



LET'S TALK ABOUT THE CORNEAS

DID YOU KNOW?

The eyes are the most active muscles in the body. Seeing is so important that it takes up more than 50% of the brain's total function!

MATERIALS:

- 1 Colored paper or cardstock
- 2 A partner to help with the home activity
- 3 Pencil
- 4 Paper
- 5 Sunglasses
- 6 Masking tape

BACKGROUND INFORMATION:

As discussed in the Lifesavers: Tissue video, tissue is a group of cells that works together to help us do many things. We have tissue both inside and outside our bodies, but one vital tissue that allows us to see is the cornea. The corneas can be donated from a donor and used for transplantation to restore a person's sight.

Below are a few of the external components of the eye:

- 1 The sclera, or the white part of the eye, is a tough material that helps cover most of the eyeball.
- 2 The iris, or the colored part of the eye, also has a black opening in the middle called the pupil. When the light is bright, the iris closes the pupil to let less light in.
- 3 The cornea provides a protective covering over the front of your eye. It is transparent or clear and looks like a contact lens. The cornea allows light to pass through it and into the eye so that we can see.

The cornea can become clouded because of disease or an injury. This can cause a loss of sight called corneal blindness. Some reasons a person could need a cornea transplant could be from a severe scratch or tear in the cornea from a sports injury, or a person could also develop a disease called keratoconus. In this corneal disease, the cornea becomes rounded or cone-shaped, making it very difficult to see. Advanced cases may require a transplant.



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It is good practice to get an eye examination every few years or whenever you notice a problem or change in your vision, and it is also important to eat colorful and leafy green vegetables to help strengthen and protect your vision.

HOME ACTIVITY:

- 1 Take out the colored paper.
- 2 Have one person stand in front of you and look straight ahead. Then, stand directly behind them with the colored paper in your hand. Tell the person in front that you are going to see how well they can identify colors of paper when it is not directly in front of their eyes.
- 3 Slowly move one of the colored papers from the backside of the person's head to the front. Keep moving the card forward until they can tell you the color of the paper.
- 4 Repeat with another color.

*Interestingly, we cannot see colors very well when using our side vision. This is because the cones in our eyes allow us to see color, and they are located near the front of the eye.

CHALLENGE:

- 1 Take out the pair of sunglasses and tape several layers of masking tape to the outside lenses to make them blurry. The glasses allow you to simulate or pretend what it would feel like if you needed a cornea transplant.
- 2 Next, take out the paper and pencil. Without the glasses on, write any sentence of your choice, but it must contain five or more words. (Example: I went to the store).
- 3 Finally, put the simulation glasses on and rewrite the same sentence. Try to refrain from getting close to the paper.

Was it harder to write with the corneal blindness glasses on? How would your life change if you had corneal blindness?