Act 1

The speed of sound in air is a bit over **300 m/s**, and the speed of light in air is about **300,000,000 m/s**.

Suppose we make a sound wave and a light wave that both have a wavelength of **3 meters**.

1. What is the ratio of the frequency of the light wave to that of the sound wave?

    (a) About **1,000,000** (b) About **0.000001**   (c) About **1000**

2. What happens to the **frequency** if the light passes under water?

    (a) Increases   (b) Decreases   (c) Stays the same

3. What happens to the **wavelength** if the light passes under water?

    (a) Increases   (b) Decreases   (c) Stays the same