

Disappearing Frog

Overview: Your optic nerve can be thought of as a data cord that is plugged in to each eye and connects them to your brain. The area where the nerve connects to the back of your eye creates a blind spot. There are no receptors in this area at all and if something is in that area, you won't be able to see it. This experiment locates your blind spot.

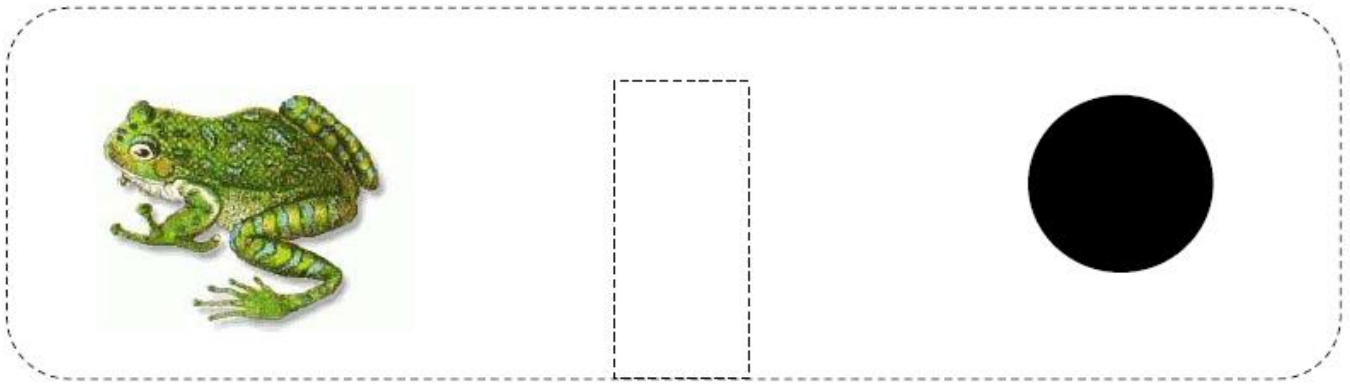
What to Learn: Cones and rods turn the light that enters the eye into images that are transmitted to the brain. Our eyes have a blind spot where the optic nerve connects to the back of the eye because there are no light receptors there.

Materials

- frog and dot printout
- meter stick
- scrap piece of cardboard

Experiment

1. Print out the frog and dot and remove the dotted portion. Attach it to the piece of cardboard, which should have a matching portion removed. You can place the paper and cardboard on the meter stick at the notched area.
2. Now to locate blind spots. First, close your left eye. Look at the frog with your right eye. Can you see the dot and the frog? You should be able to see both at this point, but concentrate on the frog. Now *slowly* move the stick toward you so that the frog is coming toward your eye. Pay attention and stop when the dot disappears from your peripheral vision. At this point, the light hitting the dot and reflecting back toward your eye is hitting the blind spot at the back of your right eyeball, so you can't see it. Record how far your eye is from the card for your right eye.
3. Continue to move the stick toward your face, and at some point you will notice that you are able to see the dot again. Keep moving the stick forward and back. What happens to the dot?
4. Repeat steps 2 and 3 with your left eye, keeping your right eye closed. This time, stare at the dot and watch for the frog to disappear. Move the paper on the stick back and forth *slowly* until you notice the frog disappears. You have found the blind spot for your left eye. Be sure to note the distance the paper is from your eye.



Disappearing Frog Data Table

Student Name	Right or Left Eye?	Distance from Eye to Frog

Exercises

1. What did you notice about the vision of the student and the blind spot that you measured?
2. Why do you think it's important to know where your blind spot is?

Answers to Exercises : Disappearing Frog

1. What did you notice about the vision of the student and the blind spot that you measured? (answers vary)
2. Why do you think it's important to know where your blind spot is? (so you can expect it and work around it if you need to)