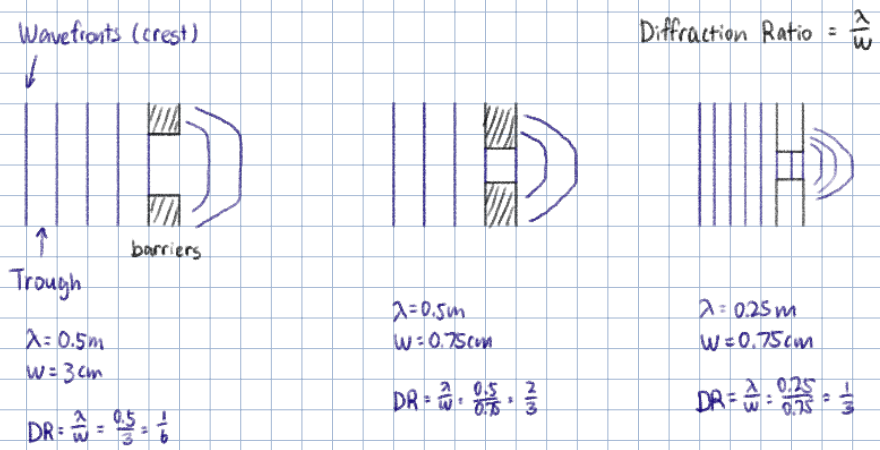
The bending and spreading of a wave as it passes through an opening. The amount of bending is dependent on the size of the opening (w) and the wavelength of the wave (λ)



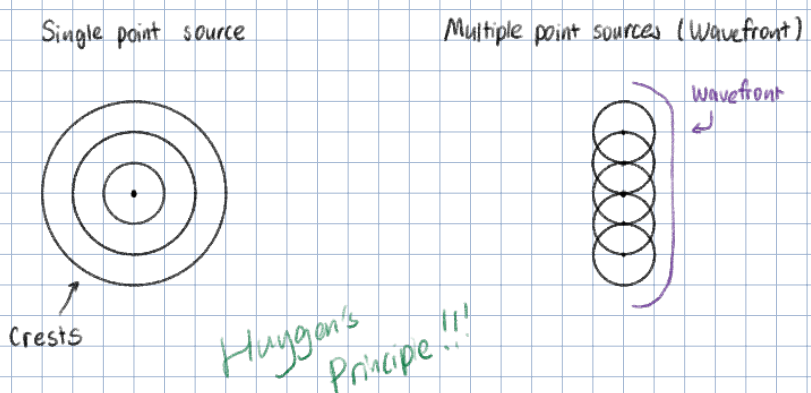
∴ The higher the diffraction ratio, the more bend to the wave.

* To see diffraction, λ and w, have to be of similar magnitudes.

Why do waves bend??

Imagine each particle of a wave as its own point source.

(Examples: ball bobbing in water, dip your finger in water)



Two point source interference

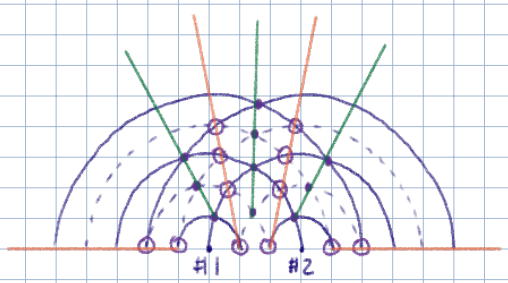
Two point sources create the two circular wave patterns which interfere to create areas of total and partial constructive and destructive interference

Crest

Trough

• Points of total constructive interference

○ Points of total destructive interference



Nodal Lines

Area of total Destructive Interference

Supercrest and Supertrough

Maximum Amplitude