

# Royal Botanic Gardens Kew

## Make your own kaleidoscope

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### What you need:

- a cardboard tube, such as a toilet roll tube
- a circle of thin card divided into sections (a printable template is provided with these instructions)
- a square of foil or shiny paper 12 cm x 12 cm
- a square of thin card 12 cm x 12 cm
- scissors
- a ruler
- a pencil
- sticky tape
- glue
- a paper clip
- a small piece of Blu Tack or plasticine
- different bright-coloured pens such as fluorescent markers and felt pens
- paints, sequins and other bright, shiny materials for decorating your tube



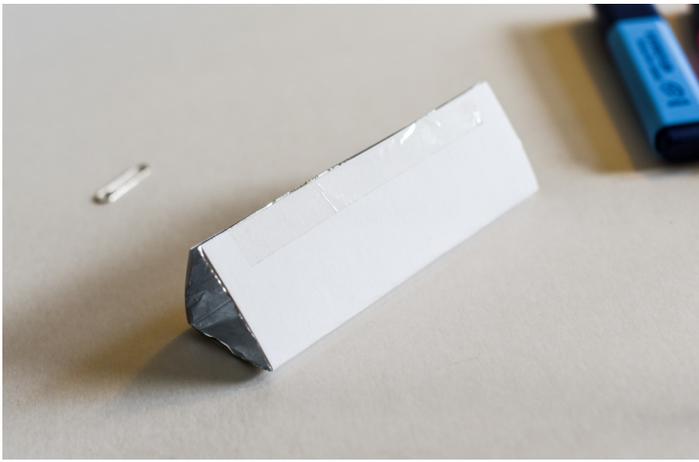
### Instructions:



**1.** Decorate your cardboard tube and leave to dry.



**2.** Cut a 12 cm x 12 cm square of foil or shiny paper. Glue this onto the thin card square. Use a ruler and pencil to divide the square into three 4 cm strips.



**3.** Score and fold along the edges of these strips to create a triangular prism. Make sure the shiny mirrored surface is on the inside of the prism. Use tape to secure the long edges of the prism together.



**4.** Push the prism inside your decorated tube so that the end of the prism is flush with the end of the tube. Unfold the paper clip and tape it securely to the cardboard tube, so that half of the paper clip is sticking out from the edge.



**5.** Cut out a circle using the template that came with these instructions. Decorate each section of the circle using the pens and other materials. Make a hole in the centre of the circle and push the paper clip through, with the decorated side of the circle facing towards the cardboard tube.



**6.** Bend the paper clip over so that the circle is secure but able to turn, making sure the decorated side of the circle is touching the end of the tube. Put a piece of Blu Tack or plasticine on the tip of the paper clip to cover the sharp point.



**7.** Look through the other end of the tube and turn the circle. Look at all the patterns created by your design. Are some brighter than others? Try holding the tube up to the light to see if the patterns look brighter.

Once you've made your kaleidoscope why don't you share it with your friends and family?

You could take it into school and have a class 'kaleidoscope exhibition'.

If you enjoyed this activity and would like some more nature-inspired things to do, go to [kew.org/kew-gardens/school-visits](http://kew.org/kew-gardens/school-visits).