

Pupil activity

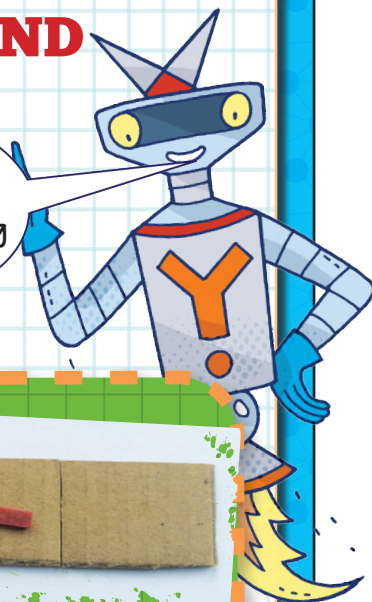
WEEK 1

MAKE A ROBO-HAND

You will need:

- Narrow rubber bands (cut into nine 5 cm lengths)
- 2 drinking straws (cut into twelve 2 cm lengths)
- Cardboard (cut into one 10 cm x 10 cm square and three 2 cm x 9 cm rectangles)
- String (cut into three 35 cm lengths)
- Tape, scissors and a ruler

Spent the next two weeks designing and making something that moves.



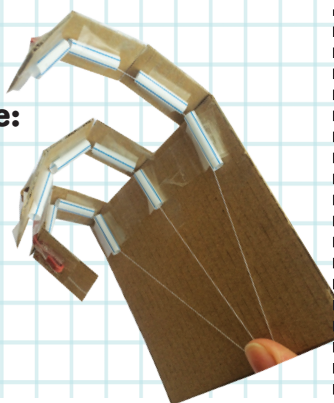
What you do:

- 1 Cut each of the cardboard rectangles into three equal (3 cm long) pieces, then tape them back together to make jointed fingers.
- 2 Lay one finger tape-side down and stick a length of rubber band over each joint, leaving the ends untaped.
- 3 Fold the ends of the rubber band back over the tape and stick them down firmly.
- 4 Tape the finger tape-side up onto the palm, then turn the hand over and use another strip of rubber band for the final joint, connecting the finger to the hand.
- 5 Repeat steps 2-4 for the other two fingers.
- 6 Lay the hand palm-side up (so you can't see the rubber bands) and tape one end of the string over the tip of the first finger.
- 7 Thread four of the straw tubes onto the string, then tape one piece of straw onto each section of the finger, and one to the palm.
- 8 Repeat steps 6-7 for the other two fingers.



You should see:

Pulling on the pieces of string, individually or together, will make the fingers move.



WEEK 2

STEM Challenge

Experiment with adding more fingers and even a thumb to see if that makes it easier to pick things up. You could even make a whole robot suit out of cardboard boxes and attach two robo-hands that you can operate from inside! Can you design and make something else that moves in the same way?