# 9 Wind instruments

**Wind instruments work by setting a column of air vibrating.**

When you blow over the end of a bottle, you push steady pulses of air down the bottle (Picture 1). The air from each pulse then bounces back up.

If the rate at which you send pulses is just right, the air resonates.

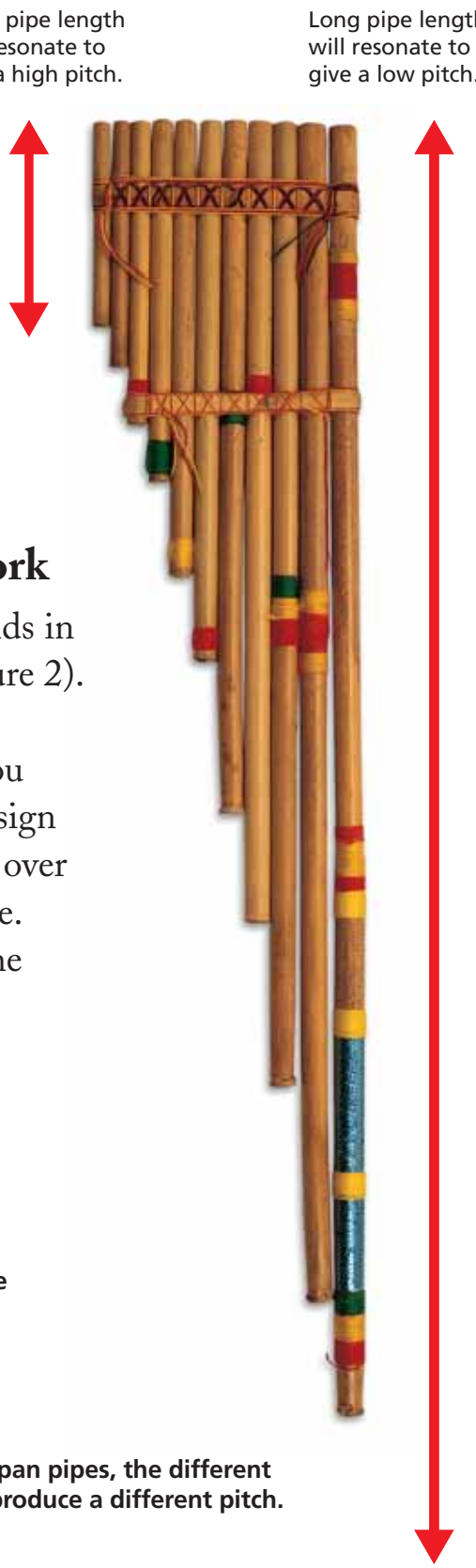
You can alter the note by changing the length of the space in the bottle, for example, by adding water or choosing a longer or shorter bottle.

## How wind instruments work

All wind instruments make sounds in the same way as the bottle (Picture 2).

A recorder is a simple wind instrument (Picture 3). When you blow into the mouthpiece, its design sends a stream of air pulsing out over the sharp edge of the mouthpiece. This makes air resonate inside the recorder and we hear a note.

◀ **(Picture 1) As you blow across the top of a bottle, you can set up vibrations that bounce around inside the bottle and resonate.**

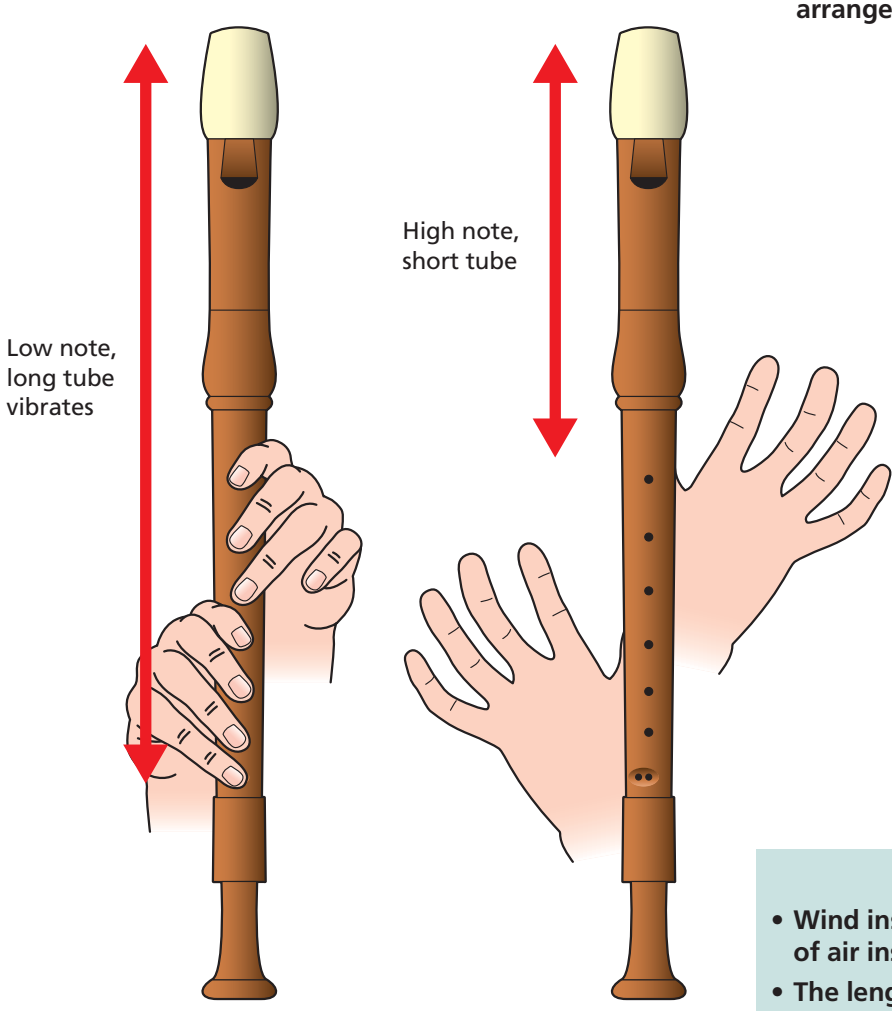



▶ **(Picture 2) With pan pipes, the different length tubes each produce a different pitch.**

