

## CHAPTER OVERVIEW

### 4: Wave Types

Transverse waves are the type of wave you usually think of when you imagine a wave. The motion of the material constituting the wave is up and down so that as the wave moves forward the material moves perpendicular (or ***transverse***) to the direction the wave moves. Examples of transverse waves include waves on a string and electromagnetic waves. Water waves can be approximately transverse in some cases.

#### Key Terms:

Transverse wave, longitudinal wave, compressional wave, torsional wave, wavelength, wave vector, wave period, amplitude, wave frequency, angular frequency, electromagnetic waves, sound waves, water waves, S-waves, P-waves, Rayleigh waves, Love waves,  $v = \lambda f$ .

#### 4.1: Transverse Waves

##### 4.1.1: Transverse Waves

##### 4.1.2: Transverse Wave Simulation

#### 4.2: Longitudinal Waves

##### 4.2.1: Longitudinal Waves

##### 4.2.2: Longitudinal Wave Simulation

#### 4.3: Other Waves

##### 4.3.1: Torsional Waves

##### 4.3.2: Examples of Waves

##### 4.3.3: Water Wave Simulation

#### 4.4: Electromagnetic Waves

##### 4.4.1: Electromagnetic Waves

##### 4.4.2: Antenna Simulation

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