


# ozobot<sup>®</sup> edu

## CURRICULUM PLANNER

Plan curriculum for any grade or subject with these recommended Ozobot lessons. Over 150 lessons are available in our Lesson Library, and more lessons are added monthly, so check [ozo.bot/lessons](https://www.ozobot.com/lessons) or search using our lesson filter [ozo.bot/lessons-filter](https://www.ozobot.com/lessons-filter).

## BASIC TRAINING

### Color Codes – Screen-Free Coding: with markers on paper



**K-2 Basic Training: Color Codes**  
 Author: Ozobot  
 Publication date: April 18, 2018

**Description:** Students will learn how to operate Ozobot, how Ozobot senses its environment and moves in 4, and how to tell Ozobot what to do using Color Codes. This series of four lessons was created for K-2 students.

**Attachment:** [Download lesson docs](#)

**Description:** Educator version only  
 Student handbook only

**Lesson type:** [Lesson](#)


**Subjects/Topics:** [Computer Science](#) [Math](#) [Science](#)

**Grade Level:** K-2

**Duration:** 1 of 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)



**3-5 Basic Training: Color Codes**  
 Author: Ozobot  
 Publication date: April 18, 2018

**Description:** Students will learn how to operate Ozobot, how Ozobot senses its environment and moves in 4, and how to tell Ozobot what to do using Color Codes. This series of three lessons was created for students grades 3-5.

**Attachment:** [Download lesson docs](#)

**Description:** Educator version only  
 Student handbook only

**Lesson type:** [Lesson](#)


**Subjects/Topics:** [Computer Science](#) [Math](#) [Science](#)

**Grade Level:** 3-5

**Duration:** 1 of 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)



**6-8 Basic Training: Color Codes**  
 Author: Ozobot  
 Publication date: April 18, 2018

**Description:** Students will learn how to operate Ozobot, how Ozobot senses its environment and moves in 4, and how to tell Ozobot what to do using Color Codes. This series of three lessons was created for students grades 6-8.

**Attachment:** [Download lesson docs](#)

**Description:** Educator version only  
 Student handbook only

**Lesson type:** [Lesson](#)


**Subjects/Topics:** [Computer Science](#) [Math](#) [Science](#)

**Grade Level:** 6-8

**Duration:** 1 of 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)



**Mission to Mars**  
 Author: Ozobot  
 Publication date: February 14, 2018

**Description:** In this lesson game activity, students practice free drawing lines and Color Codes as they race their classroom's Ozobot to Mars. The game involves using a marker to draw a path on paper that the Ozobot will follow to reach its destination.

**Attachment:** [Download lesson docs](#)

**Description:** Educator version only  
 Student handbook only

**Lesson type:** [Lesson](#)


**Subjects/Topics:** [Computer Science](#) [Math](#) [Science](#)

**Grade Level:** K-2

**Duration:** 1 of 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)



**OzoCode Game**  
 Author: Ozobot  
 Publication date: October 21, 2017

**Description:** In this lesson game activity, students practice free drawing lines and Color Codes as they play their classroom's Ozobot to Neptune. The game involves using a marker to draw a path on paper that the Ozobot will follow to reach its destination.

**Attachment:** [Download lesson docs](#)

**Description:** Educator version only  
 Student handbook only

**Lesson type:** [Lesson](#)

**Subjects/Topics:** [Computer Science](#) [Math](#) [Science](#)

**Grade Level:** 3-5


**Duration:** 1 of 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)

Link: [ozo.bot/training-colorcodes](https://www.ozobot.com/training-colorcodes)

### OzoBlockly: Visual block-based programming on computers or tablets



**OzoBlockly**

**Download lesson docs**

**OzoBlockly Mini Lesson**  
 Author: Ozobot  
 Publication date: December 12, 2017

**Description:** Students and educators can fast track their OzoBlockly block-based code editing skills with this single lesson. At the end, there is an optional activity for grades 2-4 and one for grades 5 and up. Look in the attachments below for the Kinder lessons.

Attachment	Description
<a href="#">MiniLessonDragTemplate.ozocode / OzoBlockly preview</a>	Template OzoBlockly program for the drag race challenge
<a href="#">MiniLessonDragSolution.ozocode / OzoBlockly preview</a>	Sample Solution OzoBlockly program for the drag race challenge
<a href="#">ozoblockly-mini-kinder-bit.pdf</a>	Kinder Lesson Plan for Bit
<a href="#">ozoblockly-mini-kinder-evo.pdf</a>	Kinder Lesson Plan for Evo

**Lesson type:** [Lesson](#)

**Subjects/Topics:** [Computer Science](#)

**Grade Level:** K-12

**Duration:** 50 minutes

**Required Ozobot Version:** [Bit](#) [Evo](#)

**Support:** [ozobot@ozobot.com](mailto:ozobot@ozobot.com)

Link: [ozo.bot/training-ozoblockly](https://www.ozobot.com/training-ozoblockly)

# K-1 RECOMMENDED STEAM INTEGRATED LESSONS

## Mission to Mars

Author: Ozobot  
Publication date: February 14, 2018

**Description:**  
In this team game activity, students practice free drawing lines and OzoCodes as they race their classmates in a mission to Mars. This game normalizes making "mistakes" to minimize frustration as they refine their skills and test Ozobot's limits. For a more challenging version of this game, play Expedition to Neptune.

**Lesson type:** activity  
**Subjects/Topics:** Computer Science Robotics Programming  
**Academic Standards:** CCSS.MATH.PRACTICE.MP1 CCSS.MATH.PRACTICE.MP2 CCSS.MATH.PRACTICE.MP3 CCSS.MATH.PRACTICE.MP4 CCSS.MATH.PRACTICE.MP5 CCSS.MATH.PRACTICE.MP6 CCSS.MATH.PRACTICE.MP7 CCSS.MATH.PRACTICE.MP8 CCSS.MATH.PRACTICE.MP9 CCSS.MATH.PRACTICE.MP10 CCSS.MATH.PRACTICE.MP11 CCSS.MATH.PRACTICE.MP12  
**Grade Level:** K-2  
**Duration:** 45 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [codeedu@ozobot.com](mailto:codeedu@ozobot.com)

[Download lesson docs](#)

## Write Your Name with OzoCodes

Author: Ozobot  
Publication date: October 21, 2017

**Description:**  
This lesson helps Pre-readers get in on the Ozobot programming fun by having them write their names large and clear, then program it with OzoCodes for their bot to walk from the first letter to the last. Each student must first draft their name with lines their bot can see, then plan where is best to place OzoCodes, and which codes. Iterate their drawing and debug any problems along the way. Even the youngest of coders can develop valuable programming skills as well as fine motor skills, art-making and logical thinking with this simple lesson.

