

**Physics**  
**Speed of a Wave Pulse Lab**

**Name** \_\_\_\_\_  
**Date** \_\_\_\_\_ **Block** \_\_\_\_\_

**Objective 1:** Determine the speed of a wave pulse

1. Briefly describe your procedure (i.e. what was measured, what was calculated, etc.).

2. What is the speed of the wave pulse?

**Objective 2:** “Change” the **amplitude** of the pulse and determine if that effects the speed.

3. Briefly describe your procedure (i.e. how the amplitude was changed, what was measured, what was calculated, etc.).

4. What is the speed of the wave pulse?

**Objective 3:** “Change” the medium the pulse travels through and determine if that effects the speed.

5. Briefly describe your procedure (i.e. how the amplitude was changed, what was measured, what was calculated, etc.).

6. What is the speed of the wave pulse?

## Using PhET Waves on a String Simulation

- From the class website click the link for PhET
  - Click on Play with Simulation
  - Click Physics
  - Click Sound & Waves
  - Click Waves on a String, then **Run in HTML 5**
  - Make the following adjustments with the simulation:
    - Select the **Pulse** option from upper left
    - Select the **Slow Motion** option from below string
    - Set **Damping** to **none**
    - Select **Rulers & Timer** from bottom right
7. From the default settings provided by the simulation determine the speed of the wave pulse (amplitude 0.75 cm, tension high). Hit the green button below the string (left side) to pulse. *Show your calculations.*
8. Change the amplitude. Write down your selected amplitude \_\_\_\_\_. Determine the speed of the wave pulse. *Show your calculations.*
9. Does changing the amplitude change the wave speed of the pulse?
10. Return the amplitude to the default setting of 0.75 cm. Now change the tension. Write down how you changed the tension \_\_\_\_\_. Determine the speed of the wave pulse. *Show your calculations.*
11. Does changing the tension change the wave speed of the pulse?