

Name:

Class:



A loudspeaker produces a sound wave at a frequency of 850 Hz.

The wavelength of the sound wave is 0.4 m. Calculate the speed of the sound wave.

$$\text{Wave speed} = \text{frequency} \times \text{wavelength}$$

$$\text{Wave speed} = 850 \times 0.4 = 340 \text{ m/s}$$

$$\text{Wave speed} = 340 \text{ m/s}$$

State the primary colours of light.

Red, blue and green.

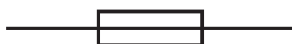
State the formula to calculate work done.

$$\text{Work done} = \text{force} \times \text{distance}$$

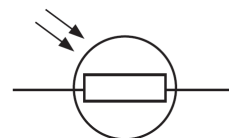
Identify the following electrical components from their symbols.



Thermistor

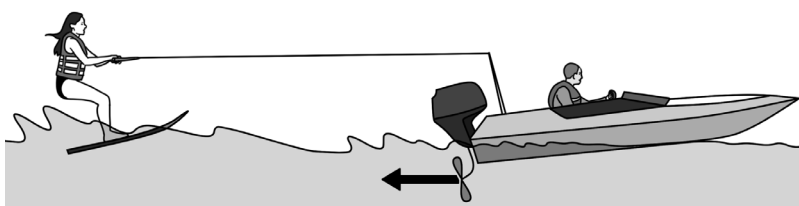


Fuse



Light dependent resistor

The diagram shows a boat pulling a water skier.



- i. The arrow represents the force on the water produced by the engine propeller. This force causes the boat to move. Explain why.

It produces a force from water on the boat in the forward direction/thrust.

Both underlined points must be mentioned.

- ii. The boat accelerates at a constant rate in a straight line. This causes the velocity of the water skier to increase from 4.0 m/s to 16.0 m/s in 8.0 seconds. Calculate the acceleration of the water skier and give the unit.

$$\text{acceleration} = \frac{\text{Change in velocity}}{\text{time}}$$

$$\text{acceleration} = \frac{12 \text{ m/s}}{8 \text{ s}} = 1.5 \text{ m/s}^2$$