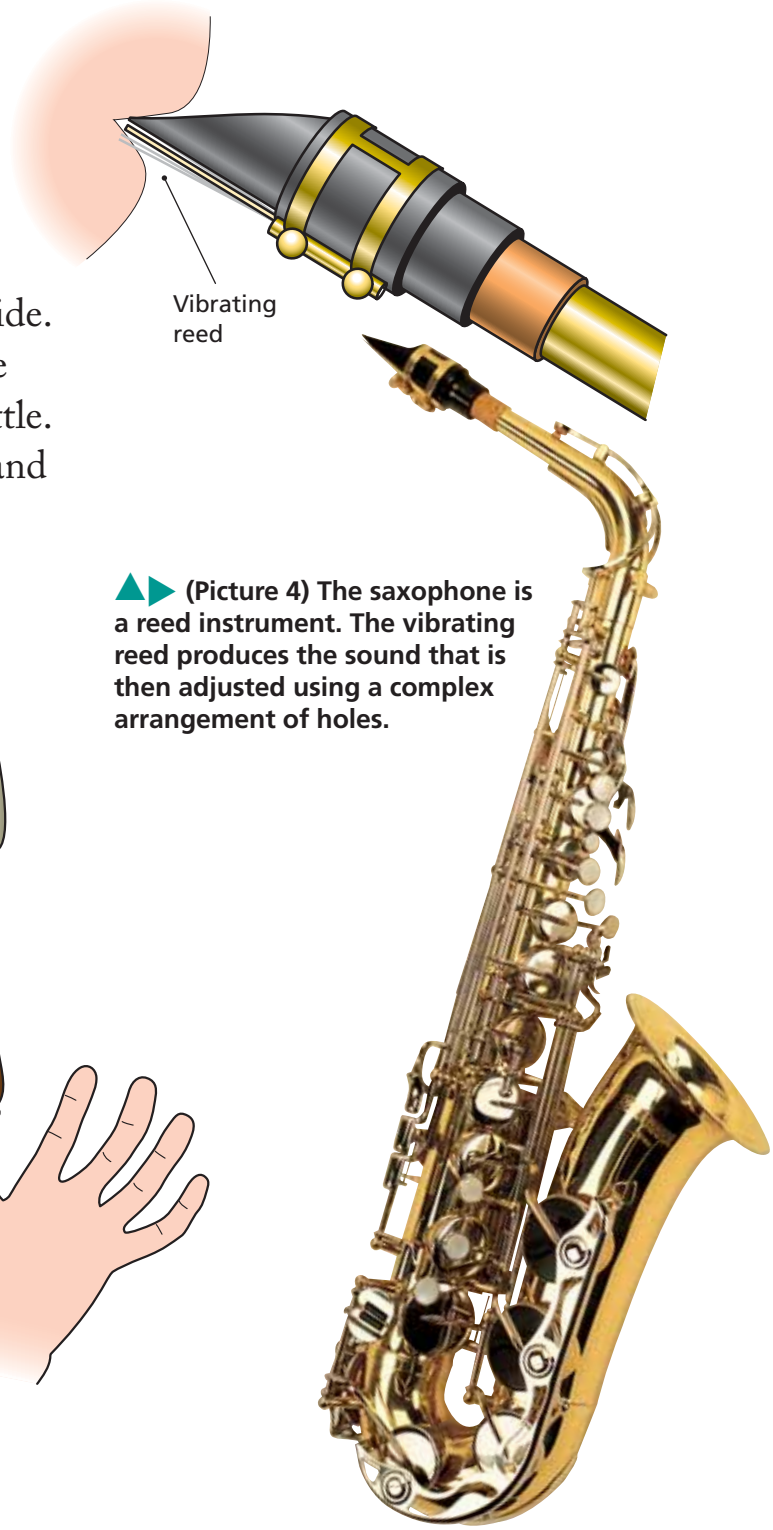
The recorder body has holes drilled in it. As these are opened and closed, using the fingers, they change the length of the recorder, where the air is resonating, and change the note.

A flute is like a recorder turned on its side. In this case, you blow over the mouthpiece hole just as you did over the top of the bottle.

Instruments such as the oboe, clarinet and saxophone (Picture 4) have a **REED** in the mouthpiece. The reed vibrates when air is blown over it and this sets the air in the instrument vibrating.




▲ **(Picture 3) With a recorder, you alter the length of the tube by closing your fingers over the holes.**




▲▶ **(Picture 4) The saxophone is a reed instrument. The vibrating reed produces the sound that is then adjusted using a complex arrangement of holes.**

## Summary

- **Wind instruments make a sound when a column of air inside them vibrates.**
- **The length of vibrating air is altered by covering holes, using fingers or keys.**
- **In some wind instruments, a reed is used to set up vibrations.**



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