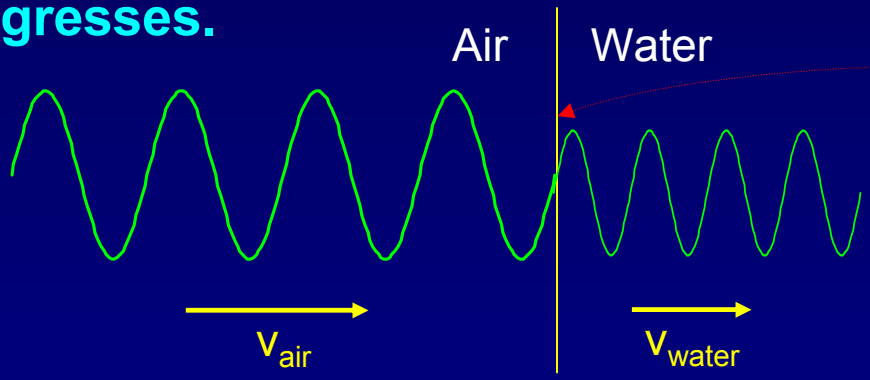
Act 1 - Discussion

Why does the wavelength change but not the frequency?

The frequency does not change because the time dependence in the air must match the time depencence at the air/water boundary. Otherwise, the wave will not remain continuous at the boundary as time progresses.



Continuity of the wave at the air-water interface (at all times) requires that the frequencies be the same.

Question: Do we 'see' frequency or wavelength?