**Lesson type:** lesson  
**Subjects/Topics:** Computer Science Robotics Programming Art  
**Grade Level:** K-2  
**Duration:** 60 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [codeedu@ozobot.com](mailto:codeedu@ozobot.com)

[Download lesson docs](#)

## Hungry, Hungry Ozobot!

Author: Ozobot  
Publication date: February 4, 2018

**Description:**  
Collect as much food as you can for your Hungry, Hungry Ozobot! In this cooperative game, students will draw two number cards and work together to identify the numbers on the cards. Count out the appropriate number of food props, and 31 compare numbers to determine which amount is greater. At the end of the game, they will count all the food to see how much they collected for their Hungry, Hungry Ozobot!

**Attachment:** Hungry Hungry Ozobot Navigation.azocodes / OzoBlockly preview  
**Description:** For Evo-Ozoblocky program for line navigation to turn off Evo's proximity sensor's while the following.

**Lesson type:** classroom application  
**Subjects/Topics:** Mathematics

[Download lesson docs](#)

## Code a Story - Coding with There Was a Cold Lady Who Swallowed Some Snow and Ozobot

Author: Jennifer Helling  
Publication date: March 7, 2017

**Description:**  
Follow the instructions in the handout to guide Ozobot through the story. There will be cutouts and other visuals to help depict the story.

**Lesson type:** activity  
**Subjects/Topics:** Programming Technology Literature  
**Grade Level:** K-2  
**Duration:** 45 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [jhenrich1@clark.k12.ga.us](mailto:jhenrich1@clark.k12.ga.us)

[Download lesson docs](#)

## 100 Centimeter Ozo-Dash

Author: Ozobot  
Publication date: July 10, 2017

**Description:**  
Students must design a race track that measures at least 100 centimeters. Once they have incorporated all of the rules/challenges, they can race against a classmate to see who created the fastest race track.

**Lesson type:** activity  
**Subjects/Topics:** Computer Science Math  
**Grade Level:** K-2  
**Duration:** 30-45 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [codeedu@ozobot.com](mailto:codeedu@ozobot.com)

[Download lesson docs](#)

## Create!

Author: Joslyn Buhler  
Publication date: October 6, 2016

**Description:**  
The students bring in materials from home that they would like to use to create an Ozobot creation. They sketch out their ideas and talk about what they are planning. They then work together to build their ideas. They then test out their designs to see what the outcome will be. Then they journal on the outcome and talk to their peers about what was accomplished and what could be done differently.

**Lesson type:** lesson  
**Subjects/Topics:** Computer Science Technology Science  
**Grade Level:** 1  
**Duration:** several class sessions  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [jbuhler@edmail.net](mailto:jbuhler@edmail.net)

[Download lesson docs](#)

## I See, Ozobot Sees

Author: Joel Goff  
Publication date: August 22, 2016

**Description:**  
Students explore how Ozobot understands its environment and how this system compares to ours. They observe the cause and effect relationship of how Ozobot responds to its environment. Students process and reflect on this experience by recording observations in a journal. To experiment with what they have learned and to demonstrate understanding, they will create an environment that Ozobot can understand.

**Lesson type:** lesson  
**Subjects/Topics:** Robotics Technology Science  
**Academic Standards:** MS-ETS1-2 MS-ETS1-3 MS-ETS1-4 MS-ETS1-5 CCSS.M.1  
**Grade Level:** K-5  
**Duration:** 45 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [pgoff.edu@gmail.com](mailto:pgoff.edu@gmail.com)

[Download lesson docs](#)

## Clean Energy Cruise

Author: Ozobot  
Publication date: April 16, 2017

**Description:**  
This Earth Day activity allows students to learn about different forms of energy, while brushing up on their Ozobot programming skills! Students should travel to the clean energy stops while avoiding the "dirty" energy.

**Lesson type:** activity  
**Subjects/Topics:** Earth Science Programming  
**Grade Level:** K-12  
**Duration:** 30-45 minutes  
**Required Ozobot Version:** 3.0 3.1 3.2 3.3  
**Support:** [codeedu@ozobot.com](mailto:codeedu@ozobot.com)

[Download lesson docs](#)

## Creative Prompts:

Build A School

Animal Habitats

Build A Leprechaun Trap

Ozobot Races

Link: [ozo.bot/lessons-steam-k-1](http://ozo.bot/lessons-steam-k-1)

# GRADES 2-3 RECOMMENDED STEAM INTEGRATED LESSONS

## Modeling Animal Habits and Habitats

Author: ccsd  
Publication date: October 21, 2017

**Description:**  
This lesson shows students how Ozobot can be used to model nature in a similar way to test-based programs, but very easily for younger coders and with a tangible visual element. This lesson begins with the educator explaining how Point Counter Ozobots work, and how they can be used to bring Ozobot to a stop after counting 5 points. This functionality will be applied to modeling how a rabbit living on a grassy hill sets to fill and move. Students need to place the codes where Ozobot will most likely go because if they don't, then Ozobot rabbit might be looking for food perpetually!

**Lesson type:** Lesson  
**Subjects/Topics:** Computer Science, Robotics, Programming  
**Grade Level:** 2-3  
**Duration:** 30 minutes  
**Required Ozobot Version:** 3.0  
**Support:** ccsd@ozobot.com

## Ozobot's Fairytale, Lesson I

Author: Ozobot, Linda McClure  
Publication date: July 23, 2015

**Description:**  
This lesson connects writing and programming. Students "act out" a fairytale using Ozobot as the main character. Part of the story will require programming the Ozobot to complete a task or engage in a behavior related to the story.

