

## Wavelength, frequency and speed

- BECA      Look at him. He's so fit. It's ridiculous. But how do I ask Chris out?
- ADA      Searching the internet for "How do I ask Chris out?"
- Sound waves travel via vibrations through the air transferring this sound energy from place to place.
- BECA      How fast is that rumour spreading?
- ADA      It depends how much time it has been going for and how fast it is going. Distance equals speed multiplied by time. That wave of gossip hasn't had much time to travel, but its speed is phenomenal!
- BECA      Really? How fast?
- ADA      Wave speed equals wavelength multiplied by frequency. The wavelength is the distance between two of the same points on the wave. The further they are apart, the faster the gossip will travel. The frequency is how many waves there are each second. The higher the frequency, the faster the gossip will travel.
- BECA      Well, we can be sure this wave of gossip has a high frequency.
- ADA      Is Chris a space robot?
- BECA      Why?
- ADA      If he was, you could use electromagnetic waves. They can travel through the vacuum of space by utilizing electric fields and magnetic fields instead! So try using radio waves or gamma rays on Earth to ask him out.
- BECA      This doesn't help Ada!
- ADA      OK. Try increasing your wave amplitude.
- BECA      How do I do that?
- ADA      Chris! Will you go out with Beca?
- BECA      Ada, what do I do now?

# Bitesize

ADA      Wave.