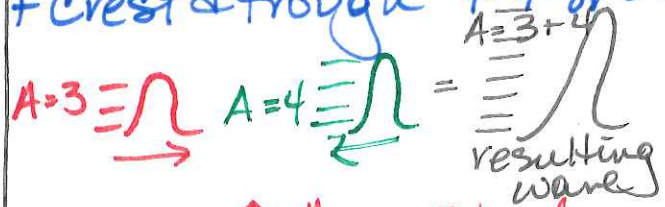
Unit: EM
Topic: Interference

Constructive

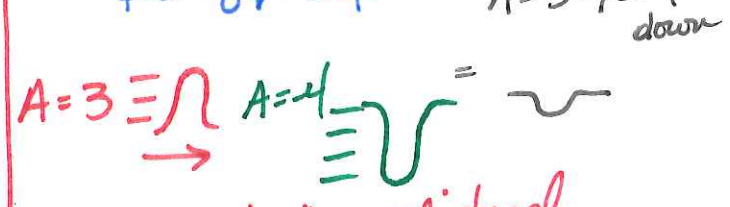
Waves in phase (in sync)
Additive
+ Crest + trough + + or - -



↑ Amplitude

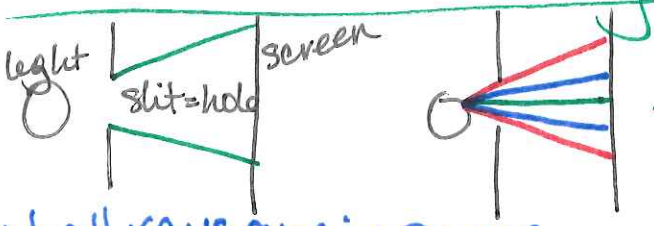
Destructive

waves out phase (out of sync)
Subtractive
+ - or - +



↓ Amplitude

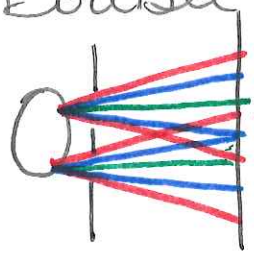
Diffraction Grating = Barrier to Light



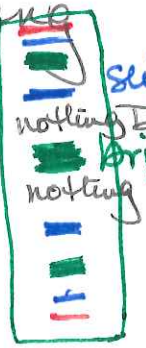
creates a pattern on screen

not all rays are in sync
Y: outside rays longer further travel; V=C

Double Slit Experiment by Young



where rays "interact"
⇒ interference
if rays in sync = Const ⇒ bright
if rays out sync = Destr ⇒ darker
+ - Amp will cancel



How Change pattern

smaller = smaller slits
slits closer together
use shorter λ
Y: crest + trough closer
more possibility to interf.

wider = opposite