**Lesson type:** Lesson  
**Subjects/Topics:** Programming, Literature  
**Grade Level:** 2-3  
**Duration:** 1-10 min up to multiple class settings  
**Required Ozobot Version:** 3.0  
**Support:** ccsd@ozobot.com

## Multiplication Table Practice

Author: Richard Bort  
Publication date: August 2, 2015

**Description:**  
Are you an elementary school teacher who teaches multiplication tables from 1 through 9? Would you like to give your students a fun way to practice them in your classroom? Then this classroom application has been designed just for you! All that you need are the provided Ozoblockly program and Ozobots. Ozobot Bit will randomly pick two numbers between 1 and 9. Then Ozobot will blink that answer within 1 LED after giving the student a few seconds to come up with his or her answer.

**Attachment:** MultiplicationTablePractice.ozoblockly / Ozoblockly preview  
**Description:** Ozoblockly program for Ozobot choosing random numbers to multiply.

**Lesson type:** classroom application  
**Subjects/Topics:** Math  
**Grade Level:** 2-5  
**Duration:** 2-10 min  
**Required Ozobot Version:** 3.0  
**Support:** rich@kbem.org

## Ozobot Challenge in Chronological Thinking

Author: Ozobot, Mark Doula, Andina Greco  
Publication date: June 23, 2015

**Description:**  
Take the Ozobot on a journey through time and teach it historical events that occurred within a particular region! Groups of students will explore plotting timelines, first in a linear context and then in a regional context. The final activity will challenge groups to plot historical events on a gridded geographical map. Then using the map as a reference they will draw a track that will allow Ozobot to visit each historical event in chronological order.

**Lesson type:** Lesson  
**Subjects/Topics:** History, Robotics, Programming  
**Academic Standards:** CC.2.2.10-12.1  
**Grade Level:** 3  
**Duration:** 1 or multiple class meetings  
**Required Ozobot Version:** 3.0  
**Support:** ccsd@ozobot.com

## Eclipses and Celestial Mechanics

Author: Ozobot  
Publication date: May 8, 2017

**Description:**  
Individual students to the solar eclipse that crossed the USA in August 2017 with a model of the event using one Ozobot as the Moon, a second Ozobot as Earth, an elliptical orbit map with Ozoblocks and a flashlight as the Sun. This lesson is suitable for Grades 2 through 12. Optionally, students can model the path that the solar eclipse took across the 48 states using Ozoblockly which also incorporates national geography. This lesson can also be used to model lunar phases and other celestial mechanics and behaviors of the Moon.

**Lesson type:** Lesson  
**Subjects/Topics:** Science, Robotics, Programming  
**Academic Standards:** MS-ESS1-1, MS-ESS1-2, MS-ESS1-3, MS-ESS1-4, MS-ESS1-5, MS-ESS1-6, MS-ESS1-7, MS-ESS1-8, MS-ESS1-9, MS-ESS1-10, MS-ESS1-11, MS-ESS1-12, MS-ESS1-13, MS-ESS1-14, MS-ESS1-15, MS-ESS1-16, MS-ESS1-17, MS-ESS1-18, MS-ESS1-19, MS-ESS1-20, MS-ESS1-21, MS-ESS1-22, MS-ESS1-23, MS-ESS1-24, MS-ESS1-25, MS-ESS1-26, MS-ESS1-27, MS-ESS1-28, MS-ESS1-29, MS-ESS1-30, MS-ESS1-31, MS-ESS1-32, MS-ESS1-33, MS-ESS1-34, MS-ESS1-35, MS-ESS1-36, MS-ESS1-37, MS-ESS1-38, MS-ESS1-39, MS-ESS1-40, MS-ESS1-41, MS-ESS1-42, MS-ESS1-43, MS-ESS1-44, MS-ESS1-45, MS-ESS1-46, MS-ESS1-47, MS-ESS1-48, MS-ESS1-49, MS-ESS1-50, MS-ESS1-51, MS-ESS1-52, MS-ESS1-53, MS-ESS1-54, MS-ESS1-55, MS-ESS1-56, MS-ESS1-57, MS-ESS1-58, MS-ESS1-59, MS-ESS1-60, MS-ESS1-61, MS-ESS1-62, MS-ESS1-63, MS-ESS1-64, MS-ESS1-65, MS-ESS1-66, MS-ESS1-67, MS-ESS1-68, MS-ESS1-69, MS-ESS1-70, MS-ESS1-71, MS-ESS1-72, MS-ESS1-73, MS-ESS1-74, MS-ESS1-75, MS-ESS1-76, MS-ESS1-77, MS-ESS1-78, MS-ESS1-79, MS-ESS1-80, MS-ESS1-81, MS-ESS1-82, 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# GRADES 4-5 RECOMMENDED STEAM INTEGRATED LESSONS

**Magellan's Journey**  
 Author: OZOBOT LUNA HIGGINS  
 Publication date: July 13, 2018

**Description:**  
 In this lesson, students will program their Ozobot Bit to complete the journey of Ferdinand Magellan. After cutting out and assembling paper continents, students will use the Ozoblockly language to program an Ozobot Bit to navigate around the continents along the path Magellan took. Along the way, students will learn different parts of world geography.

**Lesson type:** Lesson  
**Subjects/Topics:** [History](#) [Geography](#)  
**Grade Level:** 3-12  
**Duration:** 20-25  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**The Snow Plow**  
 Author: Christine Rasmussen  
 Publication date: July 20, 2017

**Description:**  
 In this lesson, students are following the engineering process to design and build a snow plow. Students have to research snow plow shapes and then sketch their design. Working in teams, they must choose the best design that will fit their constraints and constraints. Once they have selected their design, they will construct the snow plow. Using Ozoblockly, they will code their Ozobot Bit to measure the track with their plow and clear the hallway.

