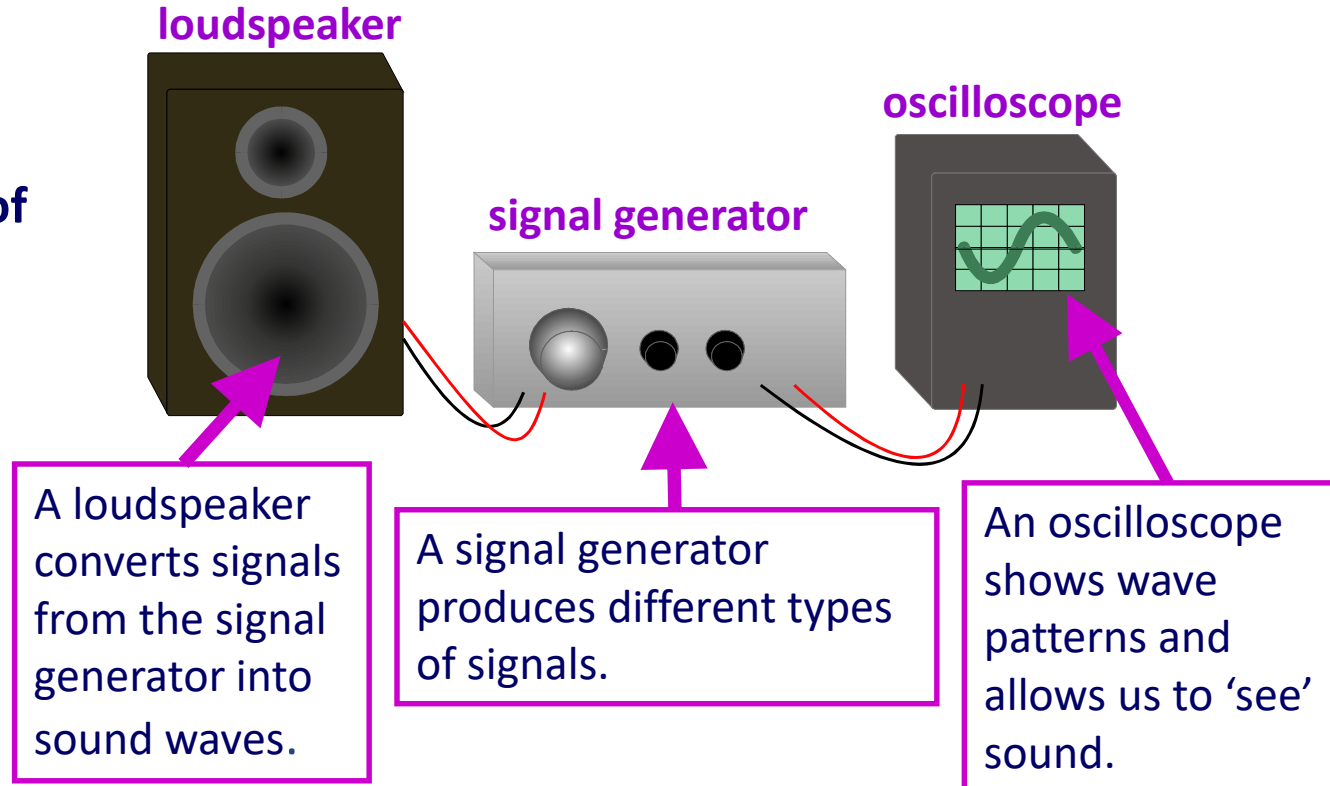




11.4 Sounds on a screen

Studying sound waves

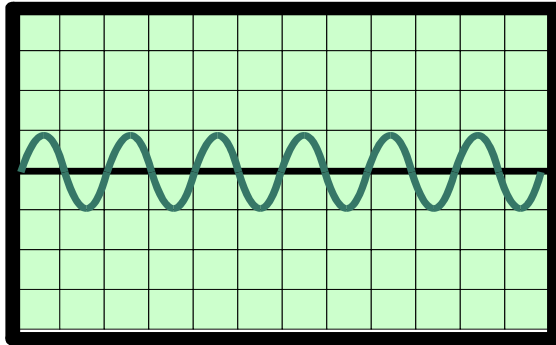
Sound waves can be studied with this type of equipment.



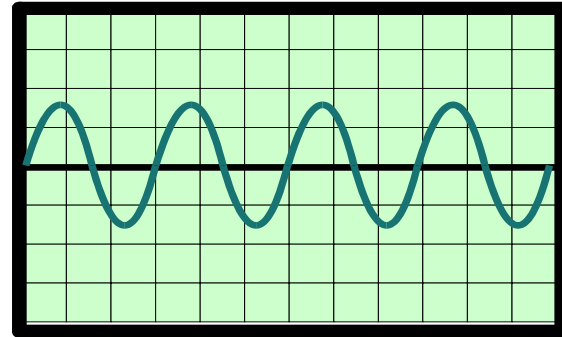
Loudness and amplitude



- A sound can be quiet or loud.



quiet sound

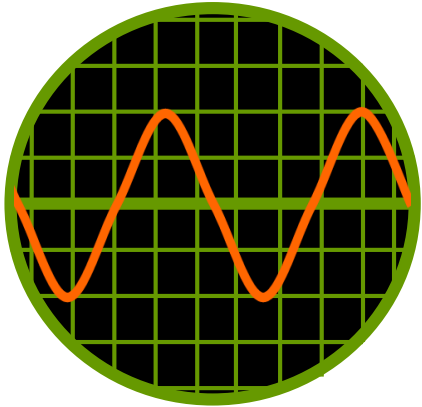


loud sound

On an oscilloscope trace, the loudness of a sound is shown by the **height** of the wave. This is called the **amplitude**.

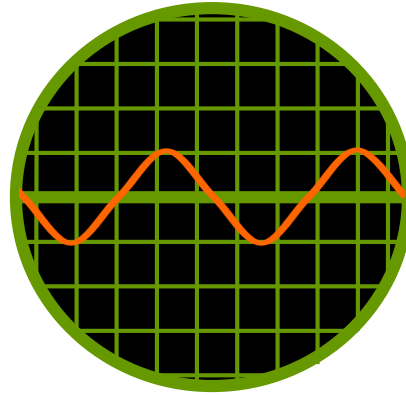
Which is the loudest?

- Which trace represents the loudest sound?



A

Sound A is the loudest.



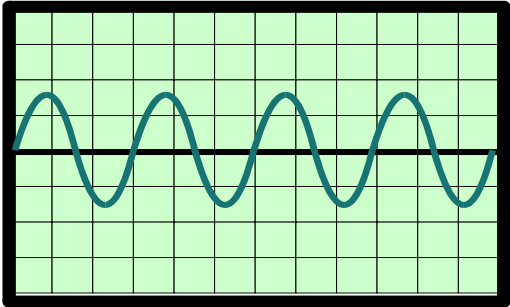
B

Sound A has the **largest amplitude** (i.e. the tallest waves), so it is the **loudest** of these two sounds.

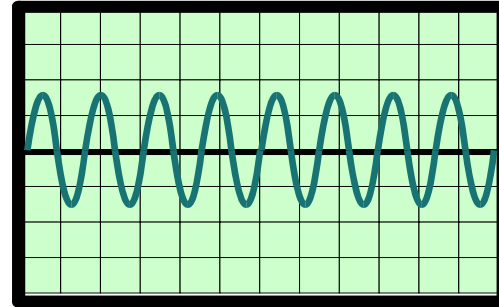
Pitch and frequency



- A sound can be high or low – this is the **pitch** of the sound.



low pitch sound



high pitch sound

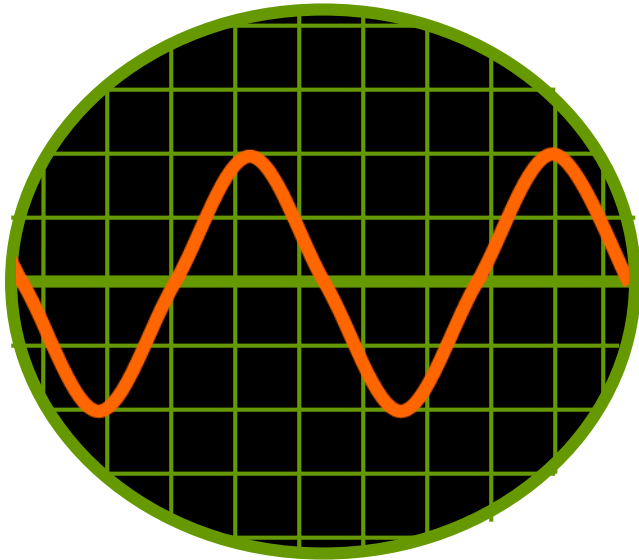
On an oscilloscope trace, the pitch of a sound is shown by **how many** waves there are. This is called the **frequency**.

