

# Waves at Boundaries Investigation

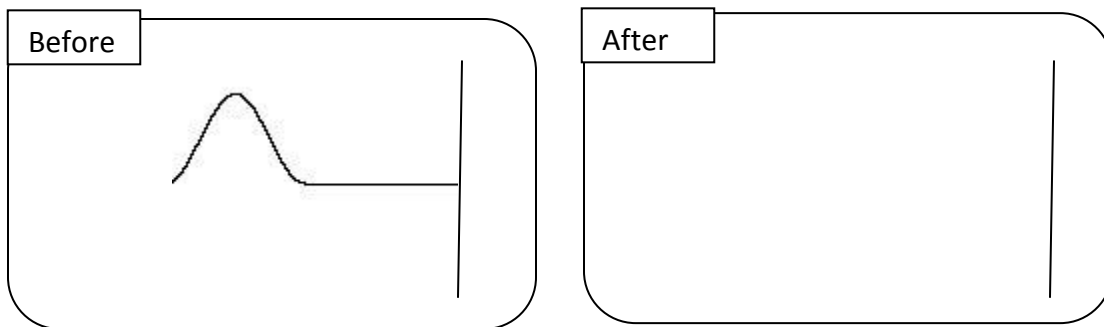
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We've observed a few things about mechanical waves so far:

1. They travel through a medium
2. They travel at a constant speed in a uniform medium
3. The speed of the wave depends on the type of material/medium it is traveling in and the "tension" of the medium. The speed does not depend on the *size or amplitude* of the wave.

## What Happens to Waves When they Reach a Boundary?

### WAVE REFLECTION FROM A SOLID BOUNDARY:



## What Happens When Two Waves Interact With One Another?

Produce pulses simultaneously from both ends of the slinky such that they will meet at about the center and ON THE **OPPOSITE** SIDE OF THE SLINKY?

BEFORE INTERFERENCE:



DURING INTERFERENCE:

AFTER INTERFERENCE:

Type of interference:

Repeat the investigation, this time with pulses ON THE **SAME** SIDE OF THE SLINKY.

BEFORE INTERFERENCE:



DURING INTERFERENCE:

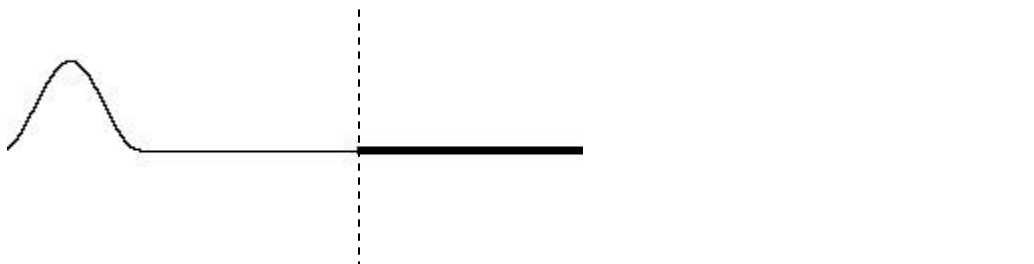
AFTER INTERFERENCE:

Type of Interference:

**What Happens if a Wave Passes from One Medium Into Another Medium?**

Sketch the interaction of a wave when it is incident on a boundary.

From the "light" slinky to small coiled "heavy" spring:



From the small coiled "heavy" spring to "light" slinky:

