

Forms part of the Gr 10 Physical Sciences 3-in-1 Class text and Study Guide.
See p. 91 MODULE 2 TOPIC 4 for the theory.



PRACTICAL DEMONSTRATION

How sound is generated

Materials

- tuning forks
- loudspeaker
- 6V AC battery
- a guitar
- different sized vuvuzelas
- different sized flutes

Method

- 1 Hold your fingers lightly against your throat and make an 'aah' sound.
- 2 Take tuning forks that are labelled with different frequencies in Hz and tap them lightly against a table.
- 3 Plug a guitar string around which a small piece of paper was wrapped.
- 4 Connect a loudspeaker to a 6 V alternating-current power source and pour small polystyrene balls into the cone.
- 5 Blow different sized flutes and vuvuzelas.



Observations and discussion

In all the examples, a vibration of the medium can be observed or felt.

- A vibration in your throat can be felt.
- The prongs of the tuning forks look blurry because they vibrate at a very high rate.
- The piece of paper clearly shows the vibration of the wire.
- The cone/diaphragm of the loudspeaker vibrates at a high rate and the polystyrene balls jump up and down.
- The air columns inside the vuvuzelas and flutes vibrate when you blow them.

Conclusion

Sound is produced when energy is transferred to the particles of a medium, so that they vibrate.