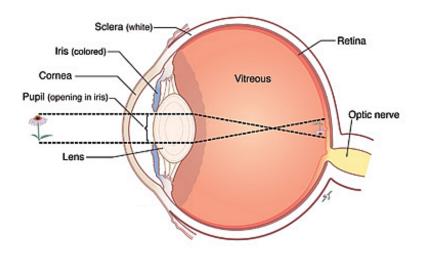


The Basics of Seeing



From the moment you wake up in the morning to the time you go to sleep at night, your eyes are acting like a video camera. Everything you look at is then sent to your brain for processing and storage much like a video cassette. This is a very simplified explanation, but as you read on, you will discover why the sense of sight is actually considered the most complex of the five senses.

How Your Eyes Work

Take a moment to locate an object around you. Do you know how you are able to see it? Would you believe that what you are actually seeing are beams of light bouncing off of the object and into your eyes? It is hard to believe, but it is true. The light rays enter the eye through the cornea, which is a thick, transparent protective layer on the surface of your eye. Then the light rays pass through the pupil (the dark circle in the center of your eye) and into the lens.

When light rays pass through your pupil, the muscle called the iris (colored ring) makes the size of the pupil change depending on the amount of light that's available. You may have noticed this with your own eye if you have looked at it closely in a mirror. If there is too much light, your pupil will shrink to limit the number of light rays that enter. Likewise, if there is very little light available, the pupil will enlarge to let in as many light rays as it can. Just behind the pupil is the lens and it focuses the image through a jelly-like substance called the vitreous humor onto the back surface of the eyeball, called the retina.

The retina, which is the size of your thumbnail, is filled with approximately 150 million light-sensitive cells called rods and cones. Rods identify shapes and work best in dim light. Cones on the other hand, identify color and work best in bright light. Both of these types of cells then send the information to the brain by way of the optic nerve. The amazing thing is, when they send the image to the brain, the image is upside down! It is the brain's job to turn the image rightside up and then tell you what you are looking at. The brain does this in a specific place called the visual cortex.