Science K-2: I Spy with My Little Eye…

Intended Audience: Students with significant cognitive disabilities

# **Standards:**

SC.K.L.14.1 Recognize the five senses and related body parts.

SC.K.N.1.5 Recognize that learning can come from careful observation.

SC.1.L.14.1 Make observations of living things and their environment using the five senses.

SC.1.N.1.2 Using the five senses as tools, make careful observations, describing objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.2.L.14.1 Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic function.

SC.2.N.1.2 Compare the observations made by different groups using the same tools.

# **Learning Objectives:**

 1. Students will identify sight as one of the five senses.

 2. Students will use their sense of sight to make observations in the natural world.

3. Students will describe an object in the natural world.

# **Vocabulary:**

1. sight: use of your eyes to see, something that is seen

2. pupil: the part of the eye that contracts

3. iris: the colored part of the eye (blue, green, brown, grey)

4. cornea: let’s light in to the eye

5. retina: helps get signals to the brain using the optic nerve

6. nerves: carry information to your brain

7. observation: to pay attention to something specific

**Materials:**

* Book: Look: A Book About Sight by Dana Meachen Rau, illus. by Rick Peterson
* Book available as an online read aloud: [Look: A Book About Sight](https://www.youtube.com/watch?v=PDJZCWB5udQ)
* Prepare prior to instruction: visual supports for sight vocabulary and other academic content
* An outdoor space for observation
* timer
* Observation graphic organizer/recording log for small group work
* Science journal or writing paper

# **Essential/Guiding Questions:**

 1. Why is your sense of sight important?

 2. What does your sense of sight help you identify?

 3. How does our brain help with our sense of sight?

**Lesson Presentation:**

**Activating Prior Knowledge:**

1. When walking with students on campus, pause and ask them what they see. Ask them what part of the body is letting them see.

2. Tell students that they are going to learn more about their eyes and another important body part (brain) that helps to make sense of what is seen.

**Modeled instruction:**

1. Show students the book, Look: A Book About Sight or show the book online: [Look: A Book About Sight](https://www.youtube.com/watch?v=PDJZCWB5udQ).

2. Preview vocabulary with visual supports.

3. Take a picture walk through the book prior to reading, asking students what they see on each page. Ask students what they are using to see the words and images on the page. Identify vocabulary and review meaning.

4. Read the book and tell students that they will learn about parts of the eye and the importance of the brain in your sense of sight.

**Supported/Guided instruction:**

1. Review vocabulary and reread Look: A Book About Sight.

2. Tell students to look around the room. Set a timer for 2 minutes.

3. Make a list of all of the items that students share. Be sure to provide visual supports for items in the room for those that are emergent communicators or have not acquired verbal skills

4. Ask students what organ in the body helps you see all of the items in the room? (brain) Refer back to the book or video, if necessary.

5. Tell students that they’ll be observing what they see in nature. Divide students in to small group (3-4 students, if possible). Provide adult support to groups that will need it for outside observations. Remind students of expectations when going outside of the classroom. Bring a timer to track length of observation.

6. Once at the observation location outside, all students/groups will observe in the same spot. Decide who is going to record (a student or adult). Set the timer for 2 minutes.

7. In their small group, students record what they see. This might include something large (tree, building, house) or something very small (bugs, blades of grass, a rock).

8. Capture everything that students observe and record it in the observation log. Stop when the timer goes off after two minutes.

9. Upon returning to the classroom, groups will share out their observations. Compare and contrast orally as a group. What did all groups observe? What was the smallest thing seen? What was the largest? Encourage students to ask questions of peers. Record finding on the board or chart paper.

**Independent Work:**

1. Students will write to describe one of the things that they observed outside (i.e. a tree, bird, building, sky). Visual supports may be used for descriptive words.

**Small Group Suggestions:**

1. Students needing enrichment may read additional information about the five senses. (See Additional Resources).

2. Students that are at risk for eloping in an unstructured area may complete the observation in another classroom or inside space.

3. Students can complete observations of small items using scientific tools (i.e. ruler, hand lens).

**Assessment:**

1. Students will use their sense of sight to observe and describe things in nature, both large and small, and identify that the brain gets messages from the eyes/optic nerve.

2. Teachers should utilize district created rubrics to score student work.

**UDL:**

**Multiple means of representation:**

1. Students can point to observed objects.

2. Students can be given a smaller area in which to observe.

3. Students can observe in an inside setting for eloping and sensory concerns.

4. Students can write with visual supports/images.

5. Students can work independently with peer or adult supports.

**Multiple means of expression:**

1. All students should have access to expressive language/technology that is appropriate for their specific need.

2. Expression may come in the form of verbal responses, signed responses, pointing/gestures, eye gaze, or through the use of a low or high tech device.

3. Text to speech options are available for computers on the Word app, iPads and other hand held devices. Google Chrome offers free extensions, such as Selection Reader and Select and Speak-Text to Speech, and apps, such as Text to Speech, Text to Speech with Google Drive, and TTS Reader- Unlimited Text-to-Speech.

4. Speech to text options are also available from Google. Extensions include Voice Note II-Speech to Text, Online speech recognition, and Co: Writer Universal. Voice Note II is also available as an app; Speech notes-Speech to Text Notepad is available as well. Microsoft Word also has speech to text options.

5. Additional information about text to speech and speech to text options are available through your district Assistive Technology Department.

**Multiple means of engagement:**

1. Provide students with opportunities to walk as they observe or sit on the grass/sidewalk.
2. Students can touch an object that they see or bring it to an adult.

3. Encourage collaboration with peers in partners or small groups.

4. Allow students to work independently.

5. Allow students to be positioned for maximum learning engagement.

**Assistive Technology Recommendations:**

1. All students should have a means of expressive communication and a way to be actively engaged in learning.

2. Response modes may include, but are not limited to: eye gaze, gesturing or pointing to pictures/words/phrases, signing, low tech devices (GoTalks, etc.), or dynamic devices (iPad, etc.)

3. Lesson vocabulary, photos/pictures and graphic representations should be created and/or printed prior to the lesson to provide all students with an opportunity to be engaged in discussion.

4. When possible, provide students with text to speech options. Articles and passages from Readworks.org have this option.

5. If students are writing in response to text or writing as a means of sharing information, provide students with alternates to pencils. Speech to text and alternative pencils should be considered. Find more information about alternative pencils here: [Alternative Pencils](http://alternativepencils.weebly.com/)

**Technology Needed:**

* Smartboard, doc camera (optional, for showing text in the book)

**Additional Resources:**

* Website with additional activities: [Teaching Kids the Sense of SIght/The Five Senses](https://wehavekids.com/education/teaching-kids-sense-of-sight-the-five-senses)
* From readworks.org: [Your Five Senses](https://www.readworks.org/article/Your-Five-Senses/7a624ee8-7178-42b8-86d3-4fdb78609773#!articleTab:content/)
* The Dr. Binocs Show: [The Five Senses](https://www.youtube.com/watch?v=q1xNuU7gaAQ)
* [Five Senses Rap](https://www.youtube.com/watch?v=iA1uLc1uEbI)
* [The Five Senses Video](https://www.youtube.com/watch?v=bMybpK7j8MM)  (with quiz)
* District-provided science resources