the plane can fly.

WINGS
AILERONS
FUSELAGE
TAIL
RUDDER
ELEVATOR

9. **FUSELAGE**

The body of the plane.

- It is generally a long tube shape.

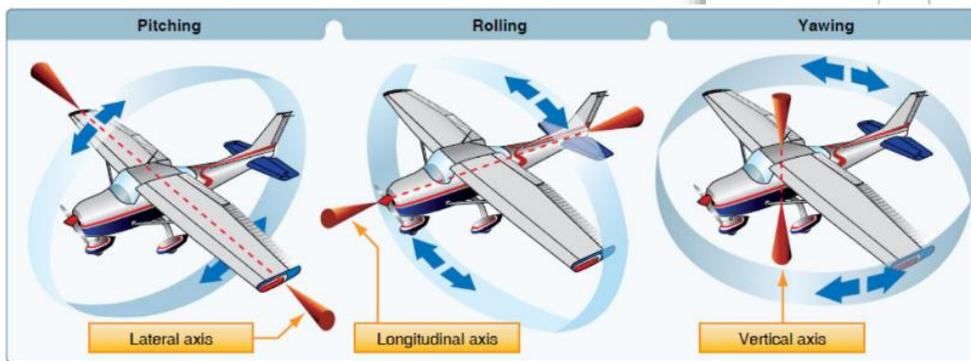
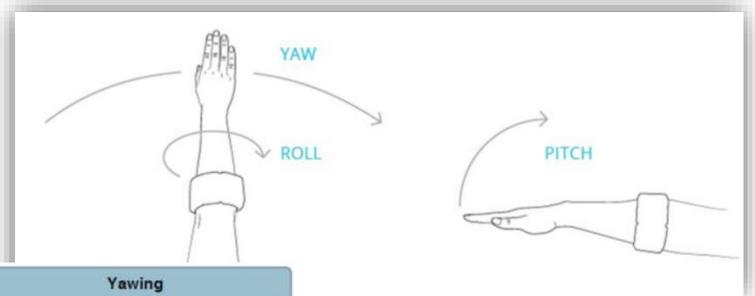
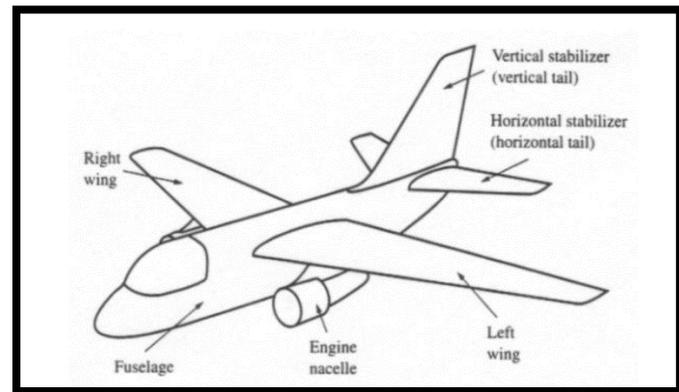
- The wheels/landing gear are attached to the fuselage.

10. **TAIL**

This provides the airplane's stability.

- There's a vertical stabilizer – the **RUDDER** that affects the plane turning right or left (yaw).

- And there's a horizontal stabilizer – the **ELEVATOR**, used to move the plane up or down (pitch).



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