

# Dreidel Bot

Author: [Ozobot](#)



**Grades:** K—12

**Subject(s):** Social Studies

**Pre-Reader/ESL-Friendly?** No

**Coding Method:** Color Codes

**Compatible Bot(s):** Evo, Bit+/Bit

**Duration:** 45 min

## Quick Summary

Students will use Color Codes to program their bot to play a dreidel game.

## Objectives & Outcomes

- 1 Student will follow the actions of their bot to play a dreidel game.
- 2 Student will use Color Codes to program their bot to mimic a dreidel by spinning and running on a timer.

## Preparation

### Teacher Materials & Digital Resources

- [23-Ozobot-Lessons-Sample-Solution-Dreidel-Bot](#)

### Video

- [Ozobot Dreidel Bot \[Full\]](#)

### Student Materials

- 1 Ozobot per student
- 1 Color Code Markers per student
- 1 Dreidel Bot Activity Sheets (3) per student
- 1 Scissors per student
- 1 Tape per student

### Teacher Tips

Before completing the lesson, front-load students with any lessons about Hanukkah.

### Direct Instruction

- 1 \_Use the instructional video to guide your students through the activity. Alternatively, continue with the direct instructions below. \_

\*\*Decide ahead of time if students will be playing in small groups or on their own. They will only need one map and bot per group. \*\*

Tell students in today's lesson, they will use Color Codes to program their bot to mimic a dreidel by spinning and running on a timer. Then they will follow the actions of their bot to play a dreidel game. Explain to students dreidels are used by some children to play games during the holidays. A dreidel is a spinning top with four sides. Each side has a different letter from the Hebrew alphabet on it. The letter Nun means nothing, Gimel means whole, Hei means half, and Shin means put. The letters on the dreidel are important because they tell you what to do with your game pieces and the pot or collection of pieces.

- 2 Inform students before they can play the game, they have to create their own game board to program Ozobot to act like a dreidel. Give each student or group a Dreidel Bot Activity Map and their Color Code markers. Show students the three different places their Dreidel Bot can start from on the map. Prompt students to notice on the paths after each start, there are two missing Color Codes. The start paths will program their Ozobot to run for a set time limit and switch lines to move onto the spin path. Have students look at the Color Code Key to see what color sequences to use. Have students complete all three start paths on their map. If students are working in a group, they can take turns to each put in a Color Code.
- 3 After students have added Color Codes to program their bot to start the game, they need to program their bot to spin like a real dreidel. Explain to students their bot will move to the circular path to spin and stop near one of the four Hebrew letters. Have students look back at the Color Code Key to see what color sequence to use. Have students use their Color Code markers and the Spin code to complete the circular path on their map. Explain to students depending on the direction their bot travels over the color sequence, it may spin around at the same speed or it may spin following multiple speeds like a tornado.
- 4 Students are now ready to make their game pieces. Inform students chocolate coins called gelt are often used as the game pieces. Instead, they will use paper gelt. Give each student or group a Dreidel Bot Game Piece sheet to cut out the gelt. If students are going to play the game by themselves, they will need 15 gelt. If students are going to play the game with a small group, each player needs 10-15 gelt. Have students cut out their own gelt or game pieces. Optionally, after students have their game pieces, they can choose to use the Dreidel Bot Costume to dress their bot up to look like a dreidel.
- 5 Model for students how to play the game. To begin the game, each player puts 1 game piece or gelt in the pot. If you are playing on your own, you will put 2 pieces or gelt in the pot. Next, you will choose one of the start paths to put your bot on. Then, you will watch your bot in action as it inputs the 30 Second Timer Code, turns left to move along the empty space to the circular path, and spin along the circular path. After 30 seconds, the bot will turn off. If your bot stops at Nun you do nothing meaning you do not put any pieces into the pot or take any pieces out of the pot. If your bot stops at Gimel, you get everything in the pot. If your bot stops at Hei you get half of what's in the pot. If your bot stops at Shin, you put a piece into the pot. "My bot stopped at the ( ) letter which means to ( ). So I will \_\_\_\_\_. I will now put my bot on a different start and play again." You must put your bot on a different start each time it is your turn. If a player has no game pieces left they are out. When the entire pot is won, the round is over and you start again. There must always be at least 2 pieces or gelt in the pot while the game is being played.

