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When a crest meets a crest its constructive interference

When a crest meets a trough it's a destructive interference

2 identical waves that travel in opposite directions. The 2 waves will add together.

Standing Wave - places where zero disturbance called Nodes happens.

Places where disturbance is at its maximum is called an anti-node.

Standing Waves: only happens because of superposition

FREQUENCY ALWAYS EQUALS SPEED DIVIDED BY THE WAVELENGTH

SPEED IS FIXED

IF THERE IS A NATURAL WAVELENGTH, THEN YOU'LL GET A NATURAL FREQUENCY.

Successive nodes always have ONE antinode in-between them. They are always half a wavelength apart.

RESONANCE

- Something (for some reason) has a "natural" frequency.
- Force it using a different freq
- Doesn't move
- Force it to move using its natural freq, motion gets larger resonance.

The medium controls the speed of the wave.