**Lesson type:** activity  
**Subjects/Topics:** [Engineering](#) [Science](#)  
**Grade Level:** 3-5  
**Duration:** 7-10 minute Periods  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**Ozobot Bit: Growing Patterns Challenge**  
 Author: Lauren Babin  
 Publication date: April 21, 2018

**Description:**  
 This lesson is designed as a growing pattern activity, making use of knowledge of growing patterns. Students will create an Ozoblockly program that contains a growing pattern. Considerations of the activity, students will be able to discover how they are growing patterns. Students will be able to discover the pattern of their code and how it is represented by the complexity of their pattern.

**Attachment:** [growingpatternscode / Ozoblockly preview](#)  
**Description:** [Example lesson](#)

**Lesson type:** Lesson  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** 4-5  
**Duration:** 20-30  
**Required Ozobot Version:** [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**Cartesian Coordinate Practice**  
 Author: Richard Born  
 Publication date: April 2, 2018

**Description:**  
 Are you a teacher who needs to introduce the Cartesian coordinate system to your students? Would you like to give your students a hands-on activity to help them understand the Cartesian coordinate system? This lesson is designed to help you do just that. It includes a hands-on activity that uses Ozobot Bits to plot points on a Cartesian coordinate system. Students will be able to understand the Cartesian coordinate system and how it is used to plot points. This lesson is designed to help you do just that. It includes a hands-on activity that uses Ozobot Bits to plot points on a Cartesian coordinate system. Students will be able to understand the Cartesian coordinate system and how it is used to plot points.

**Attachment:** [CartesianCoordinatePracticecode / Ozoblockly preview](#)  
**Description:** [Cartesian coordinate practice program](#)

**Lesson type:** Lesson  
**Subjects/Topics:** [Math](#)  
**Grade Level:** 3-12  
**Duration:** 1-10  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**Clean Energy Cruise**  
 Author: Ozobot  
 Publication date: April 16, 2017

**Description:**  
 This Earth Day activity allows students to learn about different forms of energy while cruising on their Ozobot programming skills! Students should travel to the clean energy stops while avoiding the "Dirty" energy.

**Lesson type:** activity  
**Subjects/Topics:** [Science](#)  
**Grade Level:** 3-12  
**Duration:** 30-45 minutes  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**Evo Math Operations - Practice Add, Subtract, and Multiply**  
 Author: Richard Born  
 Publication date: May 21, 2018

**Description:**  
 Are you an elementary teacher who teaches basic addition, subtraction, or multiplication skills? Would you like to give your students a fun way to practice their skills? This is the Evo Math Operations Practice Add, Subtract, and Multiply. It has been designed just for you! All practice problems are for numbers that are 1 through 10. No negative numbers or fractions are included in this program. Subtraction involves only positive numbers, assuming no student background in negative numbers.

**Attachment:** [EvoMathOperationscode / Ozoblockly preview](#)  
**Description:** [Evo Math Operations program](#)

**Lesson type:** Lesson  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** 3-5  
**Duration:** 1-10  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [ozobot@ozobot.com](#)

**Evo Teaches Notes on a Keyboard**  
 Author: Richard Born  
 Publication date: May 21, 2018

**Description:**  
 Octaves, notes, clefs, scales, sharps, flats, C4, white keys, black keys—all of these terms and many more are associated with music. Ozobot Evo can be the teacher's assistant in helping young students learn music fundamentals in a way that is both engaging and fun! In this lesson, the teacher and student are presented with an Ozoblockly program and map for which Evo learns an octave of the standard keyboard, while stopping momentarily at each key to play the sound associated with the key. The sample program uses Mode 3 blocks, but can be edited to use Mode 3 or 4. Advanced activities are also suggested for physics students to measure frequency of notes played by Evo, as well as an activity for computer science students to modify the accompanying Ozoblockly program.

**Attachment:** [EvoKeyboardcode / Ozoblockly preview](#)  
**Description:** [Evo Keyboard program](#)

**Lesson type:** Lesson  
**Subjects/Topics:** [Music](#) [Science](#)  
**Grade Level:** 3-12  
**Duration:** 20-30 min

**RECYCLEbot**  
 Author: Carrie Willis  
 Publication date: April 9, 2018

**Description:**  
 Students will use Ozobots to help program Ozobot pick-up recyclable trash, while staying away from the landfill and garbage truck! This lesson would tie in great with Earth Day or environmental lessons.

**Lesson type:** activity  
**Subjects/Topics:** [Science](#)  
**Grade Level:** K-5  
**Duration:** 30-45 minutes  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [cwillis@vprelandlands.org](#)

**On-Off Controllers**  
 Author: Andrei I. Nausushy  
 Publication date: March 22, 2018

**Description:**  
 Ozobot can follow lines but lines must have certain parameters. In this lesson students will find out how to use programming to travel between different lines by the use of controllers.

**Lesson type:** Lesson  
**Subjects/Topics:** [Computer Science](#)  
**Grade Level:** 2-6  
**Duration:** 60-80 minutes  
**Required Ozobot Version:** [Bit](#) [Neo](#)  
**Support:** [procella@bk.ru](#)

**Is There Life on Other Planets?**  
 Author: Melissa Arms and Amy Falch  
 Publication date: March 13, 2018

**Description:**  
 Students are presented with the following scenario: Ozobot has been sent by NASA to a newly discovered planet which is believed to be a candidate for supporting life. Ozobot's task is to record data, collect specimens and send information back to Earth. Ozobot has traveled from the charging station and needs to get back soon but must collect three specimens along the way! Student teams must apply understanding of measurement, proportions and rational numbers to design, test and measure a pathway on a scaled map to ensure that Ozobot accomplishes all of the NASA assigned tasks.

