1.1

* Waves transfer energy
	+ A **wave** is a disturbance that transfers energy from one place to another
		- Can transfer energy over distance without moving matter the entire distance
		- Forces can start a disturbance and send waves through materials
			* Rope wave
			* Water wave
			* Earthquake wave
		- **Medium** – any substance that a wave moves through
		- **Mechanical waves** – waves that transfer energy through matter
	+ Waves can be classified by how they move
		- **Transverse wave** – the direction in which the wave travels is perpendicular, or at right angles, to the direction of the disturbance
		- **Longitudinal waves** – the wave travels in the same direction as the disturbance

1.2

* Waves have measurable properties
	+ Waves have amplitude, wavelength, and frequency
		- **Crest** – the highest point, or peak of the wave
		- **Trough** – the lowest point or valley of the wave
		- **Amplitude** – the distance between a line through the middle of a wave and a crest or trough
		- **Wavelength** – the distance from one wave crest to the very next wave crest
		- **Frequency** – number of wavelengths passing a fixed point in a certain amount of time
	+ Wave speed can be measured
		- Speed = wavelength \* frequency
		- S = ƛ \* *f*

1.3

* Waves behave in predictable ways
	+ Waves interact with materials
		- **Reflection** – bouncing back of a wave after it strikes a barrier
		- **Refraction** – the bending of a wave as it enters a new medium at an angle other than 90 degrees
		- **Diffraction** – the spreading out of waves through an opening or around the edge of an obstacle
	+ Waves interact with other waves