

Student Worksheet

Slinky vs. Snaky: Which Spring is Dominant?

Safety

Wear goggles to protect your eyes from the springs, in case your partner releases the spring and it moves toward your face.

Rule: The spring(s) must always stay on the ground.

Materials

- Snaky[®]
- key rings
- Slinky[®]
- box

Procedure

1. Find out all you can about sending waves through a spring.
2. Play with each spring separately, and then connect them together.
3. You will share what you notice with the class (write it down).

Students should notice that a transverse wave does not return when the springs are by themselves. Students may notice that the wave changes (comes back reversed) when two springs are attached. They may also notice that the wave bounces back when they start a wave with the Snaky and it doesn't with the Slinky. Students may contribute some information about compression waves. This is not the focus of this lab, but is good for them to notice.

Challenge #1

What do you need to do to hit a box with the spring(s)?

Students need to make a sharp movement and use more force.

Challenge #2

Move the box about a foot away. What do you need to do to hit a box with the spring(s)?

Students need to make a sharp movement and use even more force.

Challenge #3

Play with the distance between the box and the spring. Do you notice any relationships?

more force on the spring = larger wave (greater amplitude)

less force on the spring = smaller wave (smaller amplitude)