

## **SOUND VIBRATIONS**

### **KEY IDEAS**

- Vibrations create sound waves
- Altering the vibration can alter the sound
- Sound waves are invisible but we can sometimes observe materials vibrating because of these waves
- Sound waves can be visually represented on an oscilloscope

### **EXAMPLE QUESTIONS**

- Have you even seen objects vibrating because of sound?
- How can you feel sound vibrations?
- How are high notes different from low notes?
- How can you make a quiet sound louder or a loud sound softer?

## **SOUNDS TRAVEL OUTWARDS**

- Sound vibrations travel in all direction away from the source of the sound in a manner similar to the ripples of water created when a stone is thrown into a pond.
- Sounds however, travel in all direction s, not just outwards, but upwards and downwards as well.

## **ALTERING THE VIBRATION CAN ALTER THE SOUND**

- Changing the vibration affects the volume, pitch or tone of the sound produced.

## **SOUNDS ARE INVISIBLE**

- Although sound is invisible, we sometimes can see its effects when objects vibrate (in a large window, for example).

- An instrument called an oscilloscope can be used to produce patterns that represent sounds.

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