

# Paper Helicopter



## What you will need

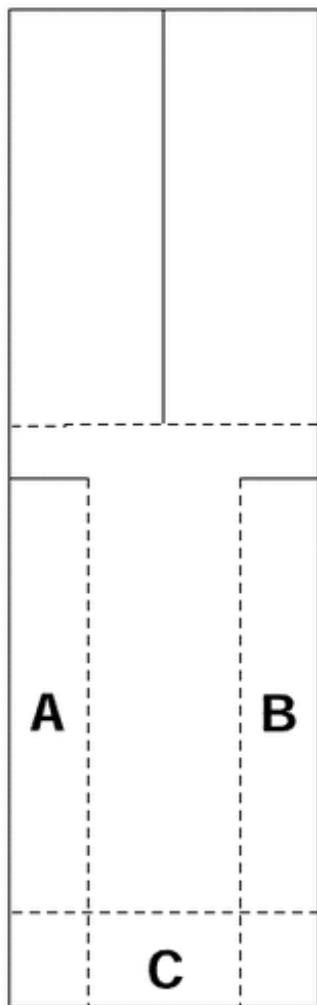
- Paper template (see below)
- Scissors
- Paper clips

## Health & Safety

- Take care when you are using scissors, get an adult to help you.

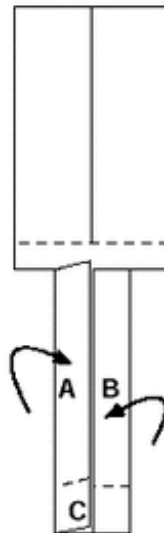
Instructions: there is also a video to accompany this activity

1. Cut on solid black lines.  
Fold on dashed lines.

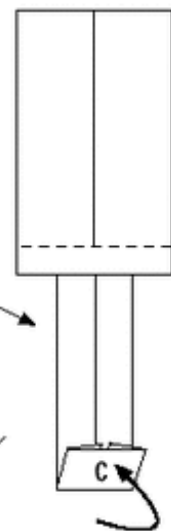


Paper Helicopter Pattern

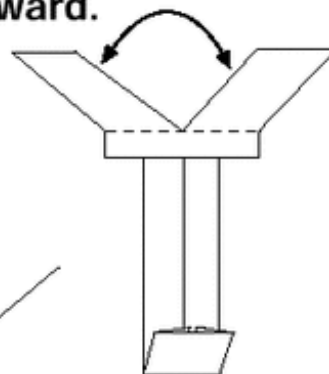
2. Fold A and B to middle.



3. Fold C up.



4. Fold propeller blades outward.

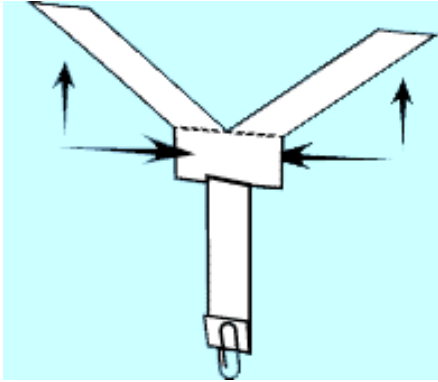


5. Test fly by dropping from over your head.

You can secure C with a paper clip. This also adds a bit of weight

You will need to either throw the helicopter up into the air or drop it from a height to get the blades to spin. If you do drop it from a height, don't stand on a chair because it can be dangerous.

### **What's happening?**





Gravity is the force pulling the paper helicopter to the ground. Air resistance slows down the helicopter and stops it from falling quickly. As the helicopter falls, the air pushes up against the blades. This bends them up a little bit. When air pushes upwards on the slanted blade, some of that thrust becomes a sideways or horizontal push. Because there are two blades, each getting the same amount of push but in opposite



directions, the helicopter spins. As the helicopter starts to spin it will slow down and drop gently to the ground.

### **Try these experiments with your helicopter**

Which direction does your helicopter spin? Try bending the blades the opposite way; does it spin in the same direction? The direction the blades are bent in will affect whether it spins clockwise or anti-clockwise.

Try adding more paper clips. What do you think will happen? If you add enough paper clips do you think your helicopter will stop spinning?

A		D	
C	The Observatory Science Centre	E	
B			

A		D	
C	The Observatory Science Centre	E	
B			