

LAUNCH THE ULTIMATE ROCKET!

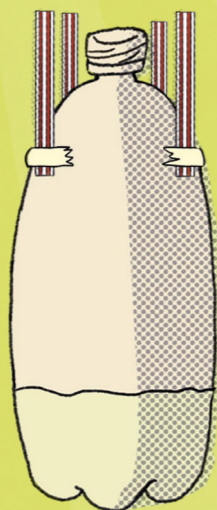
In the previous experiments, you have found out how to design rockets, how to use chemical reactions to push rockets into space and even how to make rockets go faster. It is now time to build the ULTIMATE rocket! This activity is best performed outside and well away from any buildings or power lines, as your rocket might reach the height of a house!

YOU WILL NEED:

- a clean, empty 2-litre drinks bottle
- a cork
- four straws (not bendy ones)
- sticky tape
- some white vinegar
- four teaspoons of baking soda
- kitchen roll

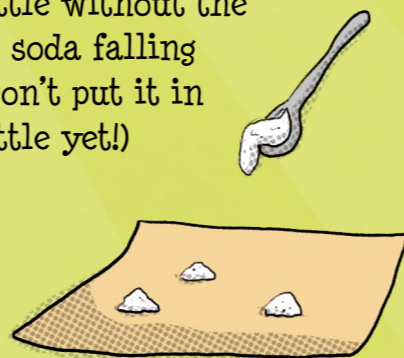
2

Tape the four straws around the neck end of the bottle. They should all stick up about 3 cm higher than the neck. The bottle should stand up on the straws without wobbling or falling over. Next, fill the bottle about a third full of white vinegar.



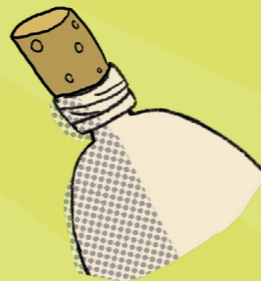
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Put four heaped teaspoons of baking soda onto a piece of kitchen roll. Then roll it up, so it will fit into the neck of the bottle without the baking soda falling out. (Don't put it in the bottle yet!)



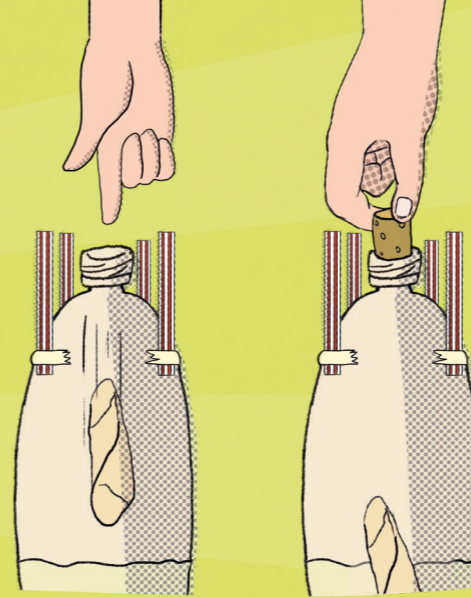
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Make sure the cork fits the opening of the bottle. Remove the cork.



