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Eyes on the World

Health
Science

1



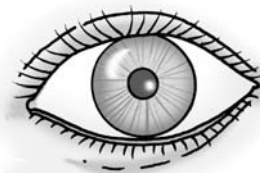
Your Wonderful Eyes

Most of what you know you learned using your eyes. Your eyes can see objects that are near or far. You can see a distant star or the dirt under your fingernails. Your eyes can see colors. They can tell if an object is moving.

Your valuable eyes are protected in many ways. They are set deep within the bony skull. Imagine what could harm your eyes if they stuck out like your ears.

Tears clean your eyes. Tears come from glands above each eye. They drain across the eye into a tiny hole that leads to the nose. That is why your nose may run when you cry.

Blinking also protects your eyes from dirt and dust. Blinking is automatic. You usually blink when something gets near your eye.



Experiment

Let's experiment with blinking.

You'll need a clear gallon-sized plastic bag and a small Nerf[™] or Ping-Pong[™] ball.

1. Hold the plastic bag firmly about a foot in front of your eyes.
2. Have a friend carefully throw the ball at the plastic bag.
3. Did you blink? Most people do. Try this a few times. Can you stop yourself from blinking?



Caution!
Do not use a hard ball.

Experiment

How often do you blink? The average person may blink thousands of times each day.

1. Find a watch or clock with a second hand.
2. Work in pairs to see how often you blink in two minutes.
3. Watch your partner's eyes and count the total blinks in two minutes. Then let your partner count your blinks.

Your partner's blinks in two minutes: _____

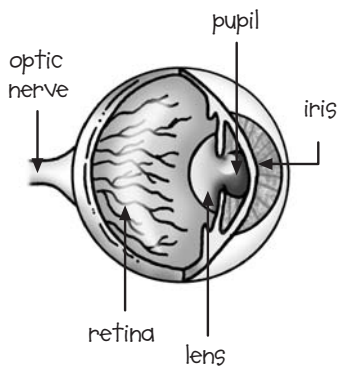
Your blinks in two minutes: _____

Tears are salty. Salt helps fight germs that may get on your eye. Taste them the next time you cry.



5

Eyes on the World



Your Eye Is a Camera

Your eye is like a camera.

The **pupil** of your eye is an opening that lets light in. A camera also has an opening.

You have a jelly-like **lens** to focus light. The camera has a lens made of glass.

Your eye has an **iris** that controls how much light enters. A camera does this with a diaphragm.

There is a **retina** in the back of the eye that reacts to light. The camera has film.

Film in a camera must be developed. The eye sends its light message to the brain through the **optic nerve**.

Experiment

Use a mirror to get a close look at your eye.

1. Look at the eyelid. Watch it blink.
2. Look at the pupil, the dark area in the center of the eye.
3. Look at the colored circle around the pupil. It is the iris.
4. Notice the size of the pupils. Close your eyes for a full minute. Quickly open them and look at the pupil. It should be larger than before. You might be able to see it become smaller as the light enters. Try this a few times.
5. Look at the whites of the eyes. You may be able to see the red lines that carry blood.
6. Make a drawing of your eye or your friend's eye. Label all the parts you have observed.



Or look at a friend's eye if you don't have a mirror.



Eyes on the World

Eye-to-Eye Matchup

Match each word with its meaning.

- | | |
|--------------------|--------------------------------|
| ___ 1. pupil | A. like film in a camera |
| ___ 2. lens | B. protect the eye |
| ___ 3. iris | C. eye opening |
| ___ 4. retina | D. colored part of the eye |
| ___ 5. optic nerve | E. sends messages to the brain |
| ___ 6. tears | F. clean the eyes |
| ___ 7. eyelids | G. focuses the light |

