Environmental Science Institute
THE UNIVERSITY OF TEXAS AT AUSTIN

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My Eyes, Your Eyes

Lesson plan for grades K-2
Lesson duration: 2-3 class periods
Adapted By: Laura Sanders, Environmental Science Institute, January 2012
Source: "All Eyes" by Patricia Saltis, Cynthia Simons, Cynthia Smith, West Milford Elementary
http://new.thesolutionsite.com/solutionsite/data/9201/senses1.html

SOURCES AND RESOURCES:

- BrainPOP Vision Movie at www.brainpop.com/health/senses/vision/index.weml
- Conrad, M. ***Five Senses***. Huntington Beach, CA: Creative Teaching Press, Inc., 1999.
- Englehart, D. ***The Five Senses: A Hands-On, Minds-On Approach Using the National Science Education Standards.*** Grand Rapids, MI: Instructional Fair, 1999.
- The EyeSite at http://library.thinkquest.org/J002330/ contains diagrams, anatomy, and more. It was created by students for students, and coached by teacher Mr. Weiner.
- The Keystone Blind Association's Twinkle and Eyenstein's Wise Eye Web http://www.keystoneblind.org/wiseweb/wiseweb.htm
- Hale, J. ***Five Senses***. Westminster, CA: Teacher Created Materials, Inc., 2000.
- Howard Hughes Medical Institute's Seeing, Hearing and Smelling the World http://www.hhmi.org/senses/
- "Pictorial Graph Lesson – K & Reflections" By: Donna Wallace https://sites.google.com/site/donnawoodardwallace/Home/Teaching-Philosophy/lesson-plans-for-k-6/pictorial-graph--k
- "Sight" – Come to Your Senses at http://library.thinkquest.org/3750/sight/sight.html contains more vision facts and links to more websites about the eye.

POTENTIAL CONCEPTS TEKS ADDRESSED THROUGH THIS LESSON:

§112.11. Science, Kindergarten: 5A, 10A
§111.12. Mathematics, Kindergarten: 4, 8, 9, 12
§112.12. Science, Grade 1: 10A
§111.13. Mathematics, Grade 1: 3, 6, 9, 10
§112.13. Science, Grade 2: 10A
§111.14. Mathematics, Grade 2: 3, 6, 9, 10

PERFORMANCE OBJECTIVES

Students will be able to:

- Identify the structures of the eye and their functions
- Construct a model of an eye and diagram their own eyes

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- Verbalize greatest, least, and the same when predicting and confirming when comparing the prevalence of brown eyes, green eyes, or blue eye in their class
- Construct a graph modeling the eye colors in their class

LITERATURE CONNECTIONS

- Aliki (1989). *My Five Senses.* Scholastic, Inc.
- Aruego, Jose (1980). *We Hide, You Seek*. Julia Macrae.
- Brown, Marc (1986). *Arthur's Eyes*. Little, Brown Books for Young Readers.
- Keller, Holly (1982). *Cromwell's Glasses*. William Morrow & Co.
- MacLachlan, Patricia (1980). *Through Grandpa's Eyes.* HarperCollins.
- Showers, Paul (1992). *Look At Your Eyes: a Let's-Read-and-Find-Out-Science* book. HarperCollins Childrens Books

MATERIALS (per student, unless otherwise indicated):

- Science notebooks
- Chart paper (per class)
- Mirror (per pair or group of students)
- Eye Model and/or Diagram (per class)
- Plastic bags, Sandwich
- Plastic bags, Quart
- String
- Blue hair gel, ½ cup
- Red chenille stem, 5-inch piece
- Eye Color worksheet
- Access to computers with Internet capabilities, a printer, and a projection device
- Something to be used as a blindfold, this could be handkerchief, bandana, etc.

TEACHER PREPARATION:

Teachers might find it most convenient to prepare the eye model sandwich bags for their students by drawing an eye shape with a black circle in the middle colored in with a black permanent marker to represent the pupil. A local optometrist might be willing to loan their eye model or diagram for the class to use for the lesson.

Additional Tips: Students might be dismissed from class discussions to their desks on quiet feet by eye color. Additional supplies help students who may need to redo their work on their models or the eyes used for graphing.

ENGAGE DAY 1:

1. Ask students: What is sight? How do we see? This might be a class discussion, or smaller group discussions. Generate a list of ways that animals use their eyes and record student responses on chart paper, on the board, or have students record their thoughts in their science journals.

