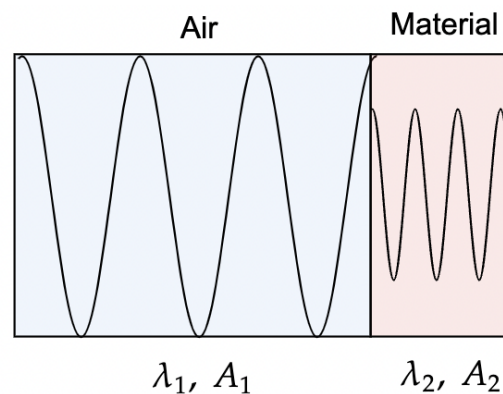


A92: The Index of Refraction

Tutorial: <https://youtu.be/V6Gpu7n811Q>

Part I: Do Now (10:23 - 10:28 | Individual)

The index of refraction, n , is a property of a medium or a material. The higher it is, the slower light travels in that medium (since $n = \frac{c}{v}$). Air has $n = 1$, which means light travels pretty fast through air. But water has $n = 1.33$, meaning water is almost like a traffic jam for light, slowing it down, forcing it to *bend*! Not only that, but since the speed of light changes, so does the wavelength (since $v = f\lambda$) and amplitude! But the frequency stays constant (think about why.)



1. Calculate $\lambda_1 =$ _____ cm and $\lambda_2 =$ _____ cm
 - a. Hint: Use your ruler and measure crest-to-crest!
2. Calculate $\lambda_1 =$ _____ cm and $\lambda_2 =$ _____ cm (Use $\lambda = \frac{\text{distance}}{\text{cycle}}$)
 - a. Hint: Your answers for 1 & 2 should match!
3. Calculate $A_1 =$ _____ cm and $A_2 =$ _____ cm