**Wave Intro Remote Lab Lesson Design** by Trish Loeblein

**Note about prior learning:** Students should have completed[Waves on a String Remote Lab](https://docs.google.com/document/d/1_qiaLNltKZ3zrMiI0U0UOJqcWUGz6dz0yanoWsVhriQ/edit?usp=sharing)

<https://phet.colorado.edu/en/contributions/view/2819> or lessons with similar learning goals.

**From** [**Sim page**](https://phet.colorado.edu/en/simulation/waves-intro)

**Topics** Frequency, Amplitude, Wave Speed. Wavelength, Water, Sound, Light

**Description** Make waves with a dripping faucet, audio speaker, or laser! Adjust frequency and amplitude, and observe the effects. Hear the sound produced by the speaker, and discover what determines the color of light.

**Sample Learning Goals**

* Make waves with water, sound, and light and see how they are related.
* Discuss wave properties using common vocabulary.
* Explain how changing the frequency and amplitude affects the characteristics of the wave.
* Design an experiment to measure the speed of the wave.

Notes: In class, I would just make the challenges I put in this lab by projecting the questions. We would have class discussion during which groups would share out results. I have assumed in my writing that students will use a text or online research to define words that they do not know like “wavelength” and “period.”

Everything in this lab could be done using the Waves screen in the [Wave Interference](https://phet.colorado.edu/sims/html/wave-interference/latest/wave-interference_en.html) simulation.

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