

Now try this

Now that you have made a sort of 'oboe', why not try making a trombone as well? To make the trombone all you need is:

- a small (about 500ml) plastic drink bottle, and
 - a piece of copper pipe or plastic tubing. The pipe needs to be narrow enough so that it fits inside the neck of the bottle, and long enough so that about 10cm sticks out of the top of the bottle.
- Fill the bottle with water, leaving a space of about 2cm at the top.
 - Insert the pipe into the bottle and blow gently across the top of the pipe. (It is important to blow *across* rather than *into* the pipe.) You should be able to hear a faint sound.
 - Keep the end of the pipe close to your lips and slowly lower the bottle. Can you hear the pitch change?
 - As you move the bottle downwards, the length of the air column becomes longer - and so the pitch gets lower.



You can make the sound much louder if you use a hairdryer to blow across the top of the pipe. However, using a hairdryer when there is water around can potentially be very dangerous. **DO NOT TRY THIS UNLESS YOU HAVE ADULT SUPERVISION.**

What have we found out?

- Sounds are made when something vibrates.
- Long tubes make a sound with a low pitch, short tubes make a sound with a high pitch.