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Science Oxford Challenge

Make your own Rocket Mouse travel 2 metres

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Rocket Mice instructions

Prepare your rocket mouse for take-off and watch as it zooms up into the air! Can you make it travel 2 metres?

Find out how it works and what you can change to affect how high your mouse flies!



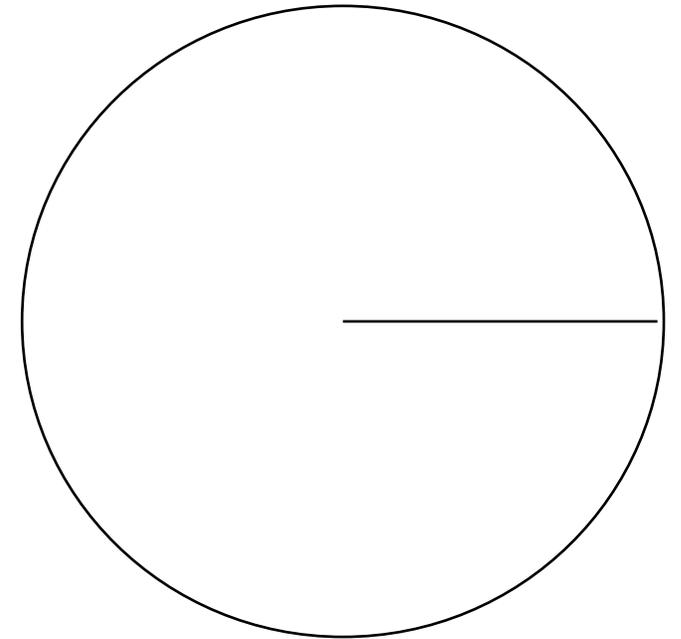
Age group: 4 - adult

What you will need: paper, scissors, pen/pencil, an empty plastic milk bottle, sticky tape, a cup or saucer to draw around to make a circle, string or rubber band to make your mouse's tail, a measuring tape or ruler, timer.

Skills: Close observation, prediction, pattern seeking, fair testing, gross and fine motor skills, verbal and social skills

How to make and test your rocket mouse...

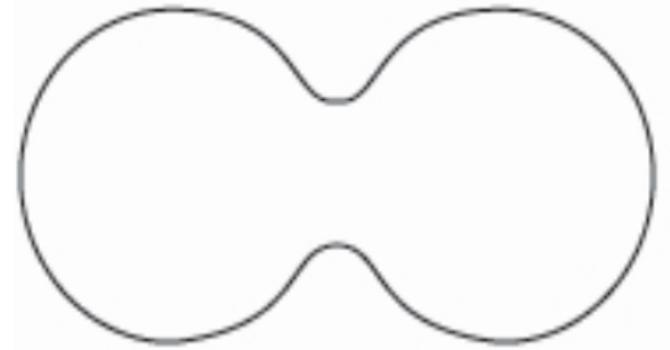
1. Draw around a cup or a saucer to make a small circle on your piece of paper (or you can use our template if you prefer).
2. Cut out your circle of paper, then carefully make a straight cut from the edge to the centre of the circle.
3. Form your circle into a cone shape by overlapping the edges of the straight cut and taping in place.



4. To make your cone more mouse-like, you can add some ears (use the template below or draw your own) and a tail made from a cut rubber band or string. Don't forget to draw some eyes just above your mouse's pointed nose.

5. Now place your mouse, nose upwards, on the top of an empty milk bottle (the 'launcher').

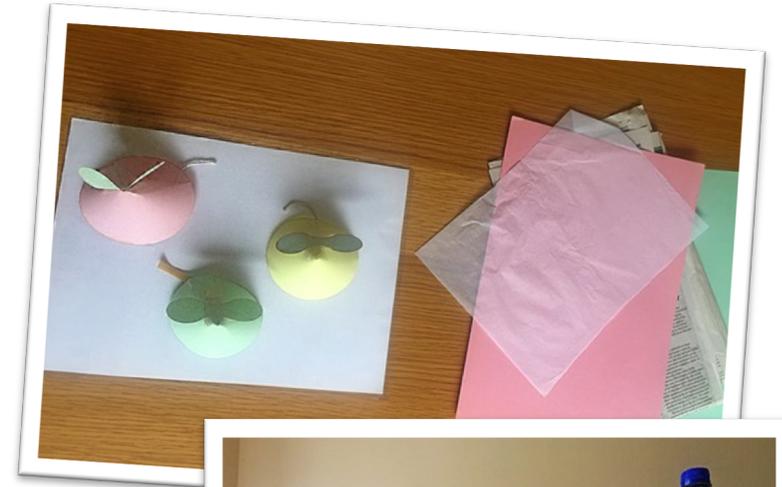
6. Clap your hands with arms extended to squash the bottle! (Make sure your face is out of the way of your mouse!) What happens?



