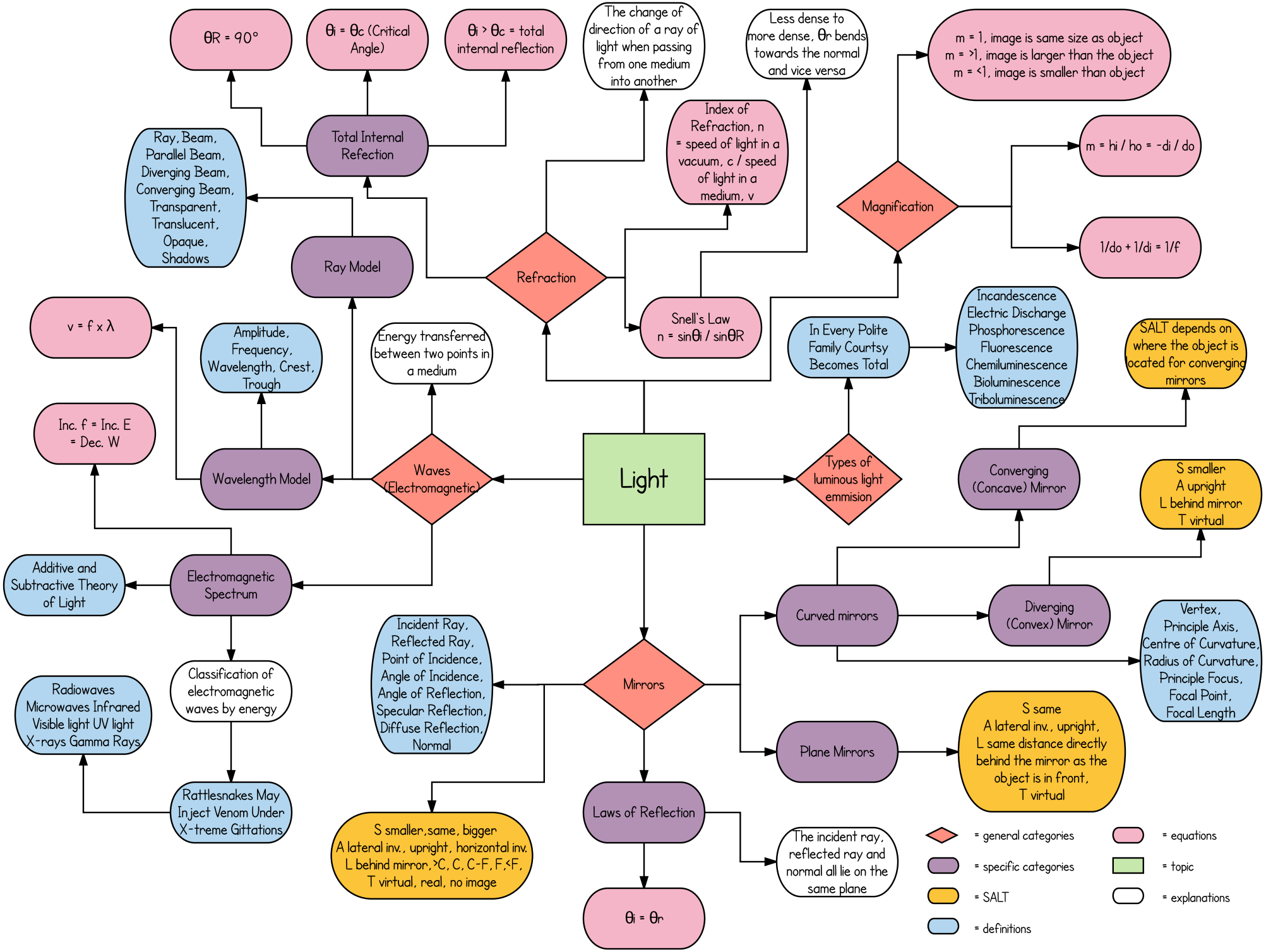
Light
Refraction
The change of direction of a ray of light when passing from one medium into another
Less dense to more dense, θr bends towards the normal and vice versa
Index of Refraction, n = speed of light in a vacuum, c / speed of light in a medium, v
Snell's Law n = sinθi / sinθR
Total Internal Refection
θR = 90°
θi = θc (Critical Angle)
θi > θc = total internal reflection
Ray Model
Ray, Beam, Parallel Beam, Diverging Beam, Converging Beam, Transparent, Translucent, Opaque, Shadows
Waves (Electromagnetic)
Energy transferred between two points in a medium
Wavelength Model
Amplitude, Frequency, Wavelength, Crest, Trough
v = f x λ
Inc. f = Inc. E = Dec. W
Electromagnetic Spectrum
Additive and Subtractive Theory of Light
Classification of electromagnetic waves by energy
Radiowaves Microwaves Infrared Visible light UV light X-rays Gamma Rays
Rattlesnakes May Inject Venom Under X-treme Gittations
Types of luminous light emmision
In Every Polite Family Courtsy Becomes Total
Incandescence Electric Discharge Phosphorescence Fluorescence Chemiluminescence Bioluminescence Triboluminescence
Mirrors
Incident Ray, Reflected Ray, Point of Incidence, Angle of Incidence, Angle of Reflection, Specular Reflection, Diffuse Reflection, Normal
Laws of Reflection
θi = θr
The incident ray, reflected ray and normal all lie on the same plane
S smaller,same, bigger A lateral inv., upright, horizontal inv. L behind mirror,>C, C, C-F, F,<F, T virtual, real, no image
Curved mirrors
Plane Mirrors
S same A lateral inv., upright, L same distance directly behind the mirror as the object is in front, T virtual
Converging (Concave) Mirror
Diverging (Convex) Mirror
Vertex, Principle Axis, Centre of Curvature, Radius of Curvature, Principle Focus, Focal Point, Focal Length
S smaller A upright L behind mirror T virtual
SALT depends on where the object is located for converging mirrors
Magnification
m = 1, image is same size as object
m = >1, image is larger than the object
m = <1, image is smaller than object
m = hi / ho = -di / do
1/do + 1/di = 1/f
= general categories
= specific categories
= SALT
= definitions
= equations
= topic
= explanations