

Stargazing with Ozobot: Recreate a Constellation (OzoBlockly)

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Grades: 5–12

Subjects: Computer Science, Science

Coding Methods: OzoBlockly

Robots: Evo, Bit

Brief Summary

Students will learn about constellations and recreate a constellation for Ozobot to follow along using OzoBlockly

Pre-Reader/ESL: No

Required Materials

- 1 Evo or Bit per group
- 1 Constellation Map (provided, optional) per group
- 1 Pencil per group
- 1 A computer or tablet with access to OzoBlockly per group

Lesson Objectives

- Students will be able to explain what a constellation is.
- Students will be able to draw a constellation on paper.
- Students will use OzoBlockly to have Ozobot travel the constellation pattern.

Preparation

Background Knowledge

(None)

Lesson Tips

- If students are unfamiliar with block-based, visual programming, they can complete ShapeTracer to familiarize

themselves.

- This lesson can increase or decrease in difficulty by using the appropriate OzoBlockly Skill Level for your students.
- The constellation map does not need to be printed. Students can use any white paper.

Direct Instruction (Teacher Facing Instructions):

- 1 Ask students: "Can anyone tell me what a constellation is?"
Explain: "A constellation is an imaginary shape or pattern a group of stars form. For thousands of years, people found patterns in the stars and used them to tell stories. Today, there are 88 constellations recognized by astronomers."
- 2 Introduce activity: "Today, we are going to plot a constellation and program Evo to travel along the constellation using OzoBlockly."
- 3 Show students examples of well-known constellations to choose from. If time allows, students can research other constellations and choose one based on their research.

Lesson Closure (Optional)

(None)

Student Practice (Student Facing Instructions):

- 1 Choose a constellation to re-create with Ozobot.
- 2 Plan your drawing with pencil. Plot out:
 - The position of the stars of your constellation
 - The path for your Ozobot to travel the constellation
- 3 Create a program in OzoBlockly to have Ozobot travel to each star.

Optional: Change Ozobot's light color to represent that it has reached a star.

Test your program by transferring the program to Ozobot. Make changes accordingly (debug!) in OzoBlockly and transfer the new program to Ozobot until it successfully travels your desired path.

- 4 Share your constellation and program with the class.

Supplements

Additional Attachments

- [Constellation-Map-Blank-For-Students.pdf](#)

Academic Standards

- CSTA.1A-AP-08
- CSTA.1A-AP-11
- CSTA.1A-AP-12

Stargazing

Instructions: Draw a constellation for Evo to travel along.



Constellation Name