

DRAW 2: SPELLING

OVERALL TIME *Up to 1-hour lesson*

GROUPS *Three to four kids*

PROGRAMMING LEVEL *Draw: Manual Movement, Distance, Direction, Speed, and Color*

CONTENT THEME *Art*

OBJECTIVE

- I can spell words using the Sphero BOLT.
- I can program the Sphero BOLT to navigate around an obstacle and return to the start.
- I can create and execute a Draw program.

OVERVIEW

In this activity, you will use the draw canvas to draw letters and words that represent code and execute that code using your Sphero BOLT. Complete the challenge by coding the Sphero BOLT to navigate around an obstacle to better understand how the Sphero BOLT moves through the space around you.

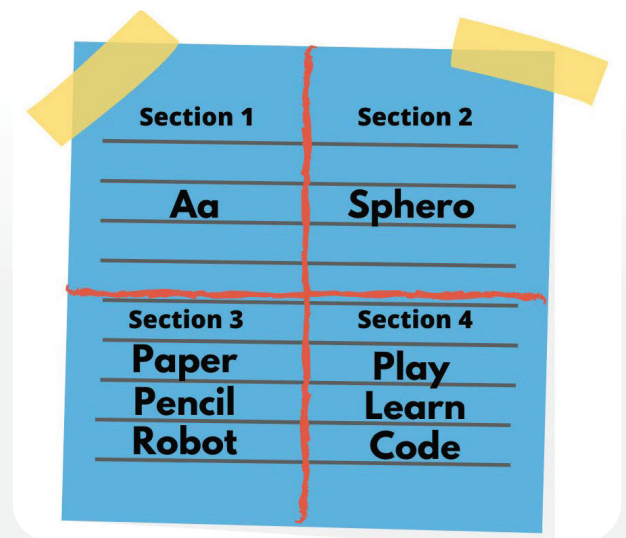
MATERIALS

- Sphero BOLT
- Paper
- Pencils
- Crayons
- Markers
- Color pencils

EXPLORATION: LOTS AND LOTS OF WORDS

Grab a piece of paper and fold it into four sections. Label each section 1, 2, 3, and 4. Complete the following steps:

- Section 1: Choose a letter and write that letter in both upper and lower case.
- Section 2: Practice writing your first name, using proper capitalization.
- Section 3: Write down the name of three objects you see in the room.
- Section 4: Write down the words for three actions, or things you do.



SKILLS BUILDING: LETTERS

Watch the video below to learn how to program the Sphero BOLT to write letters and words using the Draw Canvas.

► <https://youtu.be/EGDFUR3-YMs>

- Draw the letter from Section 1 of your paper. Try the uppercase letter first and run the program.
- Try the lowercase letter, but this time change the color.

SKILLS BUILDING: WORDS

Watch the video below to learn how to turn a group of letters into a programmed word.

► <https://youtu.be/8ADbjRUVTMs>

Practice spelling your name, first. Do your best to reduce the amount of travel between each letter (as described in the video). Don't forget to start your name with an uppercase letter.

Can you change colors for each letter? What happens to each letter if you change the speed?

CHALLENGE: NAVIGATE

Now you will use your mastery of the Draw canvas to navigate the Sphero BOLT around an object on the floor.

- Find something like a box of crayons or a shoe and place it three steps in front of you.
- Draw a path on the Draw canvas (like in the video) that takes the Sphero BOLT around the object and brings it back to where it started.
- Aim the robot and run the program.

How did it go? What do you need to change to be successful?

Watch the video below to see how to successfully navigate.

► <https://youtu.be/aBUthRsckVE>

CHALLENGE: OBSTACLE COURSE

Work with some classmates to create an obstacle course for the Sphero BOLT. Place a series of different objects around on the floor and decide on the approved path from object to object.

- Challenge your classmates to see who can make it through the obstacle course with the least amount of attempts.
- Once everyone has a successful path through, time each one to see who is the fastest.

REFLECTION

Reflect on what you learned with the Sphero BOLT:

- *How is programming letters in the Draw Canvas different than how you normally write letters?*
- *What did you learn about programming while working with your the Sphero BOLT today?*