# Ozobot Joins May the 4th

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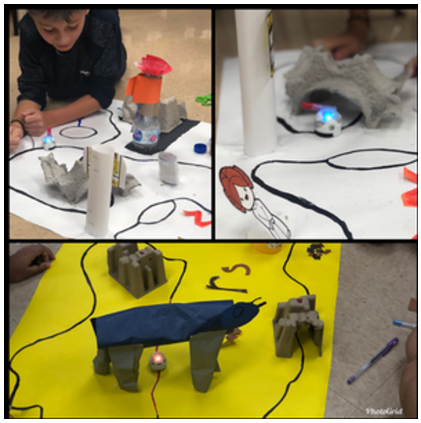


Grades: **K—4**

Coding Methods: **Color Codes**

Subjects: **Science, Computer Science, Art**

Robots: **Evo**

## Brief Summary

Students will celebrate computer science skills during the May the 4th events.

Pre-Reader/ESL: **No**

## Required Materials

- 1 Evo or Bit Ozobot per group
- 1 Art materials: construction paper, glue, scissors, markers, any additional art material per group
- 1  poster board for the Ozobot to travel on per group
- 1 Ozobot markers and Codes worksheet to show the different color code options per group

## Lesson Objectives

- Students will be able to write three different color codes for their Ozobot to follow while traveling through a Star Wars created world..

# Preparation

## Background Knowledge

(None)

## Lesson Tips

- Students should first have an Ozobot exploration day. This day will provide the students an opportunity to explore all of the different codes and figure out how to draw the lines with colors. I have found exploration day to be a perfect way to

get the students excited about coding.

- Have students create a "blueprint" with paper and pencil first. This will help the students to learn how to plan and design and not be afraid to explore different options.

## Direct Instruction (Teacher Facing Instructions):

1 Day 1: Ozobot Exploration Day
1. Ozobot Exploration Day- have students free explore color coding with their Ozobots with their partners.
2. Provide a list of the Ozobot codes to each partner.
3. Complete the Ozobot Blank Code Sheets to practice coloring in the codes.

**Attachments:** https://docs.google.com/presentation/d/1mrBC4cZq2S7YTpdZ14c9urgoxjaW40GMYY9JctDy4vM/edit?usp=sharing

2 Day 2: Star Wars Research Day

1. In preparation for the May the 4th event, students will discuss the Star Wars stories. In library, the students will checkout Star Wars books to learn more about the different Star Wars lands. Complete the "I Can Label the Star Wars Characters worksheet" to help those students who are not familiar with Star Wars.
2. Place students in small groups. In their groups, the students will choose a Star Wars land to recreate. (example - Tatooine, Space, Millennium Falcon, Endor...)
3. Using a device, students will research what items would be found in their assigned Star Wars land. (example- Endor - the land would have Ewoks, tall trees and tree villages with bridges and ropes; Space- the background would be space with Tie Fighters, Death Star & Millennium Falcon; Tatooine- it would be more of a desert land with brown sand buildings.
**Attachments:** https://drive.google.com/file/d/1rg8i9Jhju6Ero7e7wCs9iQUQBAKZoL7e/view?usp=sharing

3 Day 3: Ozobot Blueprint Day

1. After their research, students will create a "blueprint" of their land using pencil and paper only.
2. Use the Ozobot Meets Star Wars Google Slide Show to walk students through the process of design.
3. Students will include the following items on that blueprint:
a. a pathway for the Ozobot to travel on.
b. Illustrate 5 different items that they will build on their map. These 5 items will be built later using art materials such as construction paper, recycled materials, pipe cleaners...
c. Include at least 3 Ozobot codes on the blueprint. Codes must be colored in properly and must include the name of the code under the code squares. (ex - write the name
Tornado moves under the red, green, red, green code)
d. Name of the land must be written on blueprint.
e. Name of each group member must be written on blueprint.
f. Draw or explain what "Star Wars costume" the Ozobot will be wearing. (Ex - Chewbacca, Darth Vader, Princess Leia...)
**Attachments:** https://docs.google.com/presentation/d/1YgHGmIh8kkOk3MGWxhDWPMrQ0oWCOOSp5QAzryTO0w8/edit?usp=sharing

4 Day 4: Begin designing the Star Wars map.

1. Use the Ozobot Meets Star Wars Google Slide Show to review the design steps.
2. Have students begin drawing the Ozobot pathway on the large poster board using pencil first.
3. Begin designing the Ozobot costume and testing to make sure the Ozobot could move with the costume.
4. Begin designing the artifacts to be attached to the Star Wars map.
5. Keep testing the Ozobot to make sure the Ozobot will travel through and around the artifacts smoothly. (Hint- make sure to have the Ozobot wearing the costume while testing. Sometimes we found the costume would be too large to do spin moves in specific spots)
6. Once the project is complete, the group will use the iPad to take video of the Ozobot traveling through their Star Wars land. (Review how to take video with different viewpoints. Refer to How to take a picture with ipad- viewpoints

Google Slide Show.)
7. Place final video into their digital portfolio or send video link to families to enjoy.
**Attachments:** https://docs.google.com/presentation/d/1YgHGmIh8kkOk3MGWxhDWPMrQ0oWCOOSp5QAzryTO0w8/edit?usp=sharing, https://docs.google.com/presentation/d/1QHmCvHY2UG9QtMFR9k_IJ-hbvX7gZKW3G6aN9LsE2S0/edit?usp=sharing

## Lesson Closure (Optional)

Each group will record a video of their Ozobot traveling through the Star Wars maze. Students will edit and finalize their video. They will share their final video with the teacher and insert their video into their digital portfolios.