**Lesson type:** Lesson  
**Subjects/Topics:** [Engineering](#) [Astronomy](#) [Science](#)  
**Academic Standards:** [CC.7.MS.1](#) [CC.7.MS.2](#) [CC.7.MS.3](#) [CC.7.MS.4](#) [CC.7.MS.5](#) [CC.7.MS.6](#)  
**Grade Level:** 5-8  
**Duration:** 40-50 minute lessons  
**Required Ozobot Version:** [Neo](#) [Bit](#)  
**Support:** [falch@madison.k12.ct.us](#)

## Creative Prompts:

Sports Challenge    Circulatory System    Digestive System    Photosynthesis and Respiration

Link: [ozo.bot/lessons-steam-4-5](https://ozo.bot/lessons-steam-4-5)

# GRADES 6-8 RECOMMENDED STEAM INTEGRATED LESSONS

### Planetary Alignment and Kepler's Law of Periods

Author: Richard Born  
Publication date: April 23, 2018

**Description:** In this lesson, students will explore the relationship between the orbital periods of planets and the semi-major axis of their orbits. They will use the data provided in the attached spreadsheet to verify Kepler's Law of Periods. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [PlanetaryAlignment.xlsx](#) / [Ozoblockly preview](#)  
[PlanetaryAlignment2.xlsx](#) / [Ozoblockly preview](#)  
[PlanetaryAlignment3.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into planet Alpha.  
 Program that turns Ozobot into planet Beta.  
 Program that turns Ozobot into planet Gamma.

### Velocity as Slope of Position vs. Time Graphs

Author: Richard Born  
Publication date: April 9, 2018

**Description:** Students will use a graphing calculator to plot position vs. time data and calculate velocity from the slope of the graph. They will also use a graphing calculator to plot velocity vs. time data and calculate acceleration from the slope of the graph. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [VelocitySlope.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a line on the graph.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Academic Standards:** [MS-MATH-7-1-1](#) [MS-MATH-7-1-2](#) [MS-MATH-7-1-3](#) [MS-MATH-7-1-4](#) [MS-MATH-7-1-5](#) [MS-MATH-7-1-6](#) [MS-MATH-7-1-7](#) [MS-MATH-7-1-8](#) [MS-MATH-7-1-9](#) [MS-MATH-7-1-10](#) [MS-MATH-7-1-11](#) [MS-MATH-7-1-12](#) [MS-MATH-7-1-13](#) [MS-MATH-7-1-14](#) [MS-MATH-7-1-15](#) [MS-MATH-7-1-16](#) [MS-MATH-7-1-17](#) [MS-MATH-7-1-18](#) [MS-MATH-7-1-19](#) [MS-MATH-7-1-20](#) [MS-MATH-7-1-21](#) [MS-MATH-7-1-22](#) [MS-MATH-7-1-23](#) [MS-MATH-7-1-24](#) [MS-MATH-7-1-25](#) [MS-MATH-7-1-26](#) [MS-MATH-7-1-27](#) [MS-MATH-7-1-28](#) [MS-MATH-7-1-29](#) [MS-MATH-7-1-30](#) [MS-MATH-7-1-31](#) [MS-MATH-7-1-32](#) [MS-MATH-7-1-33](#) [MS-MATH-7-1-34](#) [MS-MATH-7-1-35](#) [MS-MATH-7-1-36](#) [MS-MATH-7-1-37](#) [MS-MATH-7-1-38](#) [MS-MATH-7-1-39](#) [MS-MATH-7-1-40](#) [MS-MATH-7-1-41](#) [MS-MATH-7-1-42](#) [MS-MATH-7-1-43](#) [MS-MATH-7-1-44](#) [MS-MATH-7-1-45](#) [MS-MATH-7-1-46](#) [MS-MATH-7-1-47](#) [MS-MATH-7-1-48](#) [MS-MATH-7-1-49](#) [MS-MATH-7-1-50](#) [MS-MATH-7-1-51](#) [MS-MATH-7-1-52](#) [MS-MATH-7-1-53](#) [MS-MATH-7-1-54](#) [MS-MATH-7-1-55](#) [MS-MATH-7-1-56](#) [MS-MATH-7-1-57](#) [MS-MATH-7-1-58](#) [MS-MATH-7-1-59](#) [MS-MATH-7-1-60](#) [MS-MATH-7-1-61](#) [MS-MATH-7-1-62](#) [MS-MATH-7-1-63](#) [MS-MATH-7-1-64](#) [MS-MATH-7-1-65](#) [MS-MATH-7-1-66](#) [MS-MATH-7-1-67](#) [MS-MATH-7-1-68](#) [MS-MATH-7-1-69](#) [MS-MATH-7-1-70](#) [MS-MATH-7-1-71](#) [MS-MATH-7-1-72](#) [MS-MATH-7-1-73](#) [MS-MATH-7-1-74](#) [MS-MATH-7-1-75](#) [MS-MATH-7-1-76](#) [MS-MATH-7-1-77](#) [MS-MATH-7-1-78](#) [MS-MATH-7-1-79](#) [MS-MATH-7-1-80](#) [MS-MATH-7-1-81](#) [MS-MATH-7-1-82](#) [MS-MATH-7-1-83](#) [MS-MATH-7-1-84](#) [MS-MATH-7-1-85](#) [MS-MATH-7-1-86](#) [MS-MATH-7-1-87](#) [MS-MATH-7-1-88](#) [MS-MATH-7-1-89](#) [MS-MATH-7-1-90](#) [MS-MATH-7-1-91](#) [MS-MATH-7-1-92](#) [MS-MATH-7-1-93](#) [MS-MATH-7-1-94](#) [MS-MATH-7-1-95](#) [MS-MATH-7-1-96](#) [MS-MATH-7-1-97](#) [MS-MATH-7-1-98](#) [MS-MATH-7-1-99](#) [MS-MATH-7-1-100](#)

### Calculating Areas of Common Geometric Figures

Author: Richard Born  
Publication date: April 9, 2018

**Description:** Students will use a graphing calculator to calculate the area of common geometric figures by counting the number of grid squares they cover. They will also use a graphing calculator to calculate the area of common geometric figures by using the formula for the area of the figure. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [AreaCalc.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into the area of the geometric figures on the map.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#)

### Ozobot and Transformations

Author: Kimberly Hefner and Christine Lucas  
Publication date: July 20, 2017

**Description:** Students will use Ozobot to explore the concept of transformations. They will use Ozobot to create a path that represents a transformation of a given shape. They will also use Ozobot to create a path that represents a transformation of a given shape. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [OzobotTransformations.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents a transformation of a given shape.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

