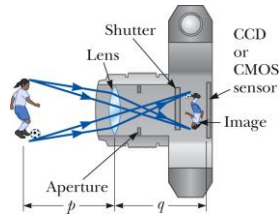


Camera

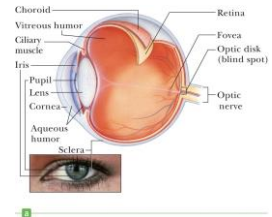
- Lens projects real image onto sensor or film
- Aperture controls amount of light and depth of field
- Shutter controls when and for how long the image is allowed to reach the sensor or film



Section 25.1

The Eye

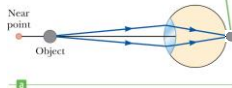
- The normal eye focuses light and produces a sharp image.
- Essential parts of the eye
 - Cornea – light passes through this transparent structure
 - Aqueous Humor – clear liquid behind the cornea



Section 25.2

Farsightedness

When a farsighted eye looks at an object located between the near point and the eye, the image point is behind the retina, resulting in blurred vision.

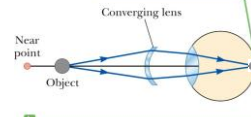


- Can usually see far away objects clearly, but not nearby objects
- Object is “too close”, so the image is “too far”.
- The image focuses behind the retina.

Section 25.2

Correcting Farsightedness

A converging lens causes the image to focus on the retina, correcting the vision.

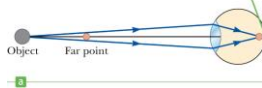


- Image Rays don't converge enough to focus, so make them converge more with a converging lens.
- The eye looks at a virtual image (not shown) at the near point.

Section 25.2

Nearsightedness

When a nearsighted eye looks at an object located beyond the eye's far point, the image point is in front of the retina, resulting in blurred vision.

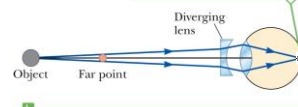


- Can see nearby objects, but not far away objects.
- The object is “too far”, so the image is “too close” to the lens.
- The image focuses in the front of the retina.

Section 25.2

Correcting Nearsightedness

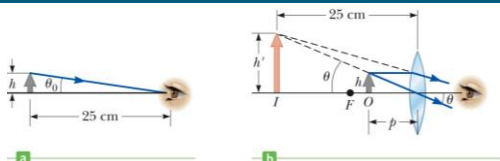
A diverging lens causes the image to focus on the retina, correcting the vision.



- A diverging lens can be used to correct the condition.
- The eye looks at a virtual image (not shown) at the far point.

Section 25.2

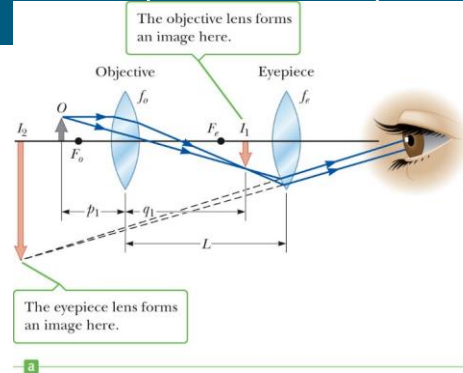
The Size of a Magnified Image



- Without the lens, an object is placed at the near point, the angle subtended is a maximum.
 - The near point is about 25 cm
- With the lens, the object is placed near the focal point of a converging lens, the lens forms a virtual, upright, and enlarged image.

Section 25.3

Compound Microscope



Refracting Telescope

