

Name \_\_\_\_\_



## Why, Eye, Why - The Story Behind Corrective Lenses

By Jennifer Kenny

All eyes have certain parts. Eyes can be different in certain respects as well. Do you have blue eyes, or brown eyes, or even hazel eyes? That colored part of the eye is the iris. The center part, which appears to be a black dot, is called the pupil and it lets light into the eye. The cornea is the clear tissue and it helps the eye focus. Finally, the retina is at the very back of the eye.



When all of these parts work correctly, a person can see. The eyes capture an image which goes to the brain to be interpreted. The bending of light rays, or refracting, is important so the image can be focused sharply on your retina. When there's a problem with vision, it is often related to refracting. Many adults now get laser surgery to fix some of these problems. However, laser surgery is not right for children because they still have growing to do. Instead, corrective lenses are often the tools to correct the problems so they can see most clearly.

Two of the most common refractive problems are nearsightedness and farsightedness. James is nearsighted. He has no problem reading his book, but he can't see the blackboard very well. On the other hand, his father is farsighted. He can see the street signs clearly, but he can't see the words well on the newspaper right in front of him. Both use eyeglasses, although different ones, to correct their vision. In nearsightedness and farsightedness, the image is not correctly focused on the retina. In nearsightedness, the image is focused in front of the retina, but in farsightedness, the image is focused behind.

Other people have a refractive problem known as astigmatism. Things appear blurry because the cornea is an uneven shape causing

the light to bend in different directions.

People realize they are having trouble seeing clearly in different ways. A child may start doing poorly in school. A grandfather might have trouble reading a medicine bottle. An adult may fail an eye exam at the motor vehicle office. A child may have a problem detected at a routine, yearly check-up. However, in order to correct the problem with eyeglasses or contact lenses, each will need a vision prescription made especially for them.

A vision prescription is not medicine. It is a piece of paper written out by an ophthalmologist (a doctor who can also do eye surgery) or optometrist (a licensed professional who specializes in eye exams). The numbers on the paper explain to an optician the kinds of eyeglasses or contact lenses that need to be made for a person to correct his or her problem.

Whether an ophthalmologist or optometrist gives a person an eye exam, he or she will probably do the same thing. An eye chart will be used as well as something to read very closely. A special gadget that looks like big glasses will be placed in front of the person's face. Lenses are switched in and out until images are perfectly clear to the patient. Then the prescription is written out based on these results.

When the prescription is taken to the optician, eyeglasses or contact lenses can be chosen. Some contact lenses are thrown away after wearing them. Some need to be cleaned after being worn in order to be reused. An optician will show a person how to wear them and take care of them. For eyeglasses, the choice can be about the material, such as safety glass or plastic, and about the frames. Again, the optician can teach the person how to clean and protect the eyeglasses.

Eyes all have the same parts. However, eyes come in different colors and may let some people see better than others. Some people need glasses; some don't. For those who need them, corrective lenses help the world look a lot better!

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## Questions

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- \_\_\_\_\_ 1. What does the title tell you about the passage?
- A. The passage is about correcting eye problems.
  - B. The passage is about ears.
  - C. The passage is about eye color.
  - D. The passage is about model eyes.
- \_\_\_\_\_ 2. Which part of the eye is the clear tissue that helps the eye to focus?
- A. cornea
  - B. retina
  - C. iris
  - D. pupil
- \_\_\_\_\_ 3. What is the bending of light rays called?
- A. interpreting
  - B. coloring
  - C. raying
  - D. refracting
- \_\_\_\_\_ 4. Laser surgery is right for correcting children's vision problems.
- A. True
  - B. False
- \_\_\_\_\_ 5. Which problem means Mary can see her book clearly, but not the screen in the movie theater?
- A. astigmatism
  - B. blue eyes
  - C. nearsightedness
  - D. farsightedness
- \_\_\_\_\_ 6. A vision prescription is written out for an antibiotic.
- A. True
  - B. False
- \_\_\_\_\_ 7. Which eye specialist can complete an eye exam and perform eye surgery?
- A. optometrist
  - B. school nurse
  - C. ophthalmologist
  - D. optician