### Binary Blaster

Author: Richard Born  
Publication date: December 14, 2016

**Description:** Students will use a graphing calculator to create a path that represents a binary number. They will use Ozobot to create a path that represents a binary number. They will also use Ozobot to create a path that represents a binary number. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [BinaryBlaster.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents a binary number.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Academic Standards:** [MS-MATH-7-1-1](#) [MS-MATH-7-1-2](#) [MS-MATH-7-1-3](#) [MS-MATH-7-1-4](#) [MS-MATH-7-1-5](#) [MS-MATH-7-1-6](#) [MS-MATH-7-1-7](#) [MS-MATH-7-1-8](#) [MS-MATH-7-1-9](#) [MS-MATH-7-1-10](#) [MS-MATH-7-1-11](#) [MS-MATH-7-1-12](#) [MS-MATH-7-1-13](#) [MS-MATH-7-1-14](#) [MS-MATH-7-1-15](#) [MS-MATH-7-1-16](#) [MS-MATH-7-1-17](#) [MS-MATH-7-1-18](#) [MS-MATH-7-1-19](#) [MS-MATH-7-1-20](#) [MS-MATH-7-1-21](#) [MS-MATH-7-1-22](#) [MS-MATH-7-1-23](#) [MS-MATH-7-1-24](#) [MS-MATH-7-1-25](#) [MS-MATH-7-1-26](#) [MS-MATH-7-1-27](#) [MS-MATH-7-1-28](#) [MS-MATH-7-1-29](#) [MS-MATH-7-1-30](#) [MS-MATH-7-1-31](#) [MS-MATH-7-1-32](#) [MS-MATH-7-1-33](#) [MS-MATH-7-1-34](#) [MS-MATH-7-1-35](#) [MS-MATH-7-1-36](#) [MS-MATH-7-1-37](#) [MS-MATH-7-1-38](#) [MS-MATH-7-1-39](#) [MS-MATH-7-1-40](#) [MS-MATH-7-1-41](#) [MS-MATH-7-1-42](#) [MS-MATH-7-1-43](#) [MS-MATH-7-1-44](#) [MS-MATH-7-1-45](#) [MS-MATH-7-1-46](#) [MS-MATH-7-1-47](#) [MS-MATH-7-1-48](#) [MS-MATH-7-1-49](#) [MS-MATH-7-1-50](#) [MS-MATH-7-1-51](#) [MS-MATH-7-1-52](#) [MS-MATH-7-1-53](#) [MS-MATH-7-1-54](#) [MS-MATH-7-1-55](#) [MS-MATH-7-1-56](#) [MS-MATH-7-1-57](#) [MS-MATH-7-1-58](#) [MS-MATH-7-1-59](#) [MS-MATH-7-1-60](#) [MS-MATH-7-1-61](#) [MS-MATH-7-1-62](#) [MS-MATH-7-1-63](#) [MS-MATH-7-1-64](#) [MS-MATH-7-1-65](#) [MS-MATH-7-1-66](#) [MS-MATH-7-1-67](#) [MS-MATH-7-1-68](#) [MS-MATH-7-1-69](#) [MS-MATH-7-1-70](#) [MS-MATH-7-1-71](#) [MS-MATH-7-1-72](#) [MS-MATH-7-1-73](#) [MS-MATH-7-1-74](#) [MS-MATH-7-1-75](#) [MS-MATH-7-1-76](#) [MS-MATH-7-1-77](#) [MS-MATH-7-1-78](#) [MS-MATH-7-1-79](#) [MS-MATH-7-1-80](#) [MS-MATH-7-1-81](#) [MS-MATH-7-1-82](#) [MS-MATH-7-1-83](#) [MS-MATH-7-1-84](#) [MS-MATH-7-1-85](#) [MS-MATH-7-1-86](#) [MS-MATH-7-1-87](#) [MS-MATH-7-1-88](#) [MS-MATH-7-1-89](#) [MS-MATH-7-1-90](#) [MS-MATH-7-1-91](#) [MS-MATH-7-1-92](#) [MS-MATH-7-1-93](#) [MS-MATH-7-1-94](#) [MS-MATH-7-1-95](#) [MS-MATH-7-1-96](#) [MS-MATH-7-1-97](#) [MS-MATH-7-1-98](#) [MS-MATH-7-1-99](#) [MS-MATH-7-1-100](#)

### Determining the Value of $\pi$ with Ozobot and a Stopwatch

Author: Richard Born  
Publication date: February 14, 2018

**Description:** Students will use Ozobot to determine the value of  $\pi$  by measuring the circumference of a circle and dividing it by the diameter. They will use a stopwatch to measure the time it takes for Ozobot to travel around the circle. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [PiCalc.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents the value of  $\pi$ .

