



Cast a long shadow

Seymour's troublesome twin cousins have come to visit. He needs to keep them occupied to stop them messing up his workshop. But how?

He remembers reading something in last week's edition of Young Inventor Weekly about fun experiments with light. This should keep them entertained!

Let's make a cardboard tube projector

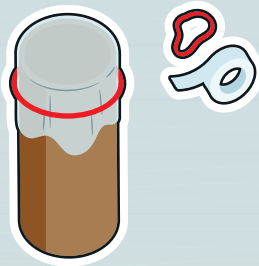
YOU WILL NEED

- A cardboard tube
- Some cling film or a clear plastic lid
- Some sticky tape or a rubber band
- A flat, solid, opaque item that doesn't let the light through, like a piece of thick cardboard
- A source of light, such as a torch
- Black paint and brushes
- Water pot
- Safety scissors



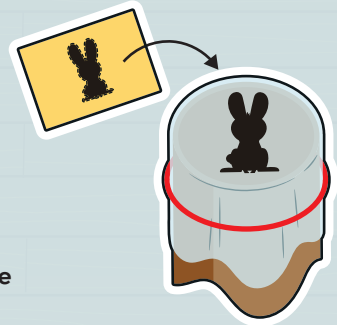
! When using scissors, make sure you have an adult to help you.

- 1** Place some cling film or the lid over one end of the cardboard tube and secure it with the elastic band or sticky tape.



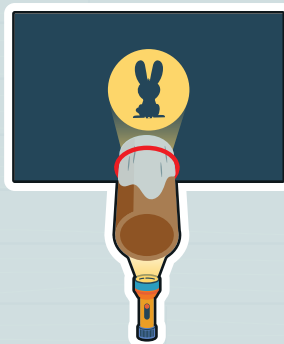
- 2** Choose a shape from the templates below or even create your own using black paint.

Carefully cut out the shape and stick it to the cling film or the lid.



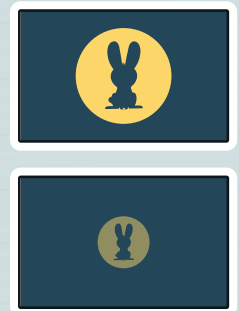
- 3** Take your torch and place it at the open end of the tube.

Turn off the light and aim the tube at a plain wall. And hey presto!

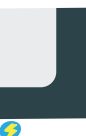
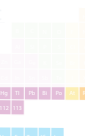
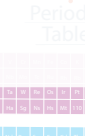
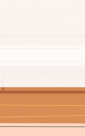
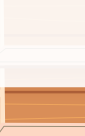
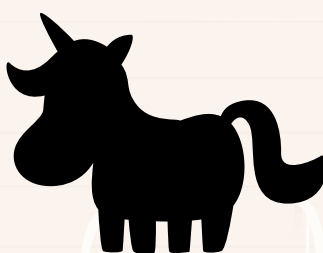
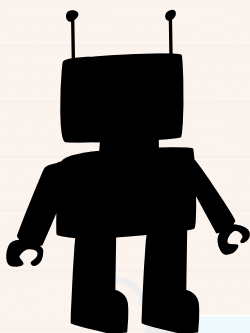


- 4** What happens if you move the torch closer?

What happens if you move the torch further away?



Templates





Don't be afraid of your own shadow

Seymour knows some other ways to have fun with shadows!

Silhouette portraits:

Did you know that the Victorians loved to create portraits by using shadows? These were known as silhouette portraits.

They were often created by cutting a profile, or a side view of a person's head and shoulders, out of black paper and then mounting it onto a light-coloured background. Some artists would paint onto glass or paper.

Let's make a silhouette portrait:

YOU WILL NEED

- A subject, for example, a family member or friend
- A torch or lamp
- Two pieces of white or light-coloured thin card or thick paper
- A pencil or pen
- Some black paint and a paintbrush
- Water pot
- Safety scissors

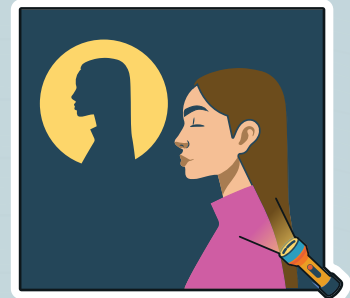


When using scissors, make sure you have an adult to help you.

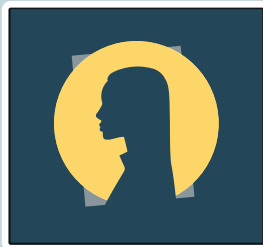
- 1** Ask your subject to sit in front of a blank wall, so they are facing to the side.



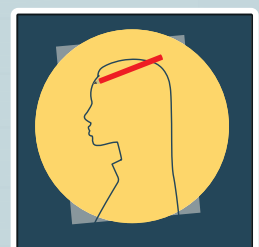
- 2** Using a torch or a lamp, shine the beam of light towards the subject. This will create a shadow on the wall behind them. Be careful not to shine the light directly into anybody's eyes.



- 3** Place your card onto the wall behind your subject, so their shadow is on the card.



- 4** Using a pen or pencil, carefully draw around the shadow. Thank your subject and ask them to step away.



- 5** Now you are ready to create your silhouette portrait.

Paint inside the outline using black paint. Let it dry.



- 6** Once your portrait is dry, carefully cut around the outline. If you like, you can then stick the portrait onto a new piece of white paper or card.

