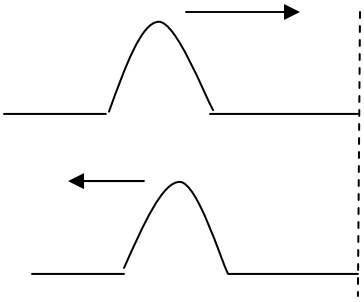
Waves @ Boundaries & Standing Waves

Waves change speeds in different media. Waves can reflect back from a media boundary (the line/boundary where mediums change)

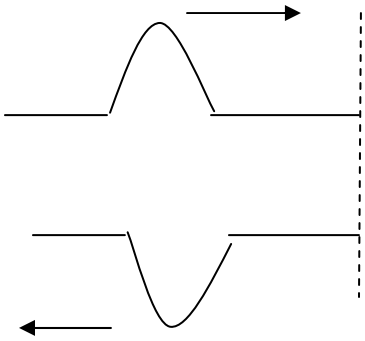
Free-end reflection (remember the wave machine in class?)



A **crest** sent to boundary returns as **crest**.

(and a **trough** reflected back will return as **trough**)

Fixed-end reflection



A **crest** sent to boundary returns as **trough**.

(and a **trough** reflected back will return as **crest**)

Standing waves – a special case of reflection. Copy definition from text

= _____

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**hand out from Mrs. Hudecki re: how standing waves are formed **

Standing Wave Patterns

Use your text to fill in this chart.

Symbol	# nodes between ends	Diagram (draw)	Harmonic (n)	overtone
f_0				
f_1				
f_2				
f_3				

**Make sure you label 'node' and length (L) in terms of wavelength (λ) and harmonic (n). There is a lot to label in the diagram; make sure to include it all!

Fundamental frequency or **first harmonic** (f_0) = the lowest frequency that can produce a standing wave in a given medium

Harmonics = whole-number multiples of fundamental frequency

Overtone = a sound resulting from a string that vibrates with more than one frequency