- ⑥ Once students understand how to play, game on! Determine which player will begin, have them choose a start, and watch their bot run for 30 seconds to mimic a dreidel. After their bot stops, identify the letter their bot is closest to and follow the rules of that letter. Give students a visual reminder of what each letter instructs them to do: Nun: Do not collect from or put into the pot. Gimel: Get everything from the pot. The round is over, play again. Hei: Take half of what's in the pot. Shin: Put one piece or coin into the pot.

## Supplements

### ● Lesson Closure

Use the Completion Checklist to evaluate your student's work. Suggested ways to use the checklist:

- Have students use the Completion Checklist to analyze their own work
- Pair students and have them analyze each other's work using the Completion Checklist
- Have students present their work to the class and allow the class to give feedback using the Completion Checklist

The map has a Timer On code after each start.

The map has a Line Switch Left Code on the end of each start path.

The map has a Spin code by each letter.

Work shows how Ozobot follows the Color Codes to move like a dreidel for 30 seconds and stops next to a letter.

### ● Academic Standards

- CSTA.1B-CS-02

Model how computer hardware and software work together as a system to accomplish tasks.

- CSTA.1B-AP-10

Create programs that include sequences, events, loops, and conditionals.

- ISTE.5.d

Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

- ISTE.7.a

Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.

# Dreidel Bot

## Sample Solution



**Color Codes Key**

Timer on (30 sec. to stop)

