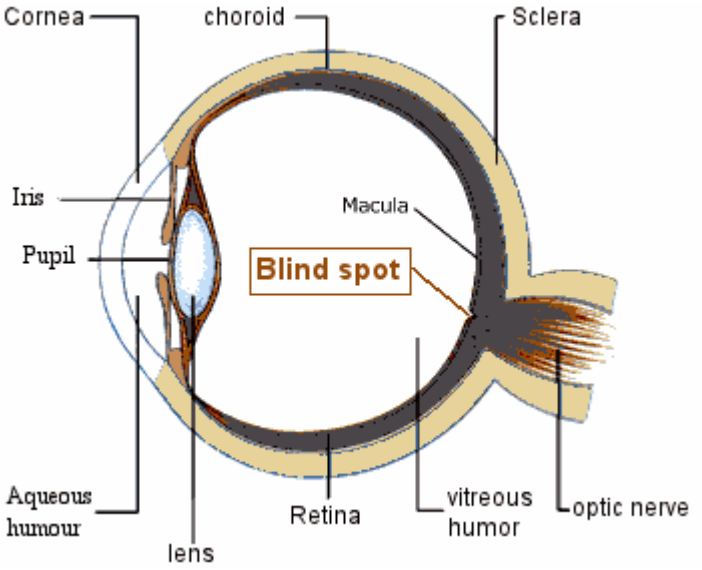
Interesting Eyes

Finding your Blind Spot

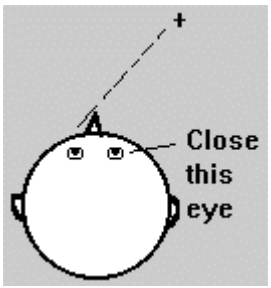
The lense in your eye focuses images on the back of your eyeball. This area where the images are focused is called the Retina. The retina contains light receptors that respond to light being focused on them. When the light receptors are activated, nerves send a message to the brain, which allows you to process the image. There is an spot called the BLIND SPOT where the nerves come together. Due to the presence of nerves, there are no light receptors. As a result, we cannot see things that get focused there.



One of the most dramatic experiments to perform is the demonstration of the blind spot. The blind spot is the area on the retina without receptors that respond to light. Therefore an image that falls on this region will NOT be seen. It is in this region that the optic nerve exits the eye on its way to the brain. To find your blind spot, look at the image below or draw it on a piece of paper:

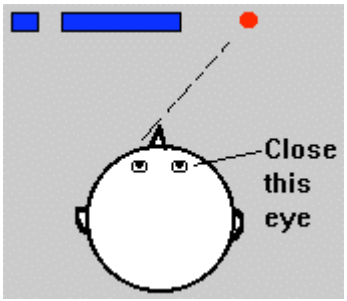
● ✚

1. Close your right eye.
2. Hold the image in front of you with your arms straight.
3. With your left eye, look at the +. Slowly bring the image closer while looking at the +. At a certain distance, the dot will disappear from sight...this is when the dot falls on the blind spot of your retina.
4. Reverse the process. Close your left eye and look at the dot with your right eye. Move the image slowly closer to you and the + should disappear.



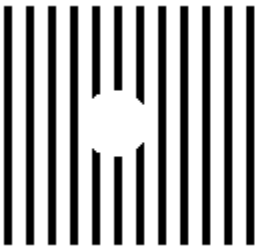
Here are some more images that will help you find your blind spot.

1. For this image, close your right eye.
2. With your left eye, look at the red circle.
3. Slowly move your head closer to the image. At a certain distance, the blue line will not look broken!! This is because your brain is "filling in" the missing information.



This next image allows you to see another way your brain fills in the blind spot.

1. Close your right eye.
2. With your left eye, look at the +. Slowly move the image closer to you. The space in the middle of the vertical lines will disappear.



Another example:

1. Close your right eye.
2. With your left eye, look at the numbers on the right side, starting with the number "1." You should be able to see the "sad face" (top image) or the gap in the blue line (bottom image).
3. Keep your head still, and with your left eye, look at the other numbers. The sad face should disappear when you get to "4" and reappear at about "7." Similarly the blue line will appear complete between "4" and "7."

Discovering your Dominant Eye

Are you right-handed, or left-handed? When using a fork, writing, or throwing a ball etc., predominantly one hand (right or left) will feel comfortable performing these actions. If you always use your right hand, you are "right-handed." If you always use your left hand, you are "left-handed."

The same can be said about the eyes. Just as a person can be right/left handed, everyone has a "dominant eye."

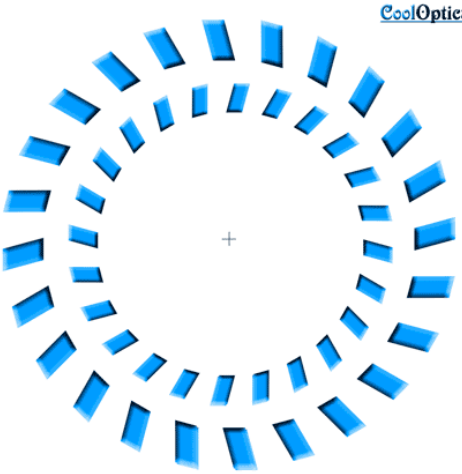
1. Have your TA hold a marker a few feet away from you.
2. Stare at the marker and then point to it using your index finger.
3. When your eyes are focused on the object and not on your finger, you will see two blurry fingers in your line of sight.
4. Now, close one eye and then close the other eye.
   You will notice that with one of your eyes closed, your index finger will point exactly at the object, however, when the other eye is closed, your finger will point at an area slightly shifted to the side of the object. The eye with which you see your index finger pointing exactly at the object is your "Dominant Eye."

Circle your dominant eye:

Left Right

Optical Illusions

What do the blue lines seem to do? _____



Who do you see? _____

Look at the center of the image for about 30 seconds. Then quickly shift your gaze to somewhere with a white background. You should see an afterimage of the US flag with the correct colors! This happens because your eye reverses the colors in afterimages.