Date: _____

LAB 30 EXPERIMENT

MODIFYING WAVE AMPLITUDE

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Goal

Determine the relationship between the force applied to displace a spring and the amplitude of the wave created.

- 1. What is the independent variable in this lab?
- 2. What is the dependent variable in this lab?

Hypothesis

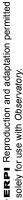
I think that ______Because

Materials

- 10-m spring or rope
- masking tape or chalk
- 1-m ruler or tape measure

Procedure

- 1. Assign tasks to each team member.
 - Experimenter A: Hold one end of spring.
 - Experimenter B: Hold other end of spring.
 - Experimenter C: Observe and record results.
- 2. Lay out the spring on the ground.
- 3. Stretch the spring to a length of 5 m.
- 4. Mark the position of the spring on the ground using masking tape or chalk.
- 5. Create a wave by displacing the spring sharply to the right.
- **6.** Mark the greatest transverse displacement of the wave.
- 7. Measure and record the amplitude of the wave.
- **8.** Repeat steps 5 to 7 at least twice by modifying the force of displacement used to create a wave.
- 9. Put away materials.



Name:	Group:	Date:

Results

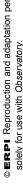
Record your results in the table below. Give the table a title.

Title:

Force of displacement (qualitative evaluation)	Amplitude of wave (cm)

Analysis of the results

- What conditions result in a wave of the greatest amplitude?
- 2. According to your measurements and observations, what is the relationship between the amplitude of a wave and the energy it transports?
- 3. What type of waves are created in this lab? Explain your answer.
- 4. What are the possible sources of error in this lab?
- 5. How could you improve the protocol for this lab?



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Name:	Group:	Date:
Conclusion		
1. Complete the following sentence:		
To increase the amplitude of a wave,		of energy must be transmitted to it.
2. Was your hypothesis confirmed or not? Example 2.	xplain your an	swer.
Application		
Manifestations of energy transported by wave that makes use of this energy or a natural phe		• • • • • • • • • • • • • • • • • • • •