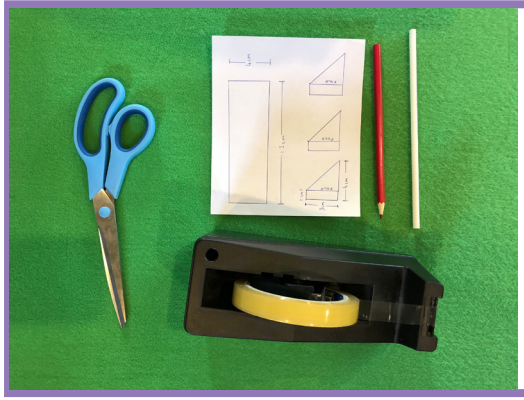
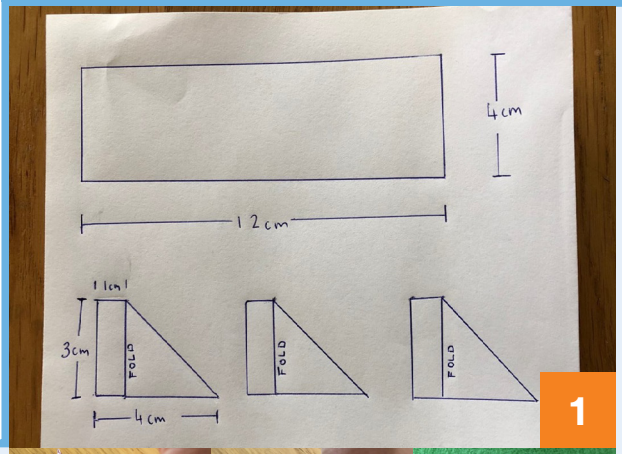
Straw Rocket

What you need:



- Piece of paper to draw pattern
- 1 straw
- 1 piece of sellotape
- Scissors
- Pencil

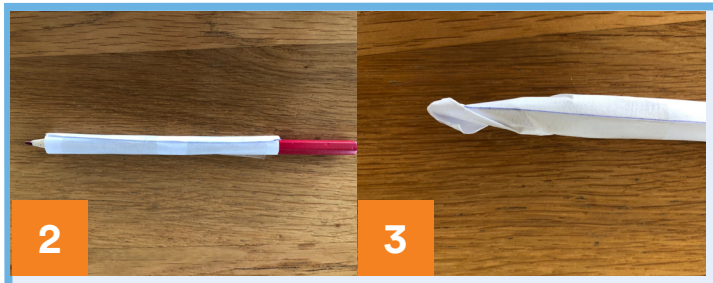
Instructions:



1

Draw the pattern shown to the left on a piece of paper.

- A rectangle: measurements 12cm by 4cm.
- 3 triangle fins, with a 1cm strip to tape on.

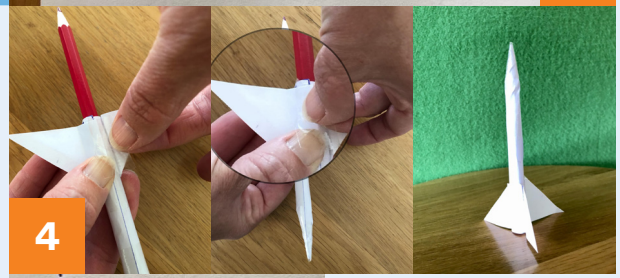


2

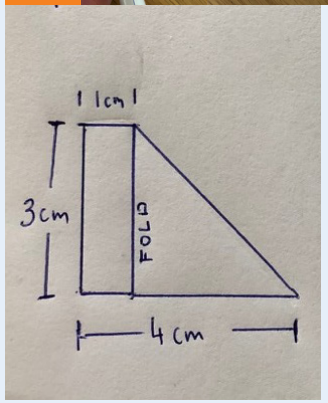
Wrap the rectangle around the pencil.
Tape this down the length of the rocket.

3

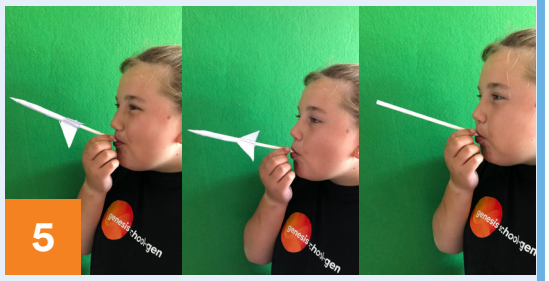
Twist the end of the rocket over the end of the pencil to make a pointed tip. Tape this so that it is smooth and aerodynamic. (Aerodynamics is about the way air moves around things. This is making it smooth so that the air travels over it easily and creates less drag).



4



Cut out the 3 fins. Tape these on to the rocket with the pencil still inside so that you can press the tape hard. You need to tape on both sides of the fins.



5

Place your rocket on the end of the straw and blow with a puff of air. Measure the distance you can make your rocket fly.

Straw Rocket

Results:

Can you see what is happening? Describe this to an adult, film your result or write it down. Can you draw the path it flies? Can you measure the distance your rocket flew?

Act Like a Scientist:

Good scientists like to explore and ask more questions!

Repeat this experiment and watch the changes

- What would happen if you added more fins on to your rocket?
- Could you use a thicker card or finer paper?
- Would it make a difference if the front of the rocket was flat (not aerodynamic)?
- Do you have a wider straw you could use (you can make your own straw with cardboard or from an old milk carton)? You will just need a slightly larger rocket.
- Can you shoot your rocket straight up?

The Science Behind it:

One of the four forces of flight is thrust; this pushes the rocket forward. Another is the force of gravity; this pulls the rocket back down to earth.

When you puff into the straw, you force air to the tip of the rocket and it thrusts forward. Thrust is the pushing force created by the energy of the air rushing out. In a real rocket thrust is created by the energy of burning fuel, as the engine blasts down, it thrusts the rocket up!

It then drops down to the ground. This is because as the force of thrust is now less than the force of gravity.

The more ‘puff’ 'the greater the energy' the further the rocket should move.