

Sound, Light, Mirrors, & Lenses

Section 4: Mirrors

Light waves spread in all directions from a light. A **mirror** is a smooth surface that reflects light to form images. There are three types of mirrors. A **plane mirror** is flat and smooth. When you look in a plane mirror, your reflection appears upright. A **concave mirror** is when the mirror surface is curved inward. The image depends on the location of the object relative to the focal point, which is the point at which light rays are reflected. The focal length is the distance from the center of the mirror to the focal point. A **convex mirror** is when the mirror is curved outward. Light rays that hit these mirrors spread apart after they are reflected. The image that is reflected is always upright and smaller than the actual object. Objects in a convex mirror also look farther away than they really are.

Mirrors can create both virtual and real images. A virtual image is any image of an object that cannot be focused, whereas a real image is an image that can be focused. Both plane mirrors and convex mirrors create virtual images. Mirrors that have curved surfaces like a concave mirror can be used to create real images.



Plane Mirror - Flat, smooth mirror
- image appears upright

Concave Mirror - Mirror surface is curved inward - image depends on location of object relative to focal point



Convex Mirror - Mirror curved outward - diverge light rays when reflected and show virtual images

Review:

1. Define mirror.
2. Identify the three types of mirrors.
3. What's the difference between a real and virtual image?