COLOR IN THE DARK
Mini Lesson for Kids and Parents

The back of your eye, or retina, is full of photoreceptors called rods and cones. These rods and cones process the light that enters your eye and send messages to your brain. There are about 120 million rods on your retina. Rods are on the outer part of the retina and are used for peripheral (side) vision. Rods are very sensitive to light, so they help us see at night. They do not see color. That is why it is difficult to see color at night.

There are only roughly 6 million cones on the retina. They are heavily concentrated in the center part of the retina. Cones are used for central vision. They see colors, but because they take more light to activate, they not do well in low light.
LOW LIGHT ACTIVITY

Materials needed: 4 or 5 colorful pieces of paper, pencils, a dark room

1. Get five pieces of paper of different colors.
2. Turn off the lights in the room. (It needs to be pretty dark)
3. Wait about 1-2 minutes.
4. Show each paper option and have students write down what color they see.
5. Turn on the lights and reveal answers.

Were your guesses correct?
Did people mix up the same ones? Did people’s incorrect guesses line up?
Try this again with waiting in the dark for a longer period of time. Did the results change?
The next time you head into your eye doctor, try this activity with them. Impress them with your knowledge of how many rods and cones are in your eyes!

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