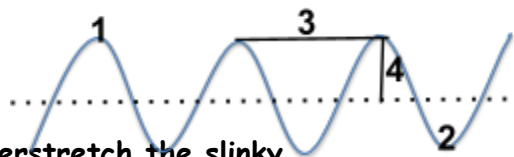


Label the four parts of the wave (use vocab):

**amplitude, crest, trough, wavelength**



**Part 1: Gather materials (slinky). Do not overstretch the slinky.**

1. You and your partner stretch a Slinky **1 meter**. Do not let go! Do not mangle slinky.
2. On the surface, move your hand once very quickly side to side. Try and repeat three times with consistent amplitude. Observe the speed and amplitude of this wave/pulse as it moves.
3. Describe the amplitude of the wave as it travels along the spring towards the **end** of its movement?

The amplitude gets:    **circle one:**    smaller      bigger

Why does the amplitude do this? \_\_\_\_\_

4. Draw what this wave looks like.

5. **KEEP THE WAVE SPEED THE SAME.** Make a wave that has a large amplitude with the Slinky. Then make a wave with a small amplitude.

Which movement required more energy? **Circle one:**    large amplitude    or    small amplitude

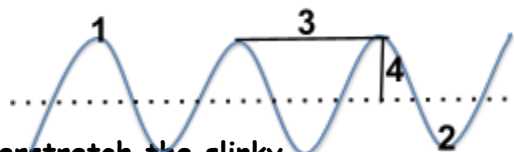
**Make a claim:** The wave with a \_\_\_\_\_ amplitude is carrying more energy.

**Provide your evidence:** My evidence is that when making the large amplitude wave \_\_\_\_\_

**Reasoning:** How does your evidence support your claim? **Based on my evidence, it can be concluded that a** \_\_\_\_\_ **amplitude waves carry more energy because** \_\_\_\_\_

Label the four parts of the wave (use vocab):

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Part 2: Below is a table with information about waves in the ocean:

Wave	Amplitude (meters)	Wavelength (meters)	Energy (Joules)
A	0.20	3.0	300
B	0.20	7.0	300
C	0.50	3.0	1000
D	0.50	7.0	1000

Claim: Which wave characteristic does the energy of the wave depend on? (it is either amplitude or wavelength) The energy of a wave depends on \_\_\_\_\_.

Draw waves A and B- Use a darker line for B



These waves have the same \_\_\_\_\_ and the energy for both A and B is \_\_\_\_\_. Did the different wavelengths change the energy? \_\_\_\_

Draw waves C and D- Use a darker line for D

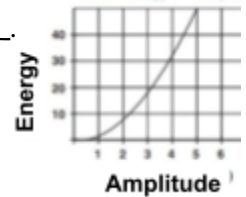


These waves have the same \_\_\_\_\_ and the energy for both C and D is \_\_\_\_\_. Did the different wavelengths change the energy? \_\_\_\_

**Reasoning:** Based on my evidence, we must conclude that energy depends on \_\_\_\_\_ because the larger amplitude had the \_\_\_\_\_ energy regardless of the \_\_\_\_\_.

**Part 3:** Look at the graph and fill in the blank: As amplitude increases, energy \_\_\_\_\_.

**Part 4.** At a table using one board and books make your slinky "walk" four steps.



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Draw waves C and D- Use a darker line for D



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