

## Activity: Zoetrope

On SCOPE's [Movie Science](#) episode, you saw Julia make a Zoetrope. Here's how she did it:

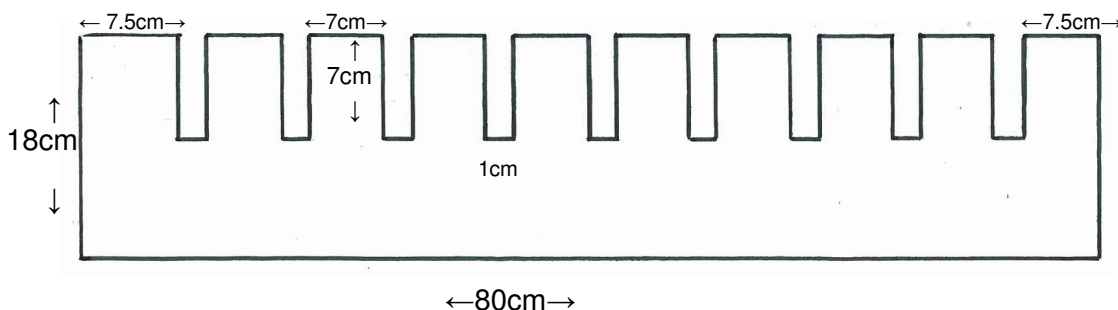


### What you need:

White paper (3 A4 pieces)  
Black cardboard (1 large sheet)  
Thicker cardboard (a cereal box or a shoe box)  
A paper towel roll  
Sticky tape  
A ruler  
Scissors  
Pens  
A Broom Stick

### What to do:

1. Cut some black cardboard so it has the following measurements:



2. Make some cuts along the bottom about 3cm long and 1cm apart.
3. Cut out and sticky-tape some white paper together to make a strip about 10cm wide and 75cm long.
4. On the strip of white paper, draw a series of pictures. Each one should be a little bit different from the last.
5. Stick the white paper onto the black cardboard just above the cuts at the bottom.
6. Stick the two ends of the black cardboard together to make a cylinder, with the white paper facing in.
7. Cut some thick card to make a square about 30cm x 30cm. This will be the base of our zoetrope. Using the scissors, cut a hole in the centre so the paper towel roll can just fit through. This can be a bit difficult so ask an adult to help.

8. Stick the paper towel roll to the cardboard by cutting some tabs at the top of the roll, threading it through the hole and sticking the tabs down.
9. Sticky-tape some more thick cardboard over the paper towel roll hole and cover the whole thing with black cardboard.
10. Fold in the tabs at the bottom of the black cylinder and stick it to the base.
11. Put the broom stick into the paper towel roll, and you have a zoetrope!
12. To see your movie, spin the zoetrope and look through the slits.

### **What's happening?**

A zoetrope is basically a device that tricks your eyes into thinking a strip of pictures is one moving image. It works because of something called persistence of vision; where the human eye retains an image for about one-twentieth of a second. And because you are looking at each picture so quickly, they are dissolving into each other and making it look like a moving image!