

Parent Guide

How can I use this with my children?

Create this machine together with your child or prepare in advance for a fun, simple science experiment.

How does this help my children's learning?

Using crafting tools and materials can help your child to develop their fine motor skills. This simple machine can also inspire discussions about science concepts such as weight, gravity and forces.

Ideas for further learning:

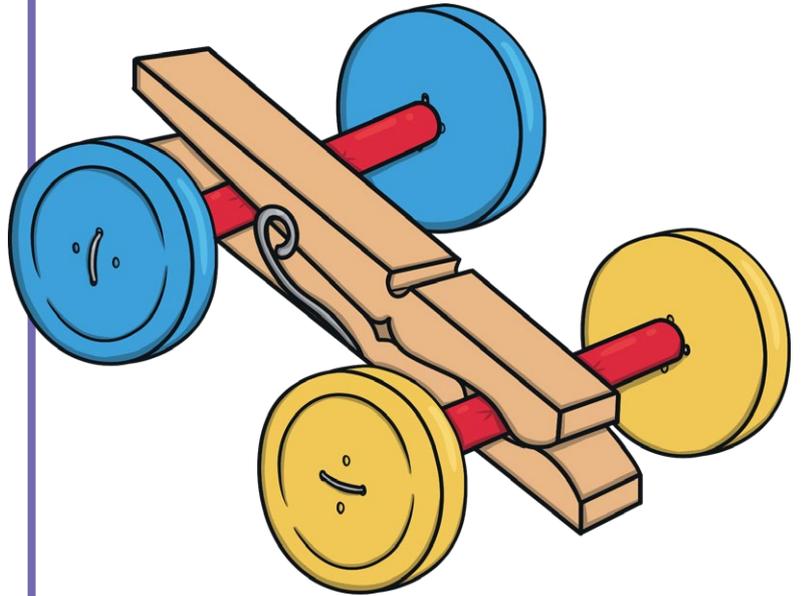
If your child enjoys pushing peg cars down an incline, you could set up a [Car Slide Painting Activity](#) to go with this craft.



Simple Machines: Wheel and Axle Craft

Though we may think of machines as electrical devices, there are actually six basic machines that don't require electricity at all. These include screws, inclined planes, levers, wedges, pulleys and wheels and axles.

In this activity, we're learning about wheels and axles, which are commonly used on vehicles. Try out this simple craft activity to see how they work!



You will need:

- scissors
- straw
- empty, clean ink cartridge from a ballpoint pen
- 4 buttons (need to be identical in size)
- strong glue or glue gun
- peg

Craft Instructions:

1

Using scissors, cut two pieces from a straw about 4 or 5cm in length.

2

Slide the empty, clean ink cartridge through one of the pieces of the straw, then cut the ink cartridge so that it sticks out about 1cm on either side of the straw. Cut another piece of ink cartridge to the same length so that you have two.

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3

Keeping the ink cartridge threaded through the piece of the straw, attach a button to either end of each ink cartridge using strong glue or a glue gun.

4

Allow to set so that the buttons are firmly attached to the ink cartridge. This is your wheel and axle - if you hold the straw without pinching it too hard, you should be able to spin the wheels.

5

Taking one of the two wheels and axles, pinch the peg to open it, put the straw part of the wheel and axle between it and close it again.

6

Taking the other wheels and axle, place the straw part of it up against the peg spring mechanism between the two 'legs' of the peg. Add a dot of strong glue or use a glue gun to attach the straw to the peg and keep it in place. Allow the glue to dry.

7

Place the peg car on a surface and gently push to see how the wheels and axles work!

Challenges and Questions:

- What happens when you put the peg car on a slightly inclined surface?
- What uses could wheels and axles have in real life?
- What other materials could we use to make a wheel and axle machine?
- Where do you see wheels and axles in the world around you?

Some ingredients and/or materials used might cause allergic reactions or health problems. You should ensure that you are fully aware of the allergies and health conditions of those taking part. If you have any concerns about your own or somebody else's health or wellbeing, always speak to a qualified health professional. Activities listed within the resource should always be supervised by an appropriate adult. Children should be supervised when using sharp items such as scissors or other tools. Please make sure you are aware that children may put craft items into their mouths, and that they should wash their hands afterwards. By using this resource, you acknowledge that it is the responsibility of supervising adults to ensure the safety of children in their care and that we will accept no liability as a result of the activity.

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