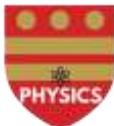


Progressive & Stationary Waves BGS Physics



Progressive Waves

Checklist statement

✓

I can describe oscillation of particles of a medium in a progressive wave.

I can define amplitude, frequency, wavelength, wave speed, phase and phase difference.

I can apply $c = f\lambda$, define all terms and know their standard units.

I can apply $f = \frac{1}{T}$, define all terms and know their standard units.

I can measure phase difference in radians, degrees or as a fraction of a cycle.

Longitudinal and Transverse Waves

Checklist statement

✓

I can describe the nature of longitudinal and transverse waves.

I can give examples of longitudinal and transverse waves, including sound, electromagnetic waves and waves on a string.

I can describe the direction of particle or field displacement relative to the direction of energy propagation.

I can explain that all electromagnetic waves travel at the same speed in a vacuum.

I can explain polarisation as evidence that a wave is transverse.

I can describe applications of polarisers, including Polaroid material and aerial alignment for transmission and reception.

Superposition and Stationary Waves

Checklist statement



I can describe the principle of superposition of waves.

I can describe stationary waves.

I can identify nodes and antinodes on stationary waves on strings.

I can explain how stationary waves are formed by two waves of the same frequency travelling in opposite directions.

I can give a graphical explanation of the formation of stationary waves.

I can describe stationary waves formed on strings, and those produced using microwaves and sound waves.

I can describe stationary waves on strings in terms of harmonics.

I can apply $f = \frac{1}{2l} \sqrt{\frac{T}{\mu}}$ for the first harmonic, define all terms and know their standard units.

I can describe a required practical investigating how the frequency of stationary waves on a string depends on length, tension and mass per unit length.