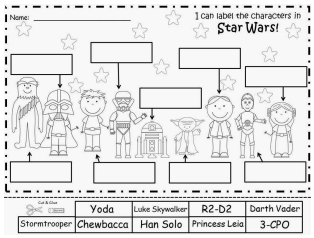
# Student Practice (Student Facing Instructions):

1 Day 1: Ozobot Exploration Day

1. Ozobot Exploration Day- have students free explore color coding with their Ozobots with their partners.
2. Provide a list of the Ozobot codes to each partner.
3. Complete the Ozobot Blank Code Sheets to practice coloring in the codes.
**Goals:** Today's goal is to explore ways to interact with the Ozobot. Students will have the opportunity to try different color codes for the robots to follow and will see how the robot responds to codes.
**Attachments:** https://docs.google.com/presentation/d/1mrBC4cZq2S7YTpdZ14c9urgoxjaW40GMYY9JctDy4vM/edit

2 Day 2: Star Wars Research Day

1. In preparation for the May the 4th event, students will discuss the Star Wars stories. In library, the students will checkout Star Wars books to learn more about the different Star Wars lands. Complete the "I Can Label the Star Wars Characters worksheet" to help those students who are not familiar with Star Wars.
2. Place students in small groups. In their groups, the students will choose a Star Wars land to recreate. (example - Tatooine, Space, Millennium Falcon, Endor...)
3. Using a device, students will research what items would be found in their assigned Star Wars land. (example- Endor - the land would have Ewoks, tall trees and tree villages with bridges and ropes; Space- the background would be space with Tie Fighters, Death Star & Millennium Falcon; Tatooine- it would be more of a desert land with brown sand buildings.
**Goals:** Today's goal is to complete background research in order to be able to design a Star Wars coding map for the Ozobot.
**Attachments:**

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d. Name of the land must be written on blueprint.
e. Name of each group member must be written on blueprint.
f. Draw or explain what "Star Wars costume" the Ozobot will be wearing. (Ex - Chewbacca, Darth Vader, Princess Leia...)
**Goals:** Today's goal is to design a Star Wars map blueprint for the Ozobot to travel through. Please see the attached Google Slide presentation which provides a checklist for the students to follow and complete.
**Attachments:** https://docs.google.com/presentation/d/1YgHGmIh8kkOk3MGWxhDWPMrQ0oWCOOSp5QAzryTO0w8/edit#slide=id.g6d386ebf2a_1_43

4 Day 4: Begin designing the Star Wars map.
1. Use the Ozobot Meets Star Wars Google Slide Show to review the design steps.
2. Have students begin drawing the Ozobot pathway on the large poster board using pencil first.

3. Begin designing the Ozobot costume and testing to make sure the Ozobot could move with the costume.
4. Begin designing the artifacts to be attached to the Star Wars map.
5. Keep testing the Ozobot to make sure the Ozobot will travel through and around the artifacts smoothly. (Hint- make sure to have the Ozobot wearing the costume while testing. Sometimes we found the costume would be too large to do spin moves in specific spots)
6. Once the project is complete, the group will use the iPad to take video of the Ozobot traveling through their Star Wars land. (Review how to take video with different viewpoints. Refer to How to take a picture with ipad- viewpoints Google Slide Show.)
7. Place final video into their digital portfolio or send video link to families to enjoy.

**Goals:** Today's goal is to bring their Star Wars blueprint to life. They will create their map, code the Ozobot and design the artifacts to be found in their assigned Star Wars land. They will document their final map using the iPad and insert video into their digital portfolios. Please refer to the Google Slide presentation for the checklist.

**Attachments:** https://docs.google.com/presentation/d/1YgHGmIh8kkOk3MGWxhDWPMrQ0oWCOOSp5QAzryTO0w8/edit#slide=id.g6d386ebf2a_1_43

# Supplements

## Additional Attachments

- https://www.youtube.com/watch?v=knRgOiBZhMg

## Academic Standards

- CSTA K-2 1A-AP-08
- CSTA K-2 1A-AP-10
- CSTA K-2 1A-AP-14
- CSTA K-2 Practice 2.1
- CSTA K-2 Practice 2.5
- ISTE 1a
- ISTE 2a