

Lenses

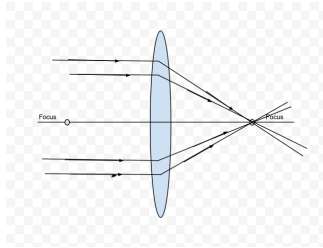
Lenses

Objectives

Define lens.

Identify properties of converging & diverging lenses.

Draw ray diagrams of real images in converging lenses.

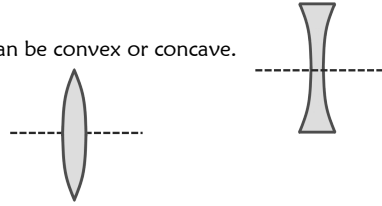


Lens

A transparent material with at least one curved surface that causes light rays to bend, or refract, as they pass through.

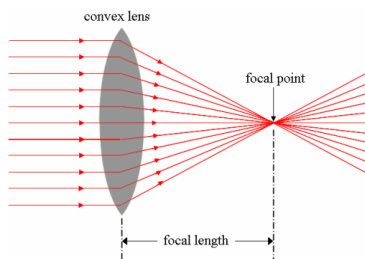
The **image** that a lens forms depends on the shape of the lens.

A lens can be convex or concave.



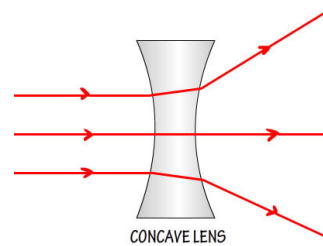
Converging Lens

Convex lens - thicker in the middle than at the edges
- light rays focus @ a single pt. (converge)

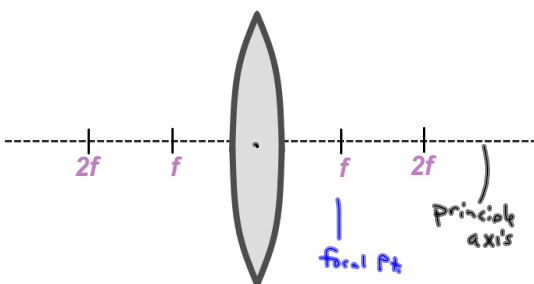


Diverging Lens

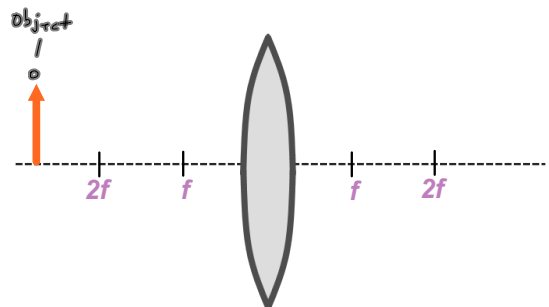
Concave lens - thinner in the middle and thicker at the edges
- light rays spread out (diverge)



Ray Diagram - Convex Lens



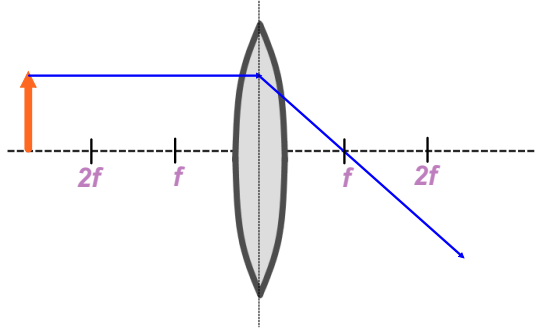
Ray Diagram



Lenses

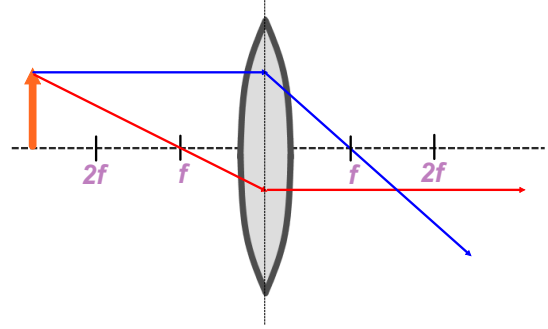
Ray Diagram Rule #1

1. Parallel to focus



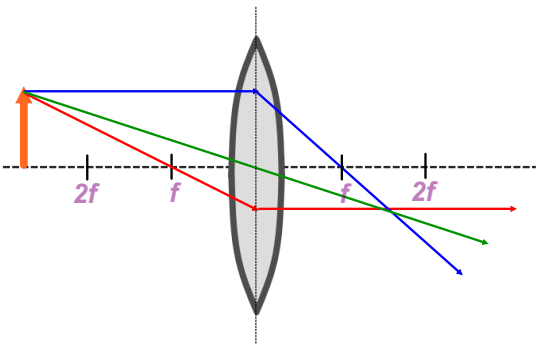
Ray Diagram Rule #2

2. Through f , parallel

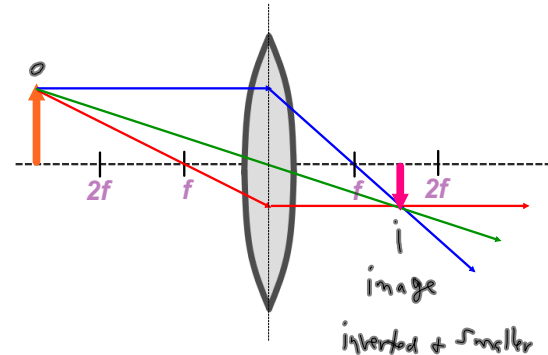


Ray Diagram Rule #3

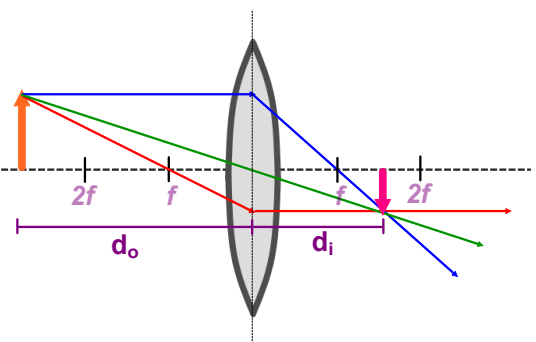
3. Through center



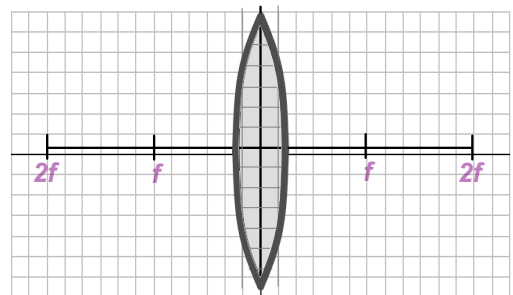
Ray Diagram



Ray Diagram



Ray Diagram for Lab



Lenses

Assignments . . .



- Lab: Random Rays

