



Curiosity Guide #201

Vision

Accompanies Curious Crew, Season 2, Episode 1 (#201)

It's in my Blind Spot!

Investigation #5

Description

Demonstrate that your eyes have a blind spot, and show how they work together with the brain to overcome it.

Materials

- Meter stick or yard stick
- 3 by 5 inch notecard or heavy paper
- Black marker
- Image of the eye and the optic nerve
- Pattern with two blue separated bars and a red dot

Procedure #1

- 1) On the blank side of the note card, make a dot on one side, about $\frac{1}{4}$ inch in from the left edge.
- 2) On the right side, about $\frac{1}{4}$ inch in, make a black X.
- 3) Hold the measuring stick in front of you. One end should be under your nose. The other end is arm's length in front of you at eye level.
- 4) Place the card above the measuring stick.
- 5) Close your right eye. Look with your left eye across at the X.
- 6) Slowly slide the card toward you.
- 7) What do you notice about the dot?
- 8) Try it again. This time, close your left eye. Look at the dot with your right eye. Move the card closer.
- 9) What do you notice?

My Results

Procedure #2

- 1) Hold the pattern of blue bars and red dot an arm's length away.
- 2) Close your right eye. Slowly move the pattern closer while staring at the red dot.
- 3) What happens to the two blue bars?



My Results

Explanation

Because the optic nerve is attached to the retina, there is an opening in the retina itself where there are no rods or cones present to see light. Therefore, it is possible when viewing something that the light sent into the eye hits this blind spot. Then the object is impossible to see, even when this object is right in front of our faces!

This isn't a problem when looking at something with both eyes, because your brain will put the two images together for a complete picture. However, in the first example, when we close an eye and slide the paper forward, either the X or the dot moves into the blind spot and disappears. In the second example, the space between the two bars disappears, making what we see look like a continuous blue bar.

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