nanogirl's LAB

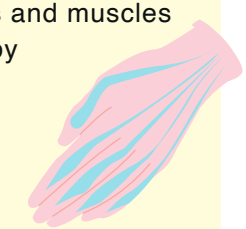
SUPER POWER: Tendons and bones of the hand!

GIANT HAND

LAB NOTES...

How does our hand move?

Human hands are made up of 27 different small bones! We can move our fingers and thumbs because the bones and muscles are all connected by tendons. Tendons are made from strands of connective tissue, and connect our finger bones to our hand to help us grip and hold things. The tendons which help your fingers to bend are actually really long, they start all the way up in your forearm! You can see and feel your tendons if you take a look at the back of your hand and wiggle your fingers while stretching them. You can also feel your tendons if you press lightly on the inside of your wrist, then wiggle your fingers.



TO MAKE YOUR GIANT HAND...

BUILD TIME 20 MINS

1. Watch Nanogirl making her giant hand!
2. Take your thick cardboard and draw a large hand shape. Include a 12cm long wrist.
3. Cut the hand out, making sure to cut between all the fingers.
4. Take a straw, or make a paper straw and cut sixteen 1cm sections.
5. Bend each cardboard finger down, first at the base of the finger, then one third of the way up, then two thirds of the way up to divide each finger into three sections.
6. Tape one small piece of straw vertically onto the centre of each of these finger sections, keeping them in line with each other.
7. Tape the last four pieces of straw 1cm below the bottom of each finger.
8. Cut four lengths of string long enough to reach from the tip of each finger to the bottom of each hand.
9. Thread one piece of string through all the straws along one finger. Tie a strong double knot in the string to secure around the top straw and repeat for the other fingers.
10. Measure and cut a piece of cardboard 3cm wide and long enough to fit across the 4 bottom straws. Place over the straws and tape in place.
11. Cut a square of cardboard large enough to cover the back of the hand and some of the wrist. Tape into place aligning the corrugation vertically if possible.
12. Cut a rectangle of cardboard 5cm wide and long enough to fit around your cardboard wrist. Tape in place to make a strap with enough space that your fingers can slide through.
13. Slide your fingers under the strap and tie a loop at the end of your string for the pinkie finger around the top of your own pinkie finger. Do the same for each piece of string and finger.
14. Place your fingers into the string loops and watch as your giant hand curls when you curl your fingers! See if you can pick anything up with your giant hand.

YOU WILL NEED

- Thick cardboard
- String
- Scissors
- Tape
- Pencil
- Paper or plastic straw
- Ruler

Can you see or feel the tendons in your hands when you move your fingers?

Can you find anywhere else in your body where you can feel or see tendons? What about the tops of your feet, inside your elbows or the back of your knees?

What can you lift or move with your giant hand?

Set yourself a challenge – how many things can you move in 10 seconds?