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2. Read the story *Look at Your Eyes* by Paul Showers. Ask students: How did the boy in the story use his eyes? Add any new suggestions to those on the chart paper or on the board.

EXPLORE DAY 1:

1. Pairs of students should use mirrors to view their eyes.
    a. They should describe what they see to their partner.
    b. They should draw what they see in their science notebooks. Drawing could also be created by students on the computer if available.
    c. What parts do they notice? With their partner, students should come up with what they think the different parts are called and what they think the different parts are for.
2. Gather the class together and ask: What parts did you observe in your eyes when you looked in the mirror? Were your eyes similar to your partners? How were they different? What shapes did you see? What parts did you notice? What do you think those parts do?

EXPLAIN DAY 1:

1. Discuss the structures and functions of the eye with the class and provide these terms: eyelashes, eyelid, eyebrow, pupil, iris, and cornea. The parts of the eye that are difficult to see (and therefore are probably not in their drawings) include the lens, retina, vitreous humor, and optic nerve. A technical model or diagram can help with these parts, and students should return to their drawings and label the parts of their eyes with the new terms they have learned. (Writing the terms on the board to keep up for students to copy is helpful.)

2. Have the students complete the online vision simulation movie from BrainPOP.com to review the parts of the eye. They might do further online research and can be guided to start with the links provided in the resources section of this lesson plan. They should take note of their findings in their science notebooks and then share their results with the class. This could be done through presentations as well.

3. Construct an eye model. On the outside of each bag, near the bottom, draw an eye shape with a black circle filling in in the middle to represent the pupil. Students should add a large marshmallow-sized portion of blue hair gel into the bottom of the bag behind the eye drawing. Tighten the bag around the hair gel making the shape of an eyeball and secure the eye with string. Before tightening the string, have the students place a 5 inch piece of red chenille stem inside the eyeball to represent the optic nerve traveling to the brain (the chenille stem will be sticking out where you tighten the string around the eye). Using the newly prepared eye models, have the students practice naming the parts of the eye to a partner. Before sending models home with the students, place the eye models in a separate quart sized baggie to protect them. Discuss how these models represent eyes and where the models have limitations: How are the models not like eyes?

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ENGAGE DAY 2:

1. Ask students: When you looked in the mirror yesterday to observe your eyes, did you notice that your iris had a color? Such as blue, brown, or green? You probably described the color to your partner. Whisper to your partner again what color their iris is.
2. We are going to predict, as a class, what eye color is the most common and the least common in our class. On the board or chart paper, record the class results. Raise your hand if you predict that brown will be the iris color we find most in our class. Raise your hand if you predict that blue will be the iris color we find most in our class. Raise your hand if you predict that green will be the iris color we find most in our class. Perhaps a few students would like to explain the reasoning for their prediction once predictions have been made.
3. Model what filling out the Eye Color Worksheet would look like. Students should write their predictions on their Eye Color Worksheets. These worksheets can be cut out and pasted in their science notebooks as well.
4. Optional class reading: *My Five Senses*.

EXPLORE DAY 2:

1. A large table similar to the table on the Eye Color Worksheet should be drawn on the board or on chart paper. Students should take turns coming up to the chart and coloring in one block to represent their eye color. When everyone has taken their turn, there should be one colored block for each student in the class. As an alternative, this could be done by students pasting eyes of their color to create a picture graph.
2. The class graph should then be copied by students onto their worksheets. They should answer the questions, "What color was the greatest?" and "What color was the least?" for their class. Emphasize the meaning s of "greatest" and "least." The class should discuss the results. Did they match the predictions? Why or why not?
3. To integrate more mathematics standards, students may create a math equation using the three eye colors. For example: 7 blue + 11 brown + 1 green = 19 pairs of eyes.

ELABORATE:

1. Discuss with students what it might be like to lose your eyesight.
2. Read the story the *Through Grandpa's Eyes*.
3. Students should gather in pairs. Partners should take turns being blindfolded and attempting to accomplish the following tasks (and any others you create):
    a. Tie shoelaces on shoes.
    b. Get a drink of water at the water fountain
    c. Locate a pencil or crayon.

    How might the partner who is able to see assist the partner who is blind?
4. Discuss as a class how it felt to work on the assigned tasks without the ability to see.

Name_____

Eye Color Graph

I predict our class will have the greatest number of _____color eyes.

Blue	Brown	Green

What color was the greatest?_____

What color was the least?_____