

Project:

(how we see with our eyes)

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Grade 7 b

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Have you ever wondered how we are able to see the world around us? Our eyes are truly incredible organs that allow us to see everything from the smallest details to the grandest landscapes. In this project, we will learn all about the anatomy of the eye and how it works to create the images we see.

Humans have binocular vision. That means both eyes work together. They are placed at the front of our heads and we are good at telling how far away something is and how fast it is moving. In the past, our vision helped us to hunt in order to survive. We no longer hunt in the same way but we use our vision to help us in many different ways in our daily lives. With our eyes you can see an object as small as 0.1mm across. You can tell the difference between 10 million different shades of color. It seems impossible doesn't it? Our eyes are important and they need protection from injury.

The Anatomy of the Eye

The eye is a complex structure made up of many different parts. These parts include the cornea, the iris, the pupil, the lens, the retina, and the optic nerve.

The Cornea

The cornea is the clear outer layer of the eye. It protects the eye and helps to focus the light that enters it.

The Iris and Pupil

The iris is the colored part of the eye that surrounds the pupil, which is the black center of the eye. The size of the pupil changes to let in more or less light, and the iris helps to control this process.

The Lens

The lens is a clear structure located inside the eye that helps to focus the light onto the retina. The lens can change shape to adjust the focus of the light, allowing us to see objects at different distances clearly.

The Retina

The retina is a layer of cells at the back of the eye that contains photoreceptor cells called rods and cones. These cells detect light and send signals to the brain through the optic nerve.

Rods and Cones

Rods and cones are two types of photoreceptor cells in the retina. Rods are more sensitive to light and help us see in low-light conditions, while cones are responsible for color vision and visual acuity.

The Optic Nerve

The optic nerve is a bundle of nerve fibers that carries the signals from the retina to the brain. The brain then processes this information to create the images that we see.

How We See

When light enters the eye, it is focused by the cornea and lens onto the retina. The photoreceptor cells in the retina detect the light and send signals to the brain through the optic nerve. The brain then processes this information to create the images that we see.

The Importance of Eye Health

Our eyes are incredibly important organs, and it's essential that we take good care of them. This means eating a healthy diet, wearing sunglasses to protect our eyes from harmful UV rays, and getting regular eye exams.

Eye Safety Tips

In addition to taking care of our eyes, it's also important to protect them from injury. This means wearing protective eyewear when playing sports or doing other activities that could be dangerous to the eyes.

Natural eye care

Your eyelids and eyelashes protect your eyes. Eyelids can partly close and act as sunshades in bright light.

They can shut out light completely when you sleep.

They can close automatically if something is flying around towards your eyes. Tears wash your eyes. Your eyelashes trap dust that flies into your eyes automatically.

How Glasses and Contact Lenses Work

If you have a problem with your vision, your eye doctor may recommend that you wear glasses or contact lenses. Glasses and contact lenses work by changing the way that light enters the eye, helping to correct vision problems.

Slide 15: Fun Facts About Eyes

- Our eyes can distinguish about 10 million different colors.
- The muscles that move the eyes are the most active muscles in the body.
- Babies' eyes are always blue at birth
- A person blinks about 12 times per minute.