

WAVES

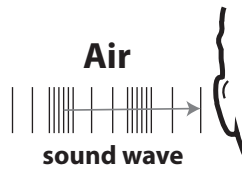
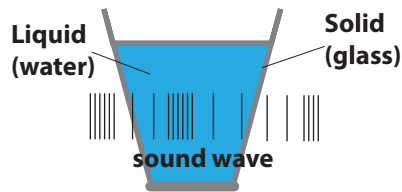
TRANSVERSE WAVES



CF	CH
SF	SH

All waves carry energy. There are 2 types of waves, transverse and longitudinal. Some of these can move through space while others need to move through matter (particles) e.g. air or water.

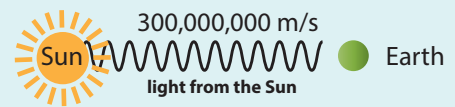
SOUND WAVES



Solids, liquids and gases (matter) are made up of particles. Some types of waves, e.g. sound waves, need to use these particles to carry their energy.



ELECTROMAGNETIC WAVES

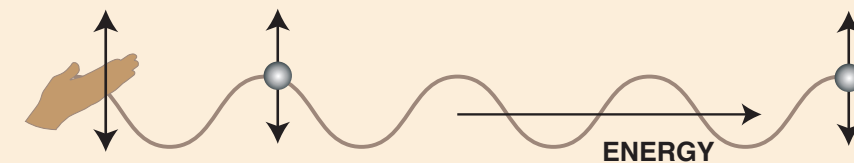


Not all waves need particles to carry energy. Electromagnetic waves, e.g. visible light, can travel through matter but can also travel through empty space!

TRANSVERSE WAVES

THE PARTICLES MOVE AT 90° TO THE FLOW OF ENERGY

A ROPE WAVE The particles in the rope move up and down.



Kinetic energy from hand

Kinetic energy travels along the rope from one place to another.

TYPES OF TRANSVERSE WAVES

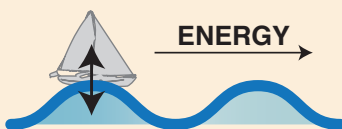
- Water waves
- Waves in a rope
- Visible light waves

ALL ELECTROMAGNETIC WAVES ARE TRANSVERSE

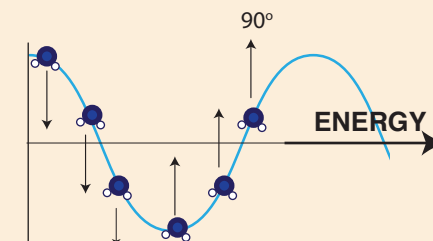
e.g.

- Radio waves
- Infrared waves
- Light waves

WATER WAVES



A boat just bobs up and down as the energy of a wave passes in the waves below it.



Water molecules move up and down at 90° to the direction of the wave.

The particles (matter) which make up the wave move at 90° to the direction of energy flow in transverse waves.