Properties of Waves on Water: Exploration #1

Lab Worksheet: Waves, Wavelength and Amplitude

Read all instructions before beginning.

Materials

- Slinky
- Ruler

Experiment

Amplitude and Wavelength

1. Two students will hold the ends of the slinky – one at each end.

2. Stretch the slinky out without pulling too far.

3. Place the ruler next to the slinky.

4. One student will slide the slinky back and forth (side to side on the floor) while the other student holds the other end of the slinky still. Do this slowly, 3 times, keeping the distance that you move the slinky the same each time.

- *Measure the distance that your hand moves.*
- *Measure the wavelength of one wave.*
- *Turn the ruler and measure the amplitude of the wave.*

Draw a picture in box #1 of the wave you create. Write the amplitude and wavelength of the wave.

5. Repeat #4 but increase how far you move your arm from side to side. Draw the picture of this wave in box #2.

Properties of Waves on Water: Exploration #1

Box #1: First Wave Distance the hand moved to create the wave:_____

Box #2: Second Wave Distance the hand moved to create the wave:_____

Draw a line labeling the wavelength and amplitude of the waves in boxes 1 and 2. Label those lines.

Answer the questions.

When did you use the most energy to move the slinky?

Circle the word to fill in the blanks.

When I moved my arm _(more / less)_, the amplitude of the wave (increased / decreased) in size.