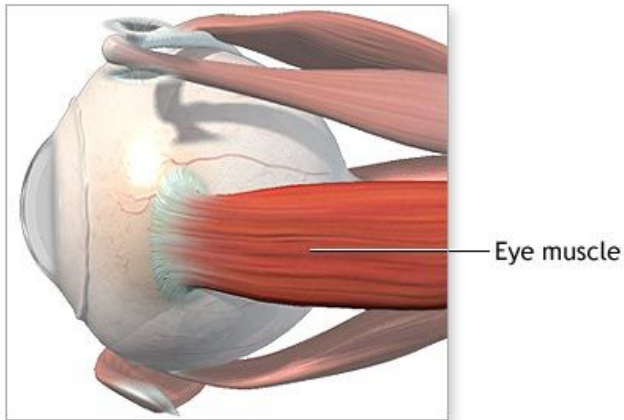


# Cow Eye Dissection: Practicum

## Station One



Without moving your head, look up. Look down. Look all around. Six **muscles** attached to your eyeball move your eye so you can look in different directions. Cows have only four muscles that control their eyes. They can look up, down, left, and right, but they can't roll their eyes like you can. These **muscles** control eye movement and help focus images.

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# Cow Eye Dissection: Practicum

## Station Two

The white part of the eye, the **sclera**, is a tough, outer covering of the eyeball. The **sclera** gives the eye its shape and helps to protect the delicate inner parts. The blue covering over the front of the cow eye is the **cornea**. When the cow was alive, the **cornea** was clear. Together with the lens, the **cornea** refracts (bends) light and helps the eye to focus. At the back of the eye is the **optic nerve**. To see the separate fibers that make up the **optic nerve**, pinch the nerve with a pair of scissors. It is the nerve that transmits visual information from the eye to the brain.

## Cow Eye Dissection: Practicum

### Station Three

The **iris** is between the **cornea** and the lens. It may be stuck to the **cornea** or it may have stayed with the back of the eye. You can see that there's a hole in the center of the **iris**. That's the **pupil**, the hole that lets light into the eye. The iris contracts or expands to change the size of the **pupil**. In dim light, the **pupil** opens wide to let light in. In bright light, the **pupil** shuts down to block light out.

The back of the eye is filled with a clear jelly. That's the **vitreous humor**, a mixture of protein and water. It's clear so light can pass through it. It also helps the eyeball maintain its shape. The vitreous humor is attached to the lens.

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### Station Four

The **lens** of the cow's eye feels soft on the outside and hard in the middle. Hold the **lens** up and look through it.

In a living organism, it is completely transparent. (Your cow lens may not be transparent.) To focus on closer objects, it gets fatter so it can refract(bend) more light.

Put the **lens** down on the magazine clippings on the plate and look through it at the words on the page. Observe what happens.

# Cow Eye Dissection: Practicum

## Station Five

On the inside of the back half of the eyeball, you can see some blood vessels that are part of a thin fleshy film. That film is the **retina**.

The **retina** is made of cells that can detect light. The eye's **lens** uses the light that comes into the eye to make an image, a picture made of light. That image lands on the retina. The cells of the **retina** react to the light that falls on them and send messages to the brain.





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allergic to pets may have a reaction  
n hair of the prey, so it is a good idea to  
ts before dissection.