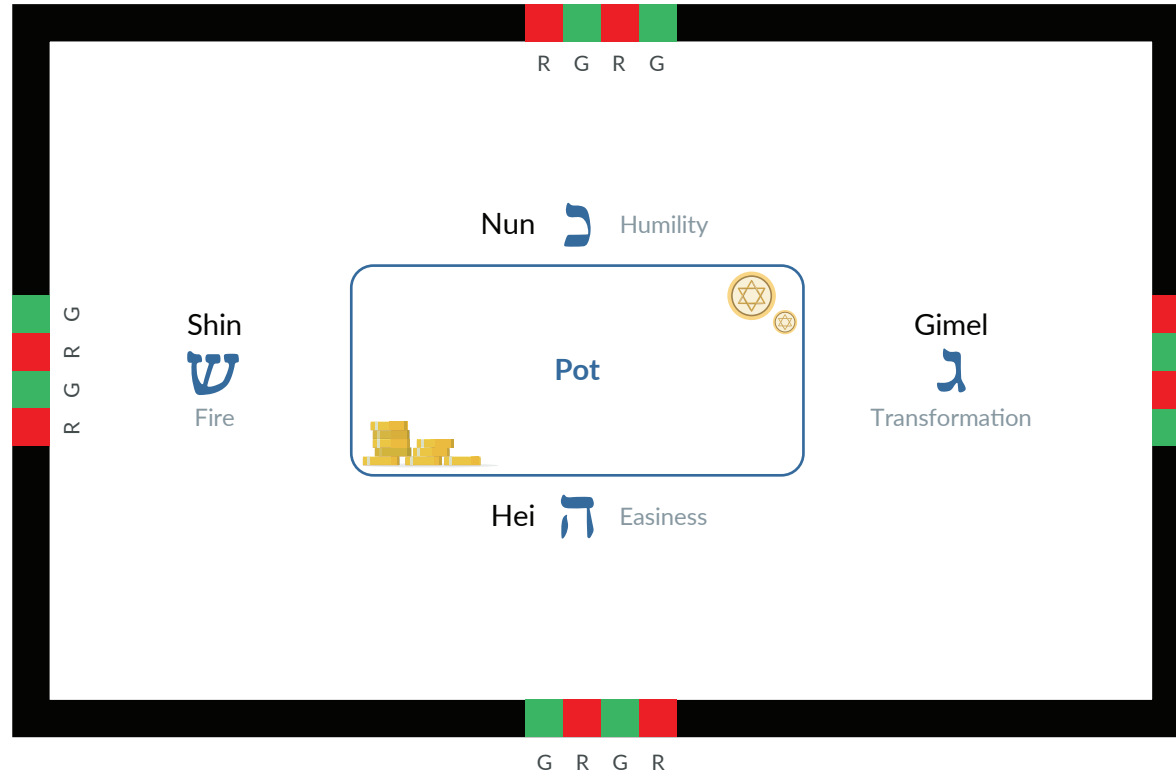
R BK B G

Spin

G R G R

Line Switch Left

G R G



## Dreidel Bot

### What We'll Cover:

- ① We'll follow the actions of their bot to play a dreidel game.
- ② We'll use Color Codes to program their bot to mimic a dreidel by spinning and running on a timer.

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### Materials:

- 1 Ozobot per student
- 1 Scissors per student
- 1 Color Code Markers per student
- 1 Tape per student
- 1 Dreidel Bot Activity Sheets (3) per student

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### Activity Instructions:

- ① The winter season is great because there are lots of different holidays celebrated around the world! Families around the world celebrate with different traditions. Traditions can include eating special foods, playing games, putting up decorations and giving gifts. Ozobot loves holidays and games so much it is going to turn into a dreidel bot to teach you a fun game!

**Introduction:** [watch.cloudflarestream.com/28932a11e19b274f87a92760cee4de2f](https://watch.cloudflarestream.com/28932a11e19b274f87a92760cee4de2f)

**23-Ozobot-Lessons-Activity-Sheet-Dreidel-Bot:** <https://stg-files.ozobot.com/lessons/af148c55-ccc5-4e9c-80a1-ba8a420a94d3/23-Ozobot-Lessons-Activity-Sheet-Dreidel-Bot.a1tTwIUgS1ybl6xf11INfAys.pdf>

- ② Before you can play the game, you have to create your own game board. You will need a Dreidel Bot Activity Map and your Color Code markers. On the map, there are two missing Color Codes on each of the three places your Dreidel Bot can start. The start paths will program your Ozobot to run for a set time limit and switch lines to move onto the spin path. Look at the Color Code Key to find the Timer On 30 Sec code and the Line Switch Left code. Add the codes to the start paths so that your Dreidel Bot first goes over the Timer On 30-sec code, and second goes over the Line Switch Left code.

**Use Color Codes to Program Your Dreidel Bot to Start the Game:**  
[watch.cloudflarestream.com/dc6be6b4a43467c8ca5275f0cabec056](https://watch.cloudflarestream.com/dc6be6b4a43467c8ca5275f0cabec056)

- ③ Now that you have added Color Codes to program your bot to start the game, you need to program your bot to spin like a real dreidel. Your bot will move to the circular path to spin and stop near one of the four Hebrew letters. Look at the Color Code Key to use the Spin code to complete the circular path on your map.

**Use Color Codes to Program Your Dreidel Bot to Spin:** [watch.cloudflarestream.com/d1fcbf9affc4a5f5041c1661107ba983](https://watch.cloudflarestream.com/d1fcbf9affc4a5f5041c1661107ba983)

- ④ You are ready to make your game pieces. Chocolate coins called gelt are often used as the game pieces. You will be using paper gelt. Get out your Dreidel Bot Game Piece sheet to cut out the gelt. If you are going to play the game by yourself, you will need 15 gelt. If you have others to play the game with, each player needs 10-15 gelt. Optionally, you can choose to use the Dreidel Bot Costume to dress your bot up look like a dreidel.

