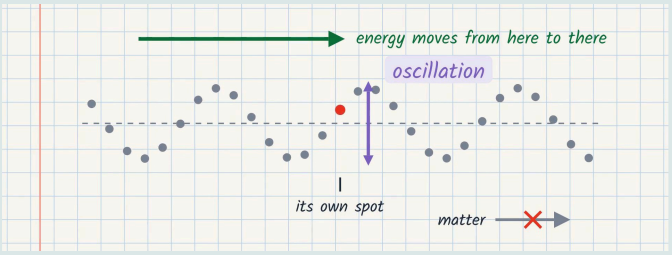
Two kinds of wave

Transverse and longitudinal

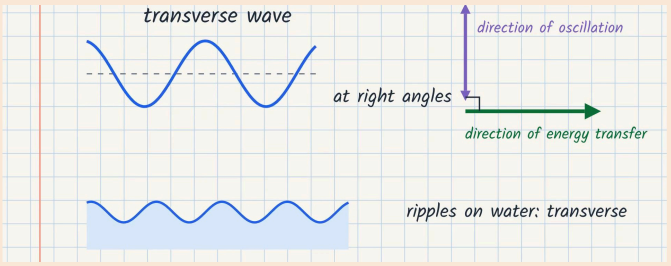
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Summary sheet

1 What a wave carries



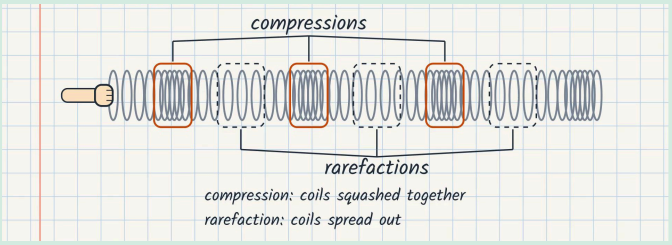
- A wave **transfers energy** from one place to another. The water or air it passes through does **not** travel with it.
- Each part of the medium moves back and forth (or up and down) around one spot: an **oscillation**.

2 Transverse waves



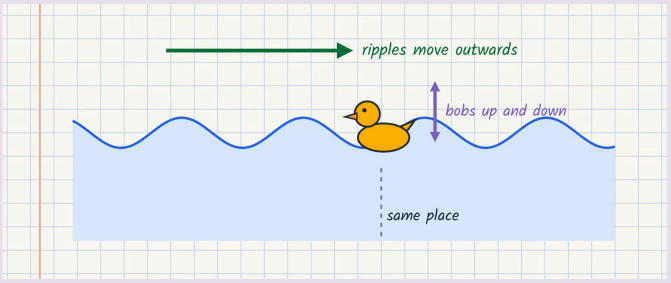
- **Transverse**: the oscillations are **at right angles (perpendicular) to the direction of energy transfer**.
- Example: **ripples on water**. A slinky shaken side to side makes a transverse wave.

3 Longitudinal waves



- **Longitudinal**: the oscillations are **parallel to the direction of energy transfer**. Example: **sound waves in air**.
- **Compressions**: regions where the coils or particles are squashed together. **Rarefactions**: regions where they are spread out.

4 The evidence



- A duck on a pond **bobs up and down in the same place** as ripples pass: the water doesn't travel.
- A red-painted slinky coil (or an air particle) moves back and forth and **returns to where it started**. The wave moves on; the medium stays put.

Exam tip

Write the full sentence: "the oscillations are parallel to the direction of energy transfer". Parallel to what? Always say.

Check yourself

1. Is light transverse or longitudinal?
2. In a sound wave, what is a region where the particles are squashed together called?

Answers: 1. Transverse 2. A compression