

Geometric optics cont.

Concave Mirror

Concave mirrors are mirrors that curve away from the object. Concave mirrors always produce the same kind of image.



Image Credit: GoodandBeautiful, CC BY-SA 2.0

Resulting image: virtual, upright, enlarged

Convex Mirror

Any surface curving away from the object. Light rays will never together at the focus. There are a couple different configurations that are important.

Object Between Focus and Center

Resulting image: real, inverted, reduced

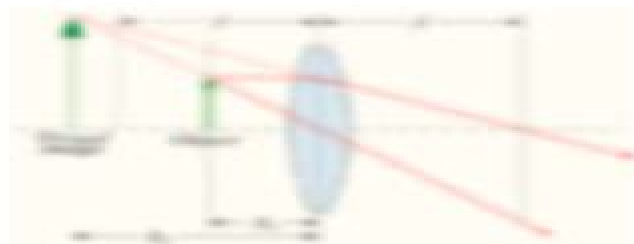


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Convex Lens

Any surface is bending away from the light rays will diverge after passing through the lens. Diverging lenses always form a virtual, upright, diminished image.



Image Credit: GoodandBeautiful, CC BY-SA 2.0

Object Beyond Focus

Resulting image: virtual, upright, magnified



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Snell's Law

Note: The Snell's Law equation shown here is actually an approximation that assumes the rays are close to the normal.

Snell's Law:

$$n_1 \sin \theta_1 = n_2 \sin \theta_2$$

n = index of refraction

θ = angle from normal

Snell's Law:

$$\frac{1}{f} = (n - 1) \left(\frac{1}{R_1} + \frac{1}{R_2} \right)$$

f = focal length

R = radius of curvature

$$\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$$

d_o = distance to object

d_i = distance to image

Notes

Geometric Optics Study Guide And Review Answers

J Rink



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web lab investigation in today s experiment you will design and execute an experimental procedure to determine which of three ionic compounds is most suitable for use in a hand warmer the three compounds you will use is determined by the group number you are assigned the ideal hand warmer