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

### Discovering the Golden Ratio

Author: Richard Born  
Publication date: April 5, 2016

**Description:** Students will use Ozobot to explore the concept of the Golden Ratio. They will use Ozobot to create a path that represents the Golden Ratio. They will also use Ozobot to create a path that represents the Golden Ratio. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [GoldenRatio.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents the Golden Ratio.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#)  
**Academic Standards:** [MS-MATH-7-1-1](#) [MS-MATH-7-1-2](#) [MS-MATH-7-1-3](#) [MS-MATH-7-1-4](#) [MS-MATH-7-1-5](#) [MS-MATH-7-1-6](#) [MS-MATH-7-1-7](#) [MS-MATH-7-1-8](#) [MS-MATH-7-1-9](#) [MS-MATH-7-1-10](#) [MS-MATH-7-1-11](#) [MS-MATH-7-1-12](#) [MS-MATH-7-1-13](#) [MS-MATH-7-1-14](#) [MS-MATH-7-1-15](#) [MS-MATH-7-1-16](#) [MS-MATH-7-1-17](#) [MS-MATH-7-1-18](#) [MS-MATH-7-1-19](#) [MS-MATH-7-1-20](#) [MS-MATH-7-1-21](#) [MS-MATH-7-1-22](#) [MS-MATH-7-1-23](#) [MS-MATH-7-1-24](#) [MS-MATH-7-1-25](#) [MS-MATH-7-1-26](#) [MS-MATH-7-1-27](#) [MS-MATH-7-1-28](#) [MS-MATH-7-1-29](#) [MS-MATH-7-1-30](#) [MS-MATH-7-1-31](#) [MS-MATH-7-1-32](#) [MS-MATH-7-1-33](#) [MS-MATH-7-1-34](#) [MS-MATH-7-1-35](#) [MS-MATH-7-1-36](#) [MS-MATH-7-1-37](#) [MS-MATH-7-1-38](#) [MS-MATH-7-1-39](#) [MS-MATH-7-1-40](#) [MS-MATH-7-1-41](#) [MS-MATH-7-1-42](#) [MS-MATH-7-1-43](#) [MS-MATH-7-1-44](#) [MS-MATH-7-1-45](#) [MS-MATH-7-1-46](#) [MS-MATH-7-1-47](#) [MS-MATH-7-1-48](#) [MS-MATH-7-1-49](#) [MS-MATH-7-1-50](#) [MS-MATH-7-1-51](#) [MS-MATH-7-1-52](#) [MS-MATH-7-1-53](#) [MS-MATH-7-1-54](#) [MS-MATH-7-1-55](#) [MS-MATH-7-1-56](#) [MS-MATH-7-1-57](#) [MS-MATH-7-1-58](#) [MS-MATH-7-1-59](#) [MS-MATH-7-1-60](#) [MS-MATH-7-1-61](#) [MS-MATH-7-1-62](#) [MS-MATH-7-1-63](#) [MS-MATH-7-1-64](#) [MS-MATH-7-1-65](#) [MS-MATH-7-1-66](#) [MS-MATH-7-1-67](#) [MS-MATH-7-1-68](#) [MS-MATH-7-1-69](#) [MS-MATH-7-1-70](#) [MS-MATH-7-1-71](#) [MS-MATH-7-1-72](#) [MS-MATH-7-1-73](#) [MS-MATH-7-1-74](#) [MS-MATH-7-1-75](#) [MS-MATH-7-1-76](#) [MS-MATH-7-1-77](#) [MS-MATH-7-1-78](#) [MS-MATH-7-1-79](#) [MS-MATH-7-1-80](#) [MS-MATH-7-1-81](#) [MS-MATH-7-1-82](#) [MS-MATH-7-1-83](#) [MS-MATH-7-1-84](#) [MS-MATH-7-1-85](#) [MS-MATH-7-1-86](#) [MS-MATH-7-1-87](#) [MS-MATH-7-1-88](#) [MS-MATH-7-1-89](#) [MS-MATH-7-1-90](#) [MS-MATH-7-1-91](#) [MS-MATH-7-1-92](#) [MS-MATH-7-1-93](#) [MS-MATH-7-1-94](#) [MS-MATH-7-1-95](#) [MS-MATH-7-1-96](#) [MS-MATH-7-1-97](#) [MS-MATH-7-1-98](#) [MS-MATH-7-1-99](#) [MS-MATH-7-1-100](#)

### Dorothy Vaughan and Fortran

Author: Richard Born  
Publication date: February 14, 2018

**Description:** Students will use Ozobot to explore the concept of Fortran. They will use Ozobot to create a path that represents Fortran. They will also use Ozobot to create a path that represents Fortran. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [Fortran.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents Fortran.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

### Ozobot Art—OzoArt!

Author: Richard Born  
Publication date: July 21, 2016

**Description:** Students will use Ozobot to create art. They will use Ozobot to create a path that represents art. They will also use Ozobot to create a path that represents art. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [OzoArt.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents art.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

### FAIRYTALE LESSON II

Author: Ozobot, Linda McClure  
Publication date: July 23, 2015

**Description:** Students will use Ozobot to explore the concept of fairytales. They will use Ozobot to create a path that represents a fairytale. They will also use Ozobot to create a path that represents a fairytale. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [Fairytale.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents a fairytale.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

### Ozobot's Fairytale, Lesson II

Author: Ozobot, Linda McClure  
Publication date: July 23, 2015

**Description:** Students will use Ozobot to explore the concept of fairytales. They will use Ozobot to create a path that represents a fairytale. They will also use Ozobot to create a path that represents a fairytale. The required Classroom and Ozoblockly programs are provided along with project directions and data tables for recording student data.

**Attachment:** [Fairytale.xlsx](#) / [Ozoblockly preview](#)

**Description:** Program that turns Ozobot into a path that represents a fairytale.

**Lesson type:** [classroom application](#)  
**Subjects/Topics:** [Math](#) [Science](#)  
**Grade Level:** [6-8](#)  
**Duration:** [10-15 min](#)  
**Required Ozobot Version:** [v2.0](#) [v2.1](#)  
**Support:** [mailto:rich@born.org](#)

## Creative Prompts:

Create a Board game

Ozobot City with 3D printed objects

Ozobot Roller Coaster

Link: [ozo.bot/lessons-steam-6-8](http://ozo.bot/lessons-steam-6-8)





# RECOMMENDED CODING AND COMPUTER SCIENCE LESSONS

## Practice coding and learn computer science

**Ozobot Cube Challenges**  
 Author: Kathy Kampowski  
 Publication date: April 23, 2020  
 Description: Students assemble and play a fun game with Ozobot. Using dice with different Ozobots, they are challenged to use the codes and beat the time.  
 Lesson type: activity  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 15 mins  
 Required Ozobot Version: [Ozobot Evo](#)  
 Support: [Download lesson doc](#)

**Program Simulator**  
 Author: Ozobot  
 Publication date: October 21, 2017  
 Description: This activity teaches about programming languages without ever touching a computer or bot. The student is the computer in this activity. They are challenged to learn the basics of how to write a program a computer can read using a brain-teasing maze in which students must first read and decode commands, and then write a program for a maze using what they've learned. Review critical and computational thinking.  
 Lesson type: lesson  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 45 minutes  
 Required Ozobot Version: [Ozobot Evo](#)  
 Support: [Download lesson doc](#)

