

Lenses and Light

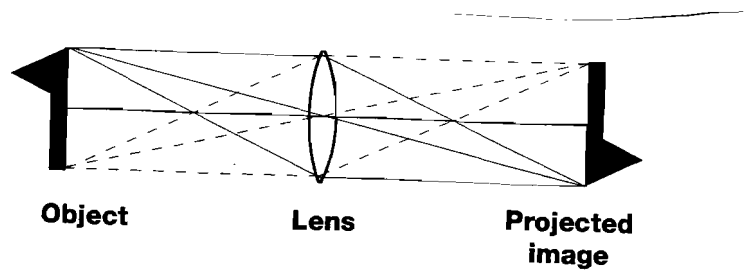


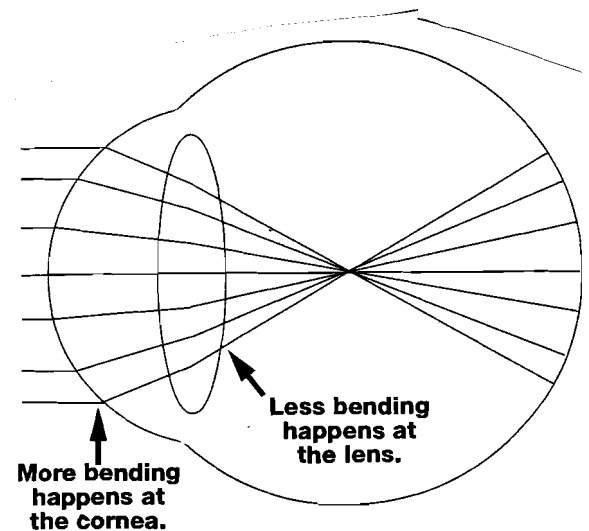
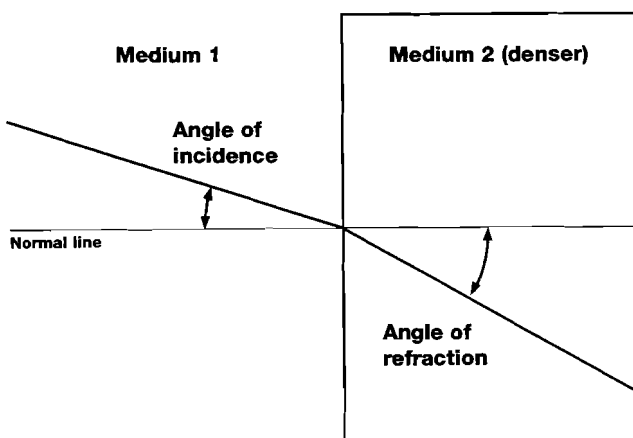
Image: representation of an object: The object formed when light rays come together to focus.

1. Light travels in a straight line until it hits something
2. Light hits curved surface of a lens, it passes through, but not straight through. Lenses bend light causing it to travel in a new direction

Types of Light:

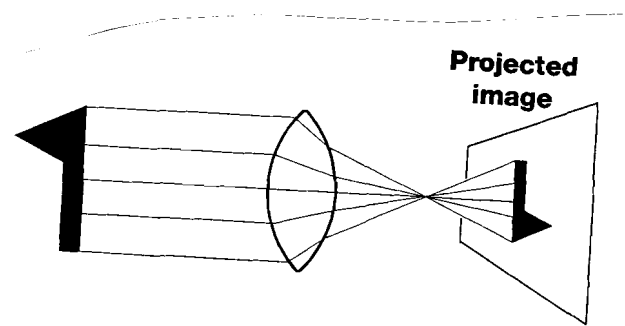
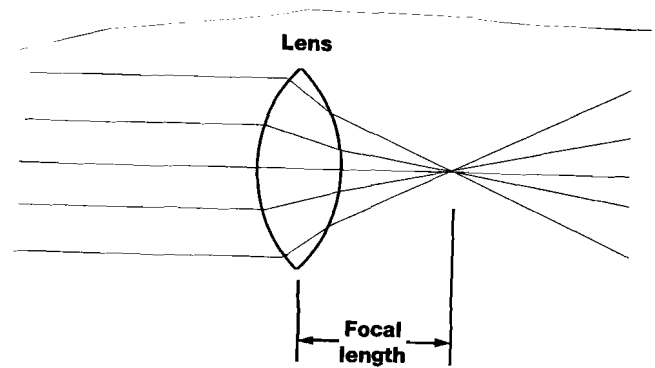
1. Reflected Light: Light that bounces off when light is shined on an object
2. Radiant Light: Light made by an object: light bulb, sun, fire
3. Transmitted Light: Light shines through an object and "lights" up the object

Projected Image: Using a lens to form an image on a screen (overhead); An inverted, reversed image formed on a surface by light passing through a convex lens.



Vocabulary Words:

1. Refraction
2. Angle of Incidence
3. Angle of Refraction
4. Lens
5. Focus
6. Focal Length (Principal Focus)
7. Image Focus Distance
8. Myopia
9. Hyperopia
10. Astigmatism



Vision Multimedia:

1. <http://wtbscience.com>
2. 8th Life Science- Foss Brain & Senses link
3. Human Brain & Senses Multimedia- Username: wtbscience
Password: bloomingdale- Enter the Program- Continue
4. Optics Bench- Bending Light Through Materials
5. Explore how light bends as you change the materials- click on the information button to learn more about this activity
6. Go back to the Optics Bench- Optical Lenses
7. Explore how light bends through different lenses (convex & concave) - click on the information button to learn more about this activity
8. Optics Bench- Visit to the Optometrist
9. Explore the near and far vision of patients; add convex and concave lenses to see if their vision will improve. Make sure to click on "See an Optometrist in action"
10. Write a journal entry about what you learned about how light travels through a lens. Make sure to include how convex and concave lenses work.