What could you investigate with your rocket mouse?

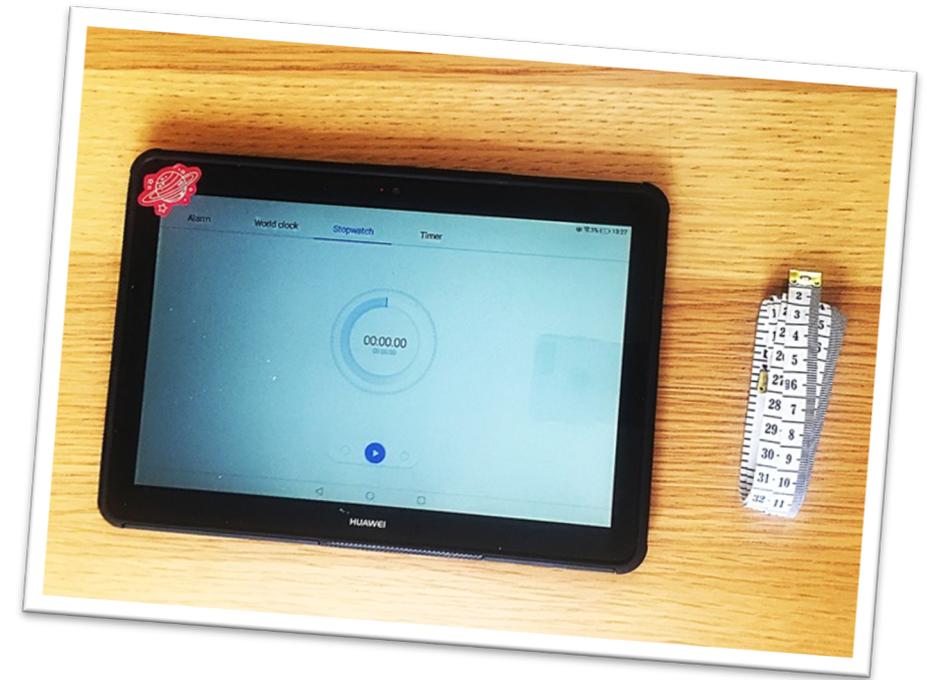
Your challenge is to make your mouse travel 2 metres.

Can you find out what affects how high your mouse will fly? What could you change about your mouse or its launcher? Perhaps you could make different sized mice, use different materials, or compare different sized milk bottles. Does it make a difference if different people clap the milk bottle? Why?



How can you measure how far your mouse travels?

Think about how you could measure and record how high your mice travel so you can compare them fairly. Measuring how high they go can be tricky, so perhaps launching at an angle and measuring distance along the ground might be easier. Alternatively, you could use a timer to measure how long the mouse takes to reach the ground after launching.



Can you explain?

Why does the mouse take off when you clap the milk bottle?

What is making the mouse move?

What forces are involved when the mouse is moving (going up or down)?

Why doesn't the mouse keep going up for ever?

For extra challenges

What might affect how quickly the mouse falls back to the ground?

What might affect how fast the mouse travels?

What might affect how straight the mouse travels?



We hope you enjoyed our Science Oxford Challenge and we look forward to seeing your rocket mice or hearing about what you have discovered!

You can share your experiments, results or ideas with us by email to competition@scienceoxford.com or post a photo or video of your rocket mice on Twitter or Facebook and tag @scienceoxford. There's a prize of a family ticket for our Science Oxford Centre for our favourite investigations - good luck!



Investigating questions such as ‘What affects how far a rocket mouse can travel?’ is a great example of an investigation you could carry out as part of **Science Oxford’s Big Science Event at Home** which launches on 11th June.

What other questions could you investigate? Head over to our website from launch day to find out how to enter, ideas to get started and more – plus the chance to win some amazing prizes for home or your school!

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Share your challenge with us...

Show us what you came up with on
Twitter, Facebook or Instagram and tag:
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or email competition@scienceoxford.com

For more ideas visit
www.scienceoxford.com/resources

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