



Sheila Scott OBE

Engineering & Science
CAD & Forces

Estimated
time: 60 mins

Starters

5-10 minutes



Sheila Scott OBE was an English aviator who broke over 100 aviation records through her long-distance flight endeavours. On a 34000-mile "world and a half", she became the first person to fly over the North Pole in a small aircraft.

[Watch Sheila arrive back from her round the world trip in 1966](#)

Discuss:

- If you could fly anywhere, where would you fly to?
- Can you name any other women in aviation?

Mains

20-40 minutes

Make

Ingredients: plastic water bottle, card/paper, tape.

In this activity, we will look at the **features of a plane and the functions of each of them.**

1. Wrap an empty bottle in a paper cylinder. This will be the fuselage.
2. To create the wings, cut out 2 identical wings with an extra tab to tape this to the fuselage. Fold up the end of the wings to make winglets. Across the back of the wing, make 4 small snips to make the flaps. There are a few features of the wings, what forces are affected by these features?
3. Now we need to make some turbine engines, so make 2 more small paper cylinders that fit under the wings, which force do engines create?
4. Now let's make the fin at the back of the plane by cutting out a small wing shape with a tab at the bottom, this is also known as the vertical stabilizer. At the back of the fin, make 2 small snips about $\frac{1}{4}$ of the way through the fin, this is the rudder.
5. Finally, we need our horizontal stabilizers on each side of the plane at the back, cut 2 more shapes similar to the fin, and stick them to the back of the plane on the sides. What do these features do?



Extension: Ask students to research other features of the plane and the purpose and build those into their paper plane.

OR

Explore

Ingredients: internet access.

Sheila Scott broke over 100 long-distance aviation records. One of her first planes was a 1950's Thruxton Jackaroo. It was a small, light 4-seater propeller plane. Using a CAD programme, TinkerCAD, design a new modern plane for Sheila. Look at the design of modern planes for ideas on how to make the new plane quicker, safer and also more eco-friendly. Her plane will need to go through many different climates. Have a go at designing a new plane in TinkerCAD.

Desserts

5 minutes

Read

[Learn more about Sheila Scott and her aviation career](#)

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