

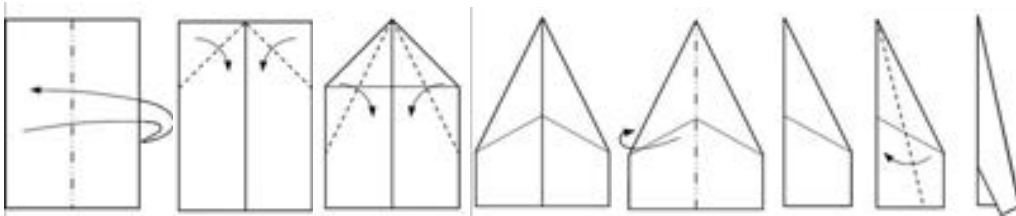
FLIGHTING FUN



What do you think are the design characteristics of a successful paper plane? Using a similar design to the picture below, or by making your own template, investigate how different shapes, angles and materials affect your plane's ability to fly short and long distances.

You will need:

- Paper
- Pen/pencil
- Scissors
- Measuring tape
- A target-made from card?



FLIGHTING FUN



WHAT ARE WE LEARNING?

By throwing your paper plane you are creating a force called Thrust, its the force that propels it forward when you throw it. The air acts like a wall and pushes against it, this is a force called Drag. The plane will only keep going forward if the thrust is stronger than the drag. Gravity pushes down on top of the plane trying to force it to the ground but the wings of the plane create a balance, and a force called Lift. It is a combination of all 4 of these forces - Thrust, Drag, Gravity and Lift that affects how far your plane will travel.



LINKS TO STEM JOBS...

A Pilot and an Aerospace engineer must be specialists in the forces we have just learned about. They must take all of these factors into account in the jobs that they do.



WHAT SKILLS ARE REQUIRED IN AVIATION?

Becoming a pilot requires a very particular and specialist set of skills:

- spatial awareness
- confidence
- problem solving
- a passion for aviation
- first class communication skills
- quick thinking
- technical ability



1. Carefully create, cut and shape your template to build your plane.
2. Create a Bullseye target on the wall - you could draw a target on a large sheet of paper and stand different distances away from it or you could use cones spread apart, one 5 metres away from you, and another 10 metres.
3. Start testing your plane, first using the short distance, and build up to the long distance.
4. To make things more tricky you could change your plane to a more advanced design and number your target to compete against another person for the highest number.