

## Straw rocket racer

Ages 7-11



**Time:** 15-25 mins

**Skills:** observing, planning variables and testing hypotheses

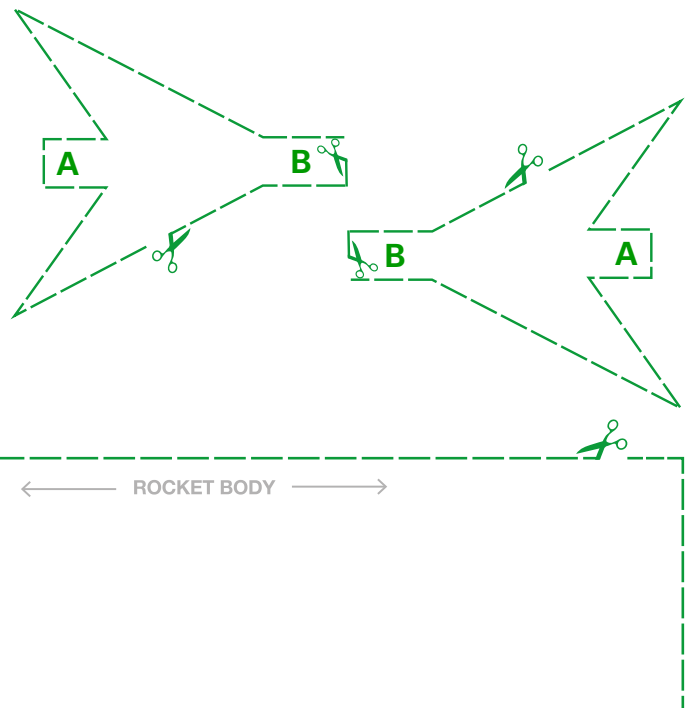
### You will need:

- a pencil
- a straw
- scissors
- sticky tape
- fins and rocket body templates (below)



### Method

1. Cut out the rocket body template below. Wrap it around a pencil and tape to make a tube.
2. Cut out the two fins. Take one fin, and line up area A with the end of the rocket body. Tape across areas A and B.
3. Do the same things with the other fin, on the opposite side.
4. Bend the fins so that they are at right angles to each other.
5. Twist the top end of the rocket body tube around the point of the pencil, to make the nose of the rocket.
6. Remove the pencil and place the straw inside the rocket.
7. Blow into the straw to launch your rocket!



### What's the science?

When you send a puff of air through the straw, you're filling the straw with air that is under pressure. The rocket tube then pushes that air backwards through its opening, and the rocket moves forwards. This is called **propulsion**.

In a real rocket, gases from burning fuel come out of the back of the rocket and push the rocket forwards.

The fins of the rocket make it stable and keep it pointing in the same direction.

The pointed nose helps air to flow smoothly over the rocket, as it flies through the air.



### Let's investigate!

Use a tape measure to measure how far your rocket travels. What can you do to make your rocket travel further?

Change the length of your rocket's nose cone. Does this make a difference?

### Get talking!

Have a competition with family and friends. Whose rocket travels the furthest? Who has the best rocket design?

### Find out more

Watch this clip and find out about the most powerful rocket ever built and how it will take humans back to the Moon.  
[youtube.com/watch?v= T8cn2J13-4](https://www.youtube.com/watch?v=T8cn2J13-4)