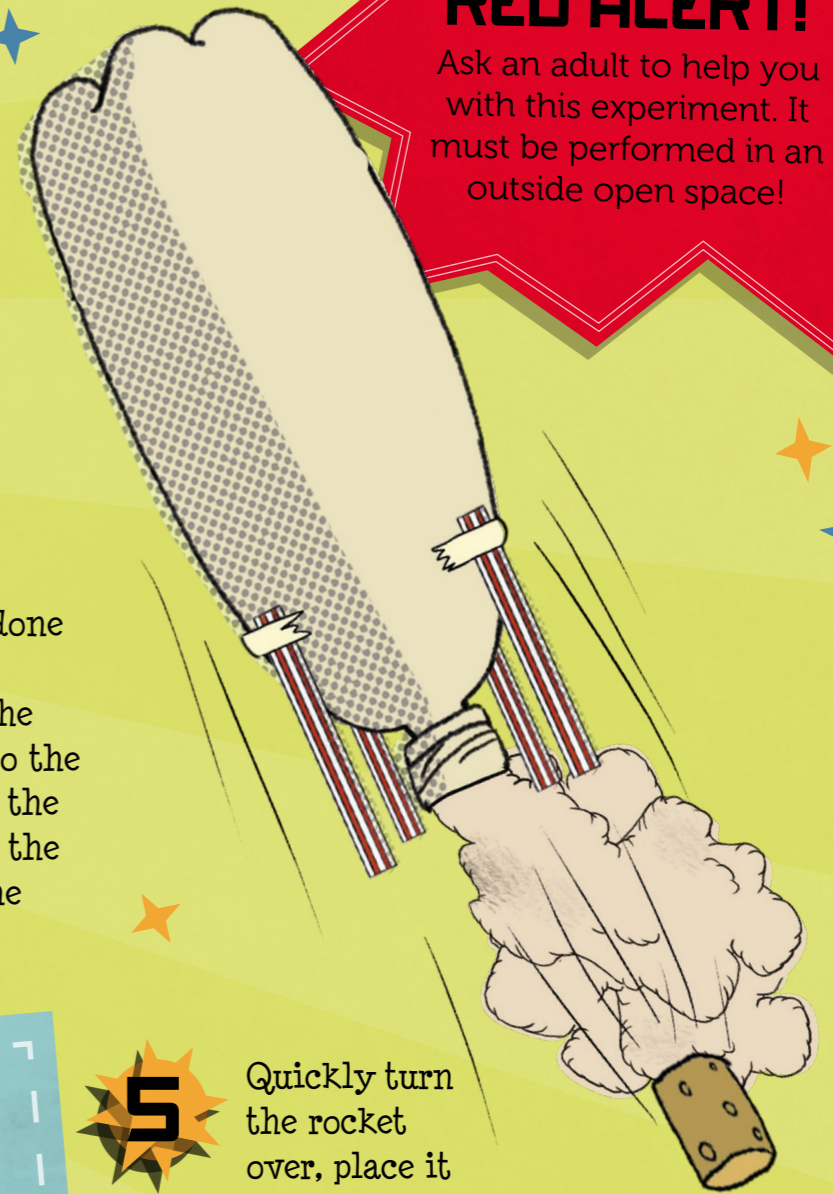
4

Now for the fun bit! These next two steps need to be done quickly and you will need an adult to help you. Put the rolled up kitchen paper into the bottle so that it drops into the vinegar and quickly put in the cork. **DO NOT** lean over the rocket as you do this.



5

Quickly turn the rocket over, place it on the floor and stand well back!

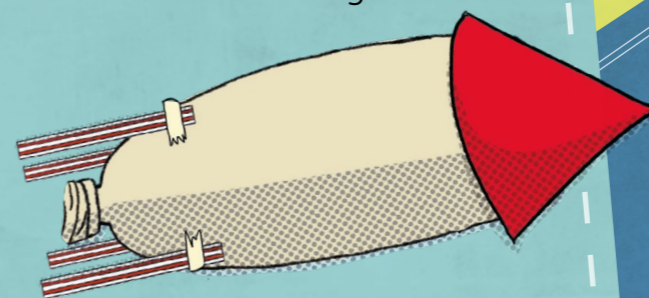


RED ALERT!

Ask an adult to help you with this experiment. It must be performed in an outside open space!

GO FURTHER

Try and make your rocket go higher by fixing a cardboard nose cone to it. This will cut down the air resistance and make it go higher. You might also want to try adding some fins to the rocket too, so that it flies straighter.



SPACE FACT

When it has run out of fuel, our Ultimate Rocket falls back down to the ground and can be used again. Many rockets have parts that cannot be used again, while others have parts that fall back to Earth on parachutes and are re-used.