Which word should be crossed out in this sentence?

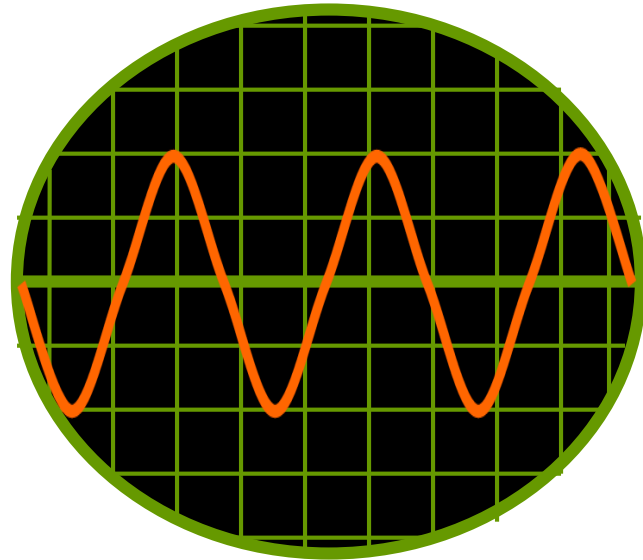
The **greater** the number of waves across the oscilloscope trace, the **lower/higher** the frequency and pitch.

Which is the highest?

- Which trace represents the sound with the highest pitch?



A

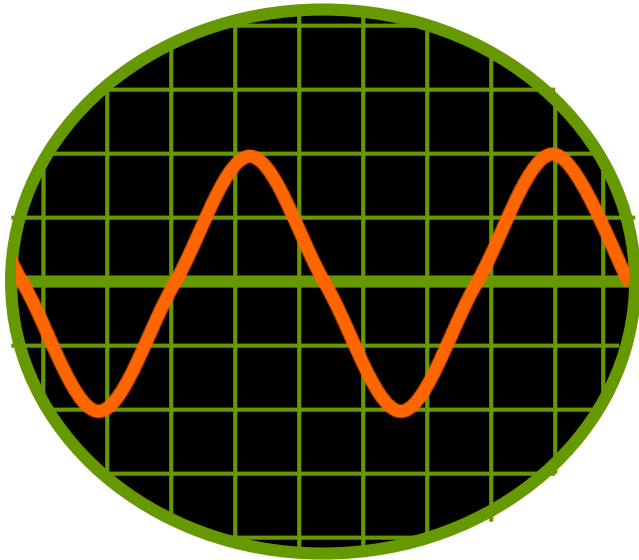


B

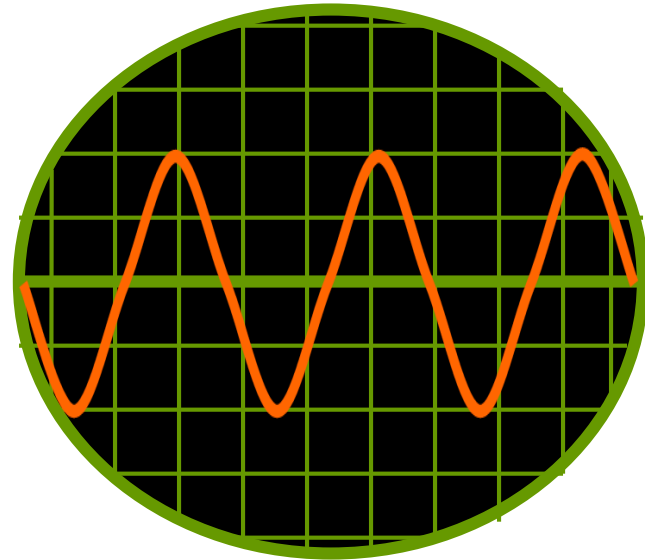
Sound B is the highest pitched.

Which is the highest?

- Which trace represents the sound with the highest pitch?



A



B

Sound B is the highest pitched.

Summary

- An oscilloscope can be used to display traces representing sound waves.
- Louder sounds have waves with a greater amplitude.
- High-pitched sounds have waves squashed more closely together.

