

Ozobot Puzzles

Description:

Students will create puzzles for their classmates using Ozobot codes.

Objective(s):

Students will utilize the EDP to create a working maze for their classmates.

ISTE/NGSS Standards:

4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4c: Students develop, test and refine prototypes as part of a cyclical design process.

5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

MS-ETS-1.1: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

MS-ETS-1.2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

Teq Lesson Plan Activity

Essential Question(s):

How do we create stable coding systems?

Materials:

- Ozobots
- Markers
- Color Codes
- White butcher or poster paper
- EDP Graphic Organizer

<https://docs.google.com/document/d/1UYqqzT3aMgdNVb6-zog02Q4mY686WuM-2iHSEfsyLps/edit>

Do Now:

1. Have students solve an Ozobot puzzle.
2. In these puzzles, students are given which codes are needed to be used in a path to get an ozobot from point A to point B. The same code can be used multiple times. Similar activities can be found [here](#).

Lesson:

1. Have students create their own Ozobot puzzles.
2. Students will map and plan their puzzles using either their graphic organizers or a smaller piece of paper.
3. The teacher can set parameters on the amount and type of codes used depending on how much time the students have, as well as their level of ability with the ozobots.
4. Students will construct their puzzles with blanks, ideally students will produce multiple copies of their puzzle.
5. Students will attempt to solve the puzzles to other groups, the teacher will record student interaction and reflection.

Closure:

Students will complete the reflection in the EDP graphic organizer.

Extension:

Students will attempt to solve other student created puzzles using codes other than what was given by the puzzle makers.