



I See, Ozobot Sees

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Topics

Robotics, Technology, Biology

Ages

Grades K-1

Duration

45 minutes

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Lesson Plan for Grade K1, Integrated Science

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OVERVIEW & PURPOSE

Students explore how Ozobot understands its environment and how this system compares to ours. They observe the cause and effect relationship of how Ozobot responds to its environment. Students process and reflect on this experience by recording observations in a journal. To experiment with what they have learned and to demonstrate understanding, they will create an environment that Ozobot can understand.

EDUCATION STANDARDS

1. NGSS: Students are expected to understand concepts of patterns; cause and effect; systems and system model.
2. NGSS: Students are expected to be proficient at asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information.
3. SL.K.1 Participate in collaborative conversations

OBJECTIVES

1. Observe
2. Record
3. Design
4. Explore

MATERIALS NEEDED

1. Ozobots
2. *My Eyes See* by Dr. Seuss Here is a [link](#) to a YouTube read aloud.
3. Prepared butcher paper with drawn lines of various sizes, shapes, and colors. All of the lines shouldn't to be easily read by Ozobot, the purpose of the activity is to observe how Ozobot responds to line color, thickness, sharp corners, intersecting lines, etc. See sample image below.
4. Copies of Exploration Journals for each student or device with digital copy.
5. Markers and paper for students to create their own path. Markers can be chisel tip Sharpies, or thick crayola, but preferably Ozobot markers.

- Two plain white pieces of paper per student.



Process

Begin the lesson by reading *My Eyes See* by Dr. Seuss. Have students discuss how their sense of sight helps them understand their environment and respond to it. Talk about how our eyes are sensitive and require special care. Likewise, Ozobot has sensors that allow him to see light and color which how he. Look closely at the sensors, perhaps putting it under a document camera. Maybe, allow the students to make a diagram of the bottom of Ozobot, labeling the sensors and drawing eyes next to the label (try Google Draw). We need to be careful with Ozobots “eyes” (sensors) like we are with ours. Make a connection between the human sensory system and a robot’s sensory system.

Now it’s time to observe how Ozobot senses his environment. How does he respond to lines and colors. Students will record an observation in [Exploration Journal 1](#). At this point the focus is on what we observe Ozobot doing and what it makes us think (evidence based thinking). There should be a significant amount of discussion and excitement about Ozobots movement. Once students have watched for a while, encourage them to predict what they think he may do at a certain point in the line drawing based on what he did in previous areas.

Based on this experience, students will record an observation in [Exploration Journal 2](#). This journal focuses on how Ozobot responds to lines and colors. Given conversations about line color, shape, and thickness, students should be able to record one cause and effect relationship of how Ozobot responds to the environment.

Assessment

It's play time! Students will create a line drawing to test Ozobots behavior. Then they will create a modified drawing based on their experience with the first drawing. It is important that the drawings are labeled 1&2 to show how students thinking changed based on their experience. The Journals will also serve as evidence of learning.

Don't forget to take lots of pictures, they serve as a great way to reflect on the lesson.



Exploration Journal

1

I See





I Think





Exploration Journal

2

 <p>Ozobot Senses</p>	 <p>Ozobot Does</p>