

### Build your own kite

1.5  
HOURS

#### Materials

- › Plastic bag
- › 2-4 bamboo canes or similar
- › Fishing line/string
- › Block of smooth wood or similar
- › Scissors
- › Tape
- › Markers and ribbon for decoration



#### Activity Overview

- › Build a kite to demonstrate the forces of flight.

#### Activity Plan

- › Cut the plastic bag into a kite shape.
- › Use the markers to decorate the front of your kite.
- › Tape together your four bamboo sticks into a cross shape, then tape to the back corners of your kite.
- › Tie one end of the string to the middle of the cross. Make sure it's tied well, you don't want your kite to blow away!
- › Tie the other end to your block of wood or similar.
- › You can decorate your string by tying ribbons around it and then it is ready to take-off. Make sure you choose a windy day to take flight!

#### Learning Objective

- › Understand how to construct something which takes flight.
- › Develop an understanding of why a kite flies.



#### Reflection Questions

- › Thinking about the four forces of flight, how are they acting on your kite to make it fly?
- › If you change the shape of your kite or the way it is built, what happens?
- › Does changing the length of the string attached to the kite effect the way that it flies?

## Why the forces of flight are important

Understanding the laws of flight has allowed the creation of a huge variety of aircraft that can take to the air and perform a multitude of jobs. Without this basic understanding, we would not have any aircraft today. Babcock flies over 35 types of aircraft, all with their own unique abilities but all with the same principles of flight!



When your kite is flying there are three forces acting on it. The wind is pushing the kite up and away from you; the string is pulling the kite down and towards you; gravity is pulling the kite down to the ground. If your kite is staying in exactly the same place in the air then that means it is in equilibrium. The string is pulling the kite towards you as much as the wind is pushing it away and gravity and the string are pulling the kite down as much as the wind it pushing it up.

In order for the wind to push the kite up and away from you, the kite should be at an angle. By moving where the string is tied to the kite, you will be able to see how this changes the angle of the kite and the way that the wind acts on it.

Make sure you follow the British Kite Flying Association's (BKFA) guidance on kite flying and the safe heights to do so:  
<https://www.bkfa.org.uk/caa-height-clearance-form-2/>