

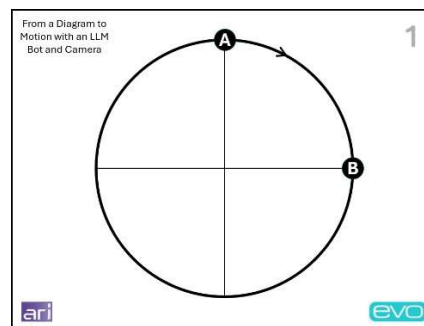
From a Diagram to Motion with an LLM Bot and Camera

Ozobot Editor Lesson—Teacher’s Guide

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Introduction

If you have not already done so, you should read the Student Guide as it details all aspects of this lesson for the student. Briefly stated, the student inputs an image of a circle and using the Ozobot Editor’s LLM Bot and Camera, determines the number of degrees clockwise between two points A and B on the circle. Then the student is introduced to movement blocks that program Ari or Evo to follow the circle from point A to point B. The figure below shows one of four circles that the student investigates. In the circle of the figure, Ozobot would travel 90° from point A to point B. These circles are included in an accompanying PDF file and can be printed on standard $8\frac{1}{2}'' \times 11''$ paper and shared by students or student groups.



An accompanying video shows Ozobot moving on this circle. You may wish to show this video to your students so that they get a better feeling for how Ozobot moves around the circle using blocks from the *Movement* category in the Editor. Note that in this video Ozobot rotates nine times, with each rotation equal to 10° , giving a total rotation of 90° .

Share Code

This program is short enough that students could create it in the Editor themselves. However, if time is limited or you just prefer, the share for the program is **ypsys75**.

Computer Science Programming Concepts Used in this Lesson

- The use of variables to hold the values of program constants
- The use of loops to handle tasks that must be repeated several times
- Variable names that support self-documentation
- The use of an LLM (Large Language Model) and an accompanying camera

Applicable CSTA (Computer Science Teachers Association) Standards

2-CS-02	Design projects that combine hardware and software components to collect and exchange data.
2-AP-11	Create clearly named variables that represent different data types and perform operations on their values.
3A-DA-11	Create interactive data visualizations using software tools to help others better understand real-world phenomena.
3B-CS-02	Illustrate ways computing systems implement logic, input, and output through hardware components.
3B-AP-08	Describe how artificial intelligence drives many software and physical systems