Act 1 - Solution

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.

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