**Cut Out Your Game Pieces:**

[watch.cloudflarestream.com/2439873e59d7f3ba1ef03c2a157c10d6](https://watch.cloudflarestream.com/2439873e59d7f3ba1ef03c2a157c10d6)

- ⑤ Read the rules to learn how to play the game. To begin the game, each player puts 1 game piece or gelt in the pot. If you are playing on your own, you will put 2 pieces or gelt in the pot. Next, you will choose one of the start paths to put your bot on. Then, you will watch your bot in action as it inputs the 30 Second Timer Code, turns left to move along the empty space to the circular path and spin along the circular path. After 30 seconds, the bot will turn off. If your bot stops at Nun you do nothing meaning you do not put any pieces into the pot or take any pieces out of the pot. If your bot stops at Gimel, you get everything in the pot. If your bot stops at Hei you get half of what's in the pot. If your bot stops at Shin, you put a piece into the pot. If a player has no game pieces left they are out. When the entire pot is won, the round is over and you start again. There must always be at least 2 pieces or gelt in the pot while the game is being played.

**How to Play the Game:** [watch.cloudflarestream.com/a04cdb4f5d3cc5c024d9af1baa5955d1](https://watch.cloudflarestream.com/a04cdb4f5d3cc5c024d9af1baa5955d1)

- ⑥ Now that you know how to play, game on! Choose a start and watch your bot run for 30 seconds to mimic a dreidel. After your bot stops, identify the letter your bot is closest to and follow the rules of that letter. Nun: Do not collect from or put into the pot. Gimmel: Get everything from the pot. The round is over, play again. Hay: Take half of what's in the pot. Shin: Put one piece of gelt into the pot.

**Run Your Dreidel Bot:**

[watch.cloudflarestream.com/6ae1386d2622e51c0faec72740a7ef2c](https://watch.cloudflarestream.com/6ae1386d2622e51c0faec72740a7ef2c)

- 7 After you are done playing, remember to check your work. You should have: -A completed game map. -10-15 game pieces for each player. Your work should show how: -Ozobot follows the Color Codes to move like a dreidel for 30 seconds and stops next to a letter.

**Lesson Wrap-Up:** [watch.cloudflarestream.com/c33ffdd8ed58228cef37e53f54b578ca](https://watch.cloudflarestream.com/c33ffdd8ed58228cef37e53f54b578ca)

# Dreidel Bot

## Game Pieces

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Cut out 15 game pieces or gelt per player to use to play the game with.



Cut out 15 game pieces or gelt per player to use to play the game with.



