Ozobot Light Trails

Created by

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Topics

Robotics

Technology

Art

Ages

Grades 2 and higher

Duration

5 or 6 30 minute class sessions

Lesson Title – Ozobot Light Trail Photography

Essential Question/Summary
Students learn to code their Ozobot and then use a slow shutter camera app to capture the light trail of the Ozobot.

Information
We installed a slow camera app on the IPads before the lesson. It is called Slow Shutter Vintage Photo Camera 8mm.

Prerequisites
What knowledge or experience do students need to do this lesson/activity?

Materials
- White Paper – to draw the Ozobot trail to follow
- I think any Ozobot would work
- IPAD with the Slow Shutter Vintage Photo Camera 8mm loaded

Age/Grade Level
2nd grade and up

Duration
Total days – 5 to 6 half hour class times

Topics
Computer Science, Robotics, Art

Academic Standards
Indiana State Visual Arts – 2.8.4, 2.5.2, and 2.7.4

Vocabulary
- Ozobot
- Coding
- Slow Shutter Camera
- Light Trail Photography

Overview
Students will be creating a drawn coded path for their Ozobot to follow. Once happy with their path students will be using a slow shutter app on the IPad to capture the light trail of the Ozobot. Ending with a piece of artwork created from light!
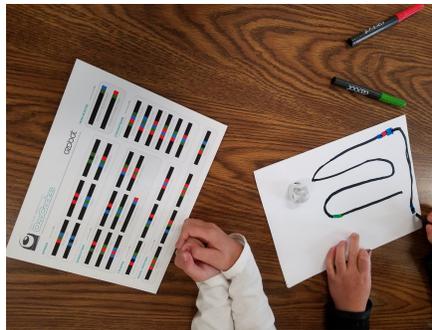
Lesson/Activity Plan

Day One

1. Introduced students to what Ozobots are through video and demo
https://www.youtube.com/watch?v=m5d4iXGbIGs
https://www.youtube.com/watch?v=Lf62VTbzEeQ

Teacher demo was not very long. Just show our markers and talked again about how wide the line needed to be

2. Paired students up for a few minutes to try to make the robot move.

Day Two and Three

1. Students working individually on their paths but helping each other with the codes.
2. Students design their trail for their Ozobot
3. Use Ozobot Code Chart to create codes. This came with our classpack.
4. Suggest using color lines as well as black lines to follow. Will help with color of the light trail later.
5. Tried out several times to get the most movement across the paper

Day Four

Introduced students to light trail photography. Had them guess what it was before telling them. We had lots of fun guesses! Discussed Slow Shutter Cameras and how they work.


 I posed the question "How could we create something like this?" to my students. Then explained what we were doing next. We discussed that we were going to use a slow shutter camera app and capture our Ozobot light trail! I had found an app called Slow Shutter Vintage Camera that we used.

For the Slow Shutter Photo Vintage Camera

1. Set the settings to Light Trail and shutter speed 0.5 (Settings is the button on the left. The other settings we left alone.)
2. Hold IPad above the Ozobot as it goes over the trail the students have created
3. Saved the captures that they liked…these are saved to the Camera Roll on the IPad. To SAVE you have to click the right arrow
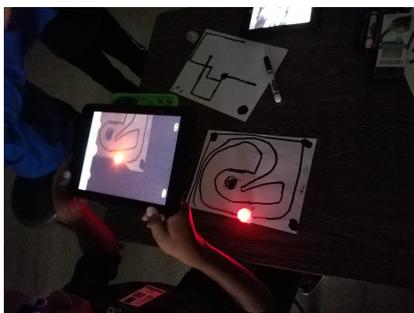
Day Five and Six

Students work with the slow shutter camera app and have fun experimenting to get the best Light Trail Artwork they can create!
1. Students continue working with the camera app and capturing light trails.
2. Some students wanted to have two Ozobots going at the same time to see what would happen on the light trail.
3. Students created more paths that maybe added more color
4. Students also combined their path with another student's to get more movement for the light trail.
5. Decide which one was the best and print
6. Our students uploaded final work to Artsonia and to Canvas