

Build a helicopter

Explore flying-machine physics using just a piece of paper.

What you need

- Scissors
- Coloured paper
- Glue
- Paper clip

How does it work?

The blades of your paper helicopter are flexible. When you drop the helicopter, air moving up against a blade makes it slanted and pushes it sideways. The blade on the other side receives an equal push from the air, but in the opposite direction. The two forces working in opposite directions cause the helicopter to spin as it drops. Experiment with different weights, or try dropping the helicopter from different heights to see what happens.

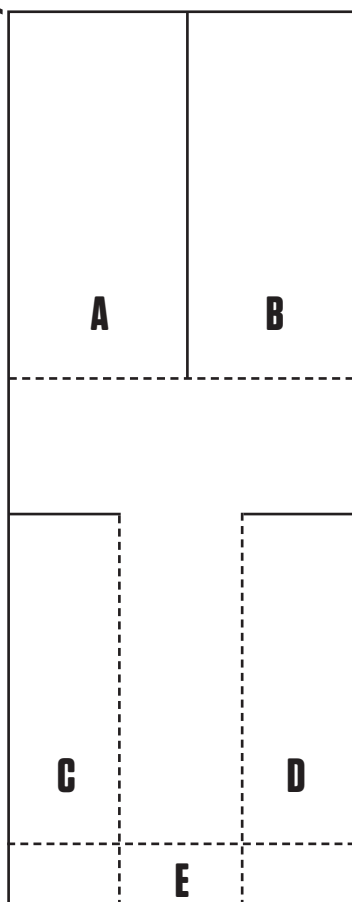
TOP TIP

Notice the direction in which your helicopter spins. Try folding flap A towards you and flap B away from you. Does it change anything?

DID YOU KNOW?

14 September 2019 marks 80 years since the first helicopter flew. In 1939, Russian engineer Igor Sikorsky successfully flew his first machine, the VS-300.

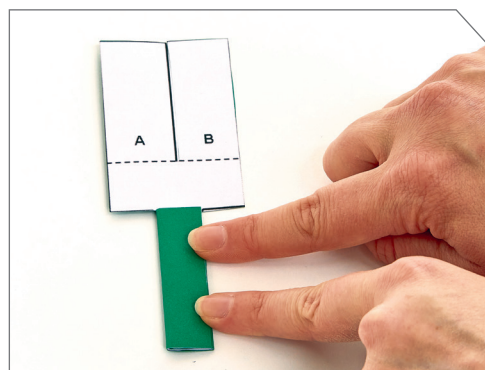
CUT ALONG THE SOLID LINES AND FOLD ALONG THE DOTTED LINES



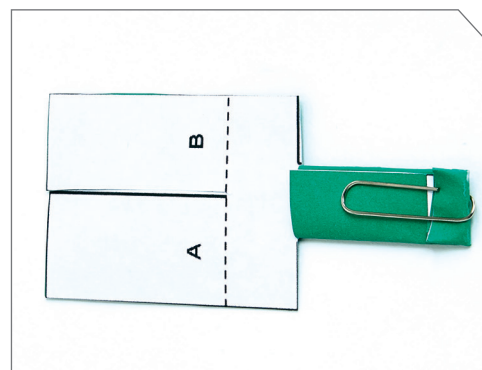
1 Copy out the template and stick it onto some coloured paper, or use it as a cutting guide.

2 Cut along the solid black line between A and B.

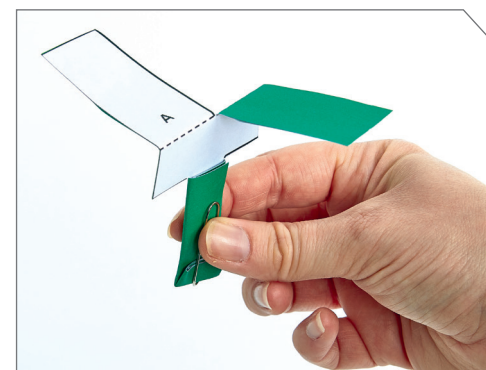
3 Cut along the solid black lines above C and D.



4 Fold sections C and D inwards, then fold the bottom flap E up.



5 Fix the folded flap E with a paper clip. This will add weight when you drop your helicopter.



6 Fold flap A away from you and flap B towards you. Now drop the helicopter from a height.