**Ozobot Dance-Off for the Hour of Code**  
 Author: Ozobot  
 Publication date: October 9, 2018  
 Description: Students will learn about how to create fun and engaging programs using Ozobot. They will learn how to use Ozobot to create fun and engaging programs using Ozobot. They will learn how to use Ozobot to create fun and engaging programs using Ozobot.  
 Lesson type: activity  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 1 hour  
 Required Ozobot Version: [Ozobot Evo](#)  
 Support: [Download lesson doc](#)

**Evo's Color Quest Level 1 Movement - Ozobot Deconstruction Series**  
 Author: Ozobot  
 Publication date: January 19, 2018  
 Description: Ozobot's Deconstruction Games teach new programmers (students and educators) how to code by breaking a game into its actions and practicing the code behind it. This Deconstruction method makes normally abstract ideas for programming much easier to understand. In the Color Quest game, Evo's Color Quest players move Evo by activating its sensors and using the game through play. This allows them to discover how the actual program works. They then work in groups to accomplish a Mission: reprogram the Evo's Color Quest to get Evo to move in a specific way using color, movement, and sensor-based logic.  
 Attachment: [Evo's Color Quest code](#) / [Ozoblockly program](#)  
 Description: Ozoblockly program for Evo's Color Quest game.  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 15-45 mins

**Construction Set Ozoblockly Programming Challenge**  
 Author: Ozobot  
 Publication date: April 5, 2018  
 Description: This can be a challenge in which students or student groups compete for the most "vague" Ozoblockly program to complete the task outlined in the problem statement. After the group has completed the program, they can present their program to the class, and the students and teacher can vote on the solution that most "vague". Expect to see some very creative and unique solutions to the task.  
 Attachment: [Example/Ozoblockly code](#) / [Ozoblockly program](#)  
 Description: Example solution.  
 Lesson type: activity  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 15-45 mins

**Evo's Breakout Level 1 Movement - Ozobot Deconstruction Series**  
 Author: Ozobot  
 Publication date: January 19, 2018  
 Description: Ozobot's Deconstruction Games teach new programmers (students and educators) how to code by breaking a game into its actions and practicing the code behind it. This Deconstruction method makes normally abstract ideas for programming much easier to understand. In the Breakout game, Evo's Breakout players move Evo by activating its sensors and using the game through play. This allows them to discover how the actual program works. They then work in groups to accomplish a Mission: reprogram the Evo's Breakout to get Evo to move in a specific way using color, movement, and sensor-based logic.  
 Attachment: [Evo's Breakout code](#) / [Ozoblockly program](#)  
 Description: Ozoblockly program for Evo's Breakout game.  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 15-45 mins

**Evo's Hockey Simulator Level 1 Movement - Ozobot Deconstruction Series**  
 Author: Ozobot  
 Publication date: January 19, 2018  
 Description: Ozobot's Deconstruction Games teach new programmers (students and educators) how to code by breaking a game into its actions and practicing the code behind it. This Deconstruction method makes normally abstract ideas for programming much easier to understand. In the Hockey Simulator game, Evo's Hockey Simulator players move Evo by activating its sensors and using the game through play. This allows them to discover how the actual program works. They then work in groups to accomplish a Mission: reprogram the Evo's Hockey Simulator to get Evo to move in a specific way using color, movement, and sensor-based logic.  
 Attachment: [Evo's Hockey Simulator code](#) / [Ozoblockly program](#)  
 Description: Ozoblockly program for Evo's Hockey Simulator game.  
 Subject/Topic: [Computer Science](#)  
 Grade Level: K-12  
 Duration: 15-45 mins

**Ozoblockly Array Primer**  
 Author: Richard Born  
 Publication date: May 21, 2018  
 Description: The release of the Master Mode 5 of Ozoblockly contains numerous powerful programming features, one of which is arrays. This lesson takes the student through a sequence of ten short Ozoblockly programs that bring arrays to life in a way that helps students understand this data structure. Through the use of a provided Ozomax, Evo demonstrates array elements by speaking the contents of the element while following a line with the array's indices and stopping at the intersections.  
 Attachment: [Download lesson doc](#)

**Buzz Buzz Game**  
 Author: Richard Born  
 Publication date: May 21, 2018  
 Description: There are a variety of variations of a game called "Buzz Buzz". Here is how the variation works that we want to program Evo to play using Ozoblockly. Evo is to count out loud starting at zero and proceeding through 127. For any number containing the digit 7 or any number that is exactly divisible by 7, Evo is to play the note C4 (high C on the piano) for a half second instead of speaking the number. We'll call this response from Evo a Buzz. For numbers containing the digit 7 and are also divisible by 7, Evo is to play the note C4 twice instead of speaking the number. We'll call this response from Evo a Buzz-Buzz. Evo moves around a circle on a provided map while counting according to the rules of the Buzz-Buzz game. This program's solution uses Mode 5, but can be edited to use Mode 3 or 4.  
 Attachment: [Download lesson doc](#)

**Automatic Breaking**  
 Author: Richard Born  
 Publication date: January 16, 2017  
 Description: Systems that can help drivers avoid front-to-rear crashes are becoming more and more common, with the number of such systems for cars doubling in the past four years. These systems use sensors to detect when a car is getting too close to a car in front of it. In this lesson students will investigate an Ozoblockly program that makes use of Evo's IR sensors to provide automatic emergency braking.  
 Attachment: [Download lesson doc](#)

**Ozobot Bit Morse Code Generator**  
 Author: Richard Born  
 Publication date: April 21, 2016  
 Description: In this lesson the student of computer science is given the challenge to produce an Ozoblockly program that will blink Ozobot's LED in accordance with Morse code. Construction of this program is a great opportunity for the student to learn hierarchical modular programming by the use of programmer-defined functions. A motivational introduction points out current uses of Morse code and some advantages of this code. The structure of the Morse code system is explained, and then the student is guided through a hierarchical set of programmer-defined functions, with the actual Ozoblockly coding of individual functions left to the student.  
 Attachment: [Download lesson doc](#)

Link: [ozo.bot/lessons-computer-science](https://ozo.bot/lessons-computer-science)