

High tension

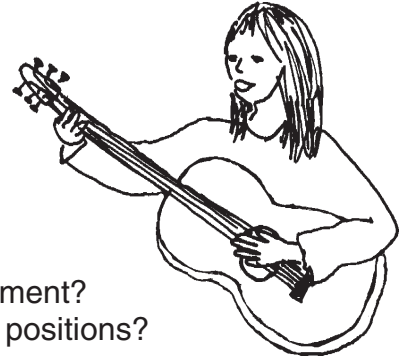
What you need

A piece of wood, a piece of fishing line (or thin wire), a drawing pin or nail, two wedges, weights of different sizes, a stringed instrument such as a guitar.

I can see the strings vibrating when they are plucked.

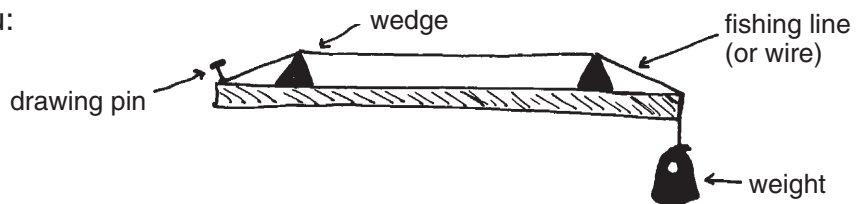
Work with a group of friends. First, investigate how the sound is produced when a stringed instrument such as a guitar is played.

- How do you get high notes or low notes?
- What happens when you turn the keys at the neck of the instrument?
- What happens when you press down on the strings in different positions?



Make your own stringed instrument by stretching a piece of fishing line or wire across a piece of board. Use two wedges to hold the line up.

This diagram will help you:



Hang a weight on the end of the line to increase the tension on the line. Now try plucking the wire between the two wedges. What sort of sound do you hear?

Try moving one of the wedges closer to the other and pluck the line again. Is the sound you make higher or lower now?

Keep moving the wedge, each time plucking the wire and listening to the sound you produce. Record your results in a table in the box below:

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How do you think the length of the line affects the sound which is produced?

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EXTRA!

Try changing the size of the weight on the end of the fishing line to see if you can make higher or lower notes.