

Name:

Date:

Class:

PHET: Intro to Waves

Simulation: https://phet.colorado.edu/sims/html/waves-intro/latest/waves-intro_all.html

Use the full Waves Intro simulation above to explore how to make sound and light waves of varying wavelengths. Then answer the questions below:

1. Compare the representations of water, sound, and light waves. Describe the similarities and differences with images from the simulation to support your ideas.

Screenshot/copy/paste images here

2. Experiment by changing the amplitude of water, then sound, then light. How do they compare? What happens when you change the amplitude (high amplitude vs. low amplitude)? Describe the similarities and differences with images from the simulation to support your ideas.

Screenshot/copy/paste images here



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3. Experiment by changing the frequency of water, then sound, then light. How do your ideas for measuring water and sound waves compare? Describe the similarities and differences with images from the simulation to support your ideas.

Screenshot/copy/paste images here

4. SOUND: Grab the blue square tool . Move the gray wire close to the wave source and the black wire farthest from the wave source. Turn on . What do you notice? How does the measurement compare closer to the wave source to farthest from the wave source? What is happening to the particles? Do the same for LIGHT and compare.

Screenshot/copy/paste images here

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5. Do waves have energy? Do waves transfer energy? How? Draw, write, and/or label your thoughts below.

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Using the space below, draw a model to summarize the key ideas that you want to remember about the relationships between water, sound, and light waves. Include labels, colors, and a key if needed.