Hearing Sound Science Experiment

You will Need:

Plastic sandwich wrap

Outside of a springform cake tin

2 bendy straws

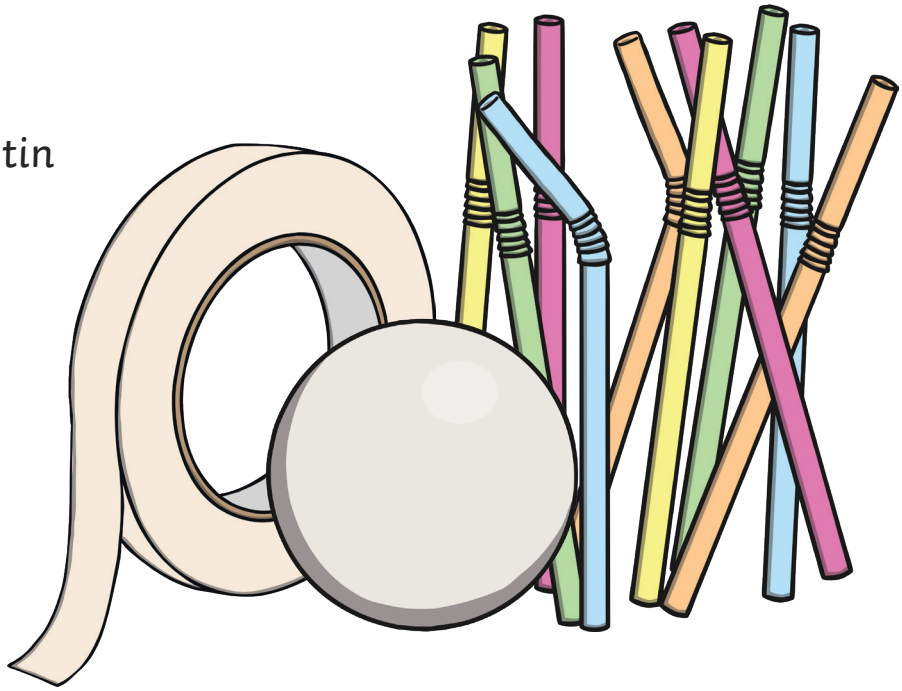
Table tennis ball

Sticky tape

2 glass bowls the same size

Water

Scissors



Instructions

1. Stretch the plastic wrap over the top of the springform cake tin so it looks like a tambourine or drum. Use sticky tape to hold it in place.
2. Squash the top of one straw a little and put it into the top of the other straw. This joins the straws together to make one long straw with the bendy parts in the middle.
3. Bend one of the bendy parts to make a right angle in the long straw. Keep it in place with some tape.
4. Use the scissors to cut into one end of the straw. Cut about 5cm up the side of the straw (vertically) to make a few thin strips.
5. Tape the strips around the table tennis ball so it looks like the straw is an arm and fingers are holding the ball.
6. Tape the straw arm to the top of plastic sandwich-wrapped tin. Place it in the middle with the right angle of the straw about 5cms away from the rim of the tin.
7. Fill one of the bowls almost to the top with water.

8. Place the tin on its side (vertically) in the empty bowl with the right angle of the straw facing at the base but not touching the rim of the bowl.
9. Put the bowl of water in front and rest the table tennis ball in the middle of the water.
10. Clap your hands or make other sounds behind the tin and look at what happens to the table tennis ball and the water.

Explanation:

This experiment is much like a real ear. Soundwaves vibrate against the eardrum and along three tiny bones into the cochlear. The cochlear is full of liquid, just like the bowl of water. It is lined with small hairs that turn the vibrations into nerve signals. Our brain reads these signals as different sounds.