

General

Circus Show

(Poland)

Background

Teaching students simple magic tricks and circus acts allows them to physically engage with many aspects of physics. Balance, force, gravity, and motion can all be displayed by the students themselves.

You will need...

- ✓ two skewers
- ✓ elastic band
- ✓ Blu tack
- ✓ scissors
- ✓ sticky tape
- ✓ paper
- ✓ pencil
- ✓ colouring pencils
- ✓ two toothbrushes
- ✓ a piece of plastic gutter pipe (5 cm diameter)
- ✓ heavy bolt

Follow these steps**Balancing act:**

1. Connect the two toothbrushes, bristles facing each other, in a V shape. Secure using the elastic band.
2. Put one skewer down the middle of the bristles, pointed end of the skewer facing down.
3. Design a character that will be your balancing act, a bear, a ballerina, anything at all. Draw it, colour it, and cut it out.
4. Attach this character to the top of the skewer (the blunt end).
5. Stick a blob of Blu tack to the table and put your other skewer into it, pointed end down. Balance the skewer with the character on top of the skewer in the Blu tack.

Tumbling clown:

1. Design a clown in two pieces. The chest and head piece should be the same width as the pipe (5cm) and 11 cm long, the arms must be outstretched at 10 cm across. The waist and leg section should be the same width, but 30 cm long, 20 cm of waist and 10 cm of leg.
2. Stick the Blu tack to the inside of the tube, and attach the bolt to the Blu tack.
3. Attach the top of the leg section to the outside of the tube, directly above the Blu tack and bolt.
4. Wind the waist section around the tube until you get to the legs (10 cm long).
5. The legs are at the top of the tube.



Circus Show (continued)

6. Attach the chest of the clown to bottom of the tube so that the top and bottom line up.
7. Create an incline and roll your clown down it.

So what happened?

The character position has to be adjusted on the skewer so that equilibrium is achieved and the top skewer balances on the second skewer freely.

The clown propels itself down the incline.

What next?

1. Balance lab equipment
2. Use a mable and two bottle tops instead of the pipe, Blu tack and bolt. Compare the two items as they tumble down the incline.