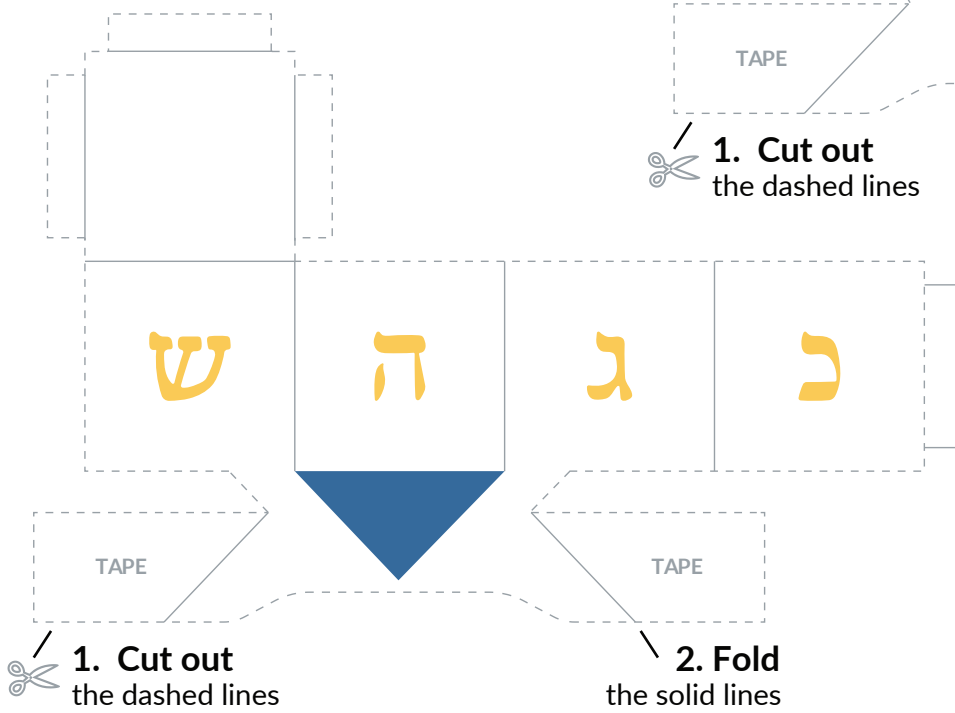
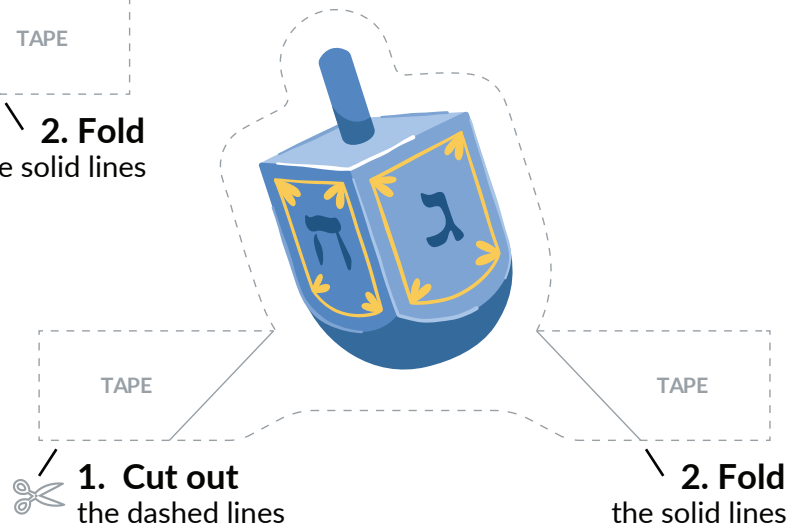
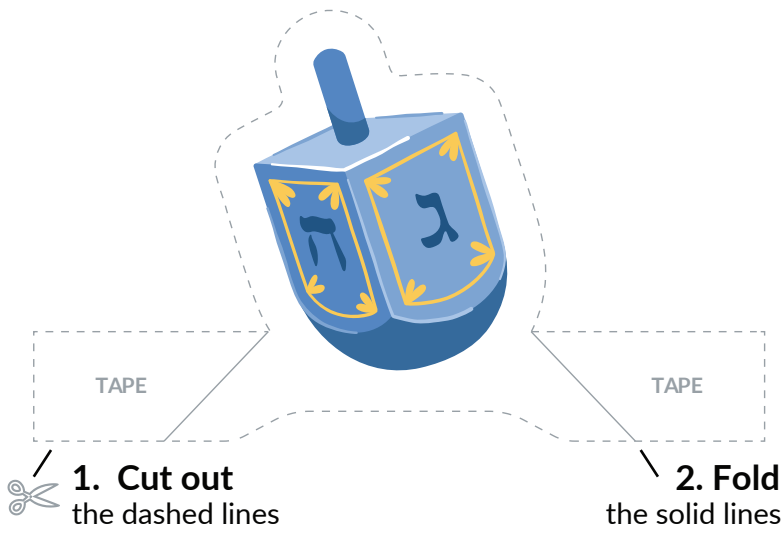


# Dreidel Bot

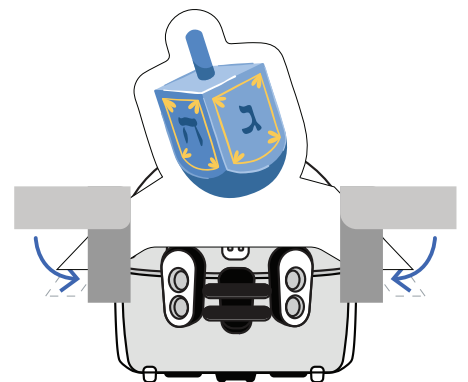
## Game Pieces

Name: \_\_\_\_\_

Date: \_\_\_\_\_



3. Fold around Ozobot & Tape it




# Dreidel Bot

## Sample Solution




**Color Codes Key**

Timer on (30 sec. to stop)




R BK B G

Spin



G R G R

Line Switch Left



G R G

