

# Eye Model Worksheet

## Normal Eye

Length: \_\_\_\_\_

Distance between the “E” and the “eye’s” lens when image is in focus: \_\_\_\_\_

Observations of the image:

1. Compare the length of the normal eye to the position of the “E” in relation to the “eye’s” lens.
2. (*Optional*) Refer to your physical science or physics textbook. Calculate the focal length of the “eye’s” lens.

## Squeezed Eye

Length: \_\_\_\_\_

Initial observations of the image on the “retina”:

Lens used to bring the “E” into focus: \_\_\_\_\_

Distance between the external lens and the “eye’s” lens when the image is in focus: \_\_\_\_\_

Final observations of the focused image using a corrective lens:

3. Which eye disorder is being demonstrated when the eye model is shortened?
4. Draw a sketch of the eye problem that occurs when the eye is “too short.” Do the light rays focus before the retina or behind the retina? Which lens type, concave or convex, helped correct this vision problem? Include the correct lens type in your drawing and explain how the lens corrected the vision.
5. (*Optional*) Refer to your physical science or physics textbook. Calculate the final image location of the lens combination. The focal length of the convex corrective lens is 15 cm. The focal length of the concave corrective lens is -15 cm.

## Elongated Eye

Length: \_\_\_\_\_

Initial observations of the image on the “retina”:

Lens used to bring the “E” into focus: \_\_\_\_\_

Distance between the external lens and the “eye’s” lens when the image is in focus: \_\_\_\_\_

Final observations of the focused image using a corrective lens:

6. Which eye disorder is being demonstrated when the eye model is elongated?
  
  
  
  
  
  
  
  
  
  
7. Draw a sketch of the eye problem that occurs when the eye is “too long.” Do the light rays focus before the retina or behind the retina? Which lens type, concave or convex, helped correct this vision problem? Include the correct lens type in your drawing and explain how the lens corrected the vision.
  
  
  
  
  
  
  
  
  
  
8. (*Optional*) Refer to your physical science or physics textbook. Calculate the focal point of the lens combination.