



SUPER POWER: Jaw and Teeth!

COOKIE MUNCHING TEETH

LAB NOTES...

BUILD TIME
45
MINS

TO MAKE YOUR COOKIE MUNCHING TEETH...

1. Watch Nanogirl making her cookie munching teeth!
2. Measure and mark 5cm in from the top and bottom of your box on each face.
3. Draw a straight line connecting the top marks and cut along the line, repeat for the bottom.
4. Discard the middle section and line up the top and bottom section.
5. Take the top and bottom of the box, line up the edges, and tape together on the back face to make a hinge.
6. Use a pencil and a ruler to draw a straight line between opposite corners on the top and bottom of the box to find the middle where the lines cross.
7. Make a hole the width of a pencil with scissors at both middle points.
8. Decide which is the bottom half, and make that hole a bit wider than the top hole.
9. Roll and tape a sheet of paper tightly around a skewer to make a long paper straw narrow enough to fit through both holes.
10. Push the straw through the holes and cut so 5cm sticks out of the bottom and top. Bend the top part of the straw over and tape to the top of the box.
11. Push up on the straw from the bottom of the box and the top part should move!
12. Reinforce the base of your box by cutting some strips of thick cardboard and taping them to the inside of the bottom box.
13. Cut out two 10 x 2cm strips of cardboard and two 10cm long pieces of skewer. Tape each skewer to the centre of each card to reinforce.
14. Tape the legs onto the front of either side of the bottom box, pointing downwards.
15. Trim your cardboard tube if necessary so it fits between these two strips of card.
16. Draw around the end of the tube on cardboard twice to make two circles. Cut them both out.
17. Use the pointy end of a skewer to poke a hole in the centre of each circle.
18. Use a ruler to find the middle of the length of the tube then draw a 5cm line with the middle as its centre.
19. Cut along this line to make a slit in the middle of the tube.
20. Trim the circles so that they fit tightly into the ends of the tube, secure with tape.
21. Cut a 5cm x 7cm strip of plastic from a flat section of your milk bottle and insert into the slot in the tube.
22. Hold the cardboard tube in between the cardboard legs and check the tube has room to rotate, and that the plastic tongue reaches the straw.
23. Mark on the cardboard legs where the skewer hole in the ends of the tubes are. Use a skewer to make holes in the legs at that point.
24. Push the skewer through the card at this point, through the holes in the tube then through the card on the other side.
25. Tape your elastic band to the top and bottom of one of the side faces of your box.
26. Check that when you rotate the plastic tongue it pushes the straw up, you might need to trim the length of the straw or plastic tongue.
27. Decorate the front of your tissue-box jaw by drawing a mouth and some teeth.
28. Push the jaw along a carpeted surface with enough force that the tube rolls until the plastic strip pushes the straw and your jaw opens and closes.

YOU WILL NEED

- Cardboard box e.g tissue box.....○
- Ruler.....○
- Pencil.....○
- Scissors.....○
- Tape.....○
- 2 x wooden skewers.....○
- Paper.....○
- Cardboard tube.....○
- Sheet of thick cardboard.....○
- Elastic band.....○
- Empty plastic container.....○
e.g. milk bottle or ice cream tub
- Colouring/decorating supplies.....○

Jaws and teeth

Our jaws and teeth help us to do all sorts of important things, like talking to our friends and chewing our food. There are very powerful muscles at the back of our jaw which help us to open and close our mouths with the force we need to break down and chew our food. The teeth at the front of our mouths are sharp and pointy - perfect for cutting, while the teeth at the back of our mouths are flat and wide - perfect for grinding. In this experiment, you have created a jaw which opens and closes not using muscles, but using the force of being pushed open by the plastic tongue and the straw, and closing again due to the elastic band.

Put your fingers on your cheeks, then open and close your mouth. Can you feel your jaw muscles working?

How many teeth do you have? Is it the same number as everyone else in your home?

What could your cookie-munching teeth chomp down on?