



1



Investigating Waves

Monday, 16 June 2025

Answer the following questions:
1. Calculate the velocity of a wave with a frequency of 2 Hz and a wavelength of 10 m.
20 m/s
2. State the SI unit for wavelength.
Metres (m)
3. Explain the difference between transverse and longitudinal waves.
The oscillations in a transverse wave are perpendicular to the direction of energy transfer, whereas in longitudinal waves the oscillations are parallel.
4. Explain the difference between speed and velocity.
Velocity has a direction, speed does not.
5. Describe how light travels.
In straight lines as transverse waves (at 300000 km/s)



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Arts Curriculum

16/06/2025

Investigating Waves

P3.3.7

Science Mastery

P3.3.1 Prior Knowledge Review

P3.3.2 Types of Wave

P3.3.3 Properties of Waves


P3.3.4 Velocity of Waves


P3.3.5 Reflection and Refraction

P3.3.6 Investigating Reflection and Refraction

P3.3.7 Investigating Waves

P3.3.8 Using Waves





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Following this lesson, students will be able to:

Describe the relationship between wavelength and frequency

Describe a method to calculate the velocity of waves in a ripple tank or on a string

Calculate velocity of waves using the equation $v = f\lambda$

Key Words:

velocity

frequency

wavelength

ripple tank

oscillator

Lesson Objectives


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What is the equation for wave speed?

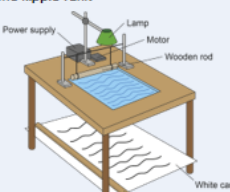
Wave speed = frequency x wavelength

Lesson Objectives

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The Ripple Tank



A ripple tank is used to observe the features of a water wave

It's a shallow tray of water and in the water is a vibrating wooden rod

The wooden rod is connected to a power pack

When the wooden rod is switched on, it vibrates, and it creates waves across the surface of the water.

Introduction

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The Ripple Tank

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