



SUPER POWER: Biometrics!

DISGUISE



LAB NOTES...

BUILD TIME
10
MINS

YOU WILL NEED

- Cardboard tube (1 long or 2 short) ..
- Scissors
- Tape.....
- String.....
- Ruler.....
- Pen or pencil.....
- Paper.....
- Colouring supplies

BIOMETRICS

Biometrics is the science of measuring body characteristics like fingerprints, voice and our faces. Biometric scanners can use cameras and computers to measure the distance between features on our face to identify from a database who a person is. An example of this you might have seen could be a phone which unlocks just using a fingerprint or face scanner.



Facial recognition is used for things like catching criminals, tracking people, at airports and for security. Today we made a disguise that might be able to confuse a biometric face scanner as well as your friends or family, at least for a second by altering the appearance of your face.

TO MAKE YOUR DISGUISE...

1. Watch Nanogirl making her disguise!
2. Take a cardboard tube and measure five 3 cm sections. Cut them out to make three rings.
3. Fold the spare strip of tube to make a spacer.
4. Hold two of the rings in front of your eyes and determine how far they need to be so you can see through them. Tape the spacer in between the rings so they maintain the correct distance apart.
5. Tape the third ring underneath the first two - this will be the nose ring.
6. Take the two remaining 3cm rings and cut up the middle. Roll so they fit inside the nose ring, and tape them into place. These are the bases to your interchangeable noses.
7. On paper, draw, colour and cut out your face disguises. You could try different nose shapes, lips or even a mustache!
8. Tape to the interchangeable nose shapes.
9. Tape one end of the string to one side of the eye tube. Wrap the string around the back of your head and cut and tape when it reaches the side of the other eye tube.
10. This will hold your disguise in place on your face.
11. When ready to wear attach the facial feature of your choice into the nose hole.

Look at your face in a mirror and measure the distance between different features on your face using a ruler, for example the distance between your eyes, or between the end of your nose and the top of your mouth. Then try this on someone else - how is your face different to other people's?

What else could you build for your disguise? What about bushy eyebrows or big ears? Can you design attachment systems so they are easy to put on and take off?

Can you find any examples of biometric technology in your everyday life, or where have you seen an example of biometric technology being used?