100 CENTIMETER OZO-DASH

SUMMARY

Design a 100 centimeter race track (with OzoCodes), that will get Ozobot to the finish line as fast as possible.

OVERVIEW

Students must design a race track that measures at least 100 centimeters. They may use one or two sheets of paper, or butcher paper, but if two sheets are used they should be taped together. Once they have incorporated all of the rules/challenges, they can race against a classmate to see who created the fastest race track.

INFORMATION

Students should be familiar with the metric system.

PREREQUISITES

Students should be comfortable programming with OzoCodes.

GROUPING

This activity is meant to be done in partners or groups of students, but each student should create their own race track.

MATERIALS

- Markers for drawing OzoCodes
- Measuring tape or rulers
- Ozobot Bit or Evo

AGE/GRADE LEVEL

Grades K - 12

DURATION

Approximately 30-60 minutes.

TOPICS

Computer Science, Mathematics

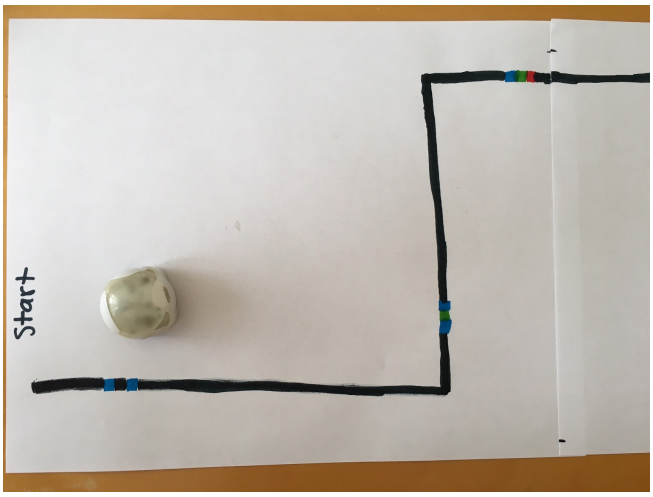
LESSON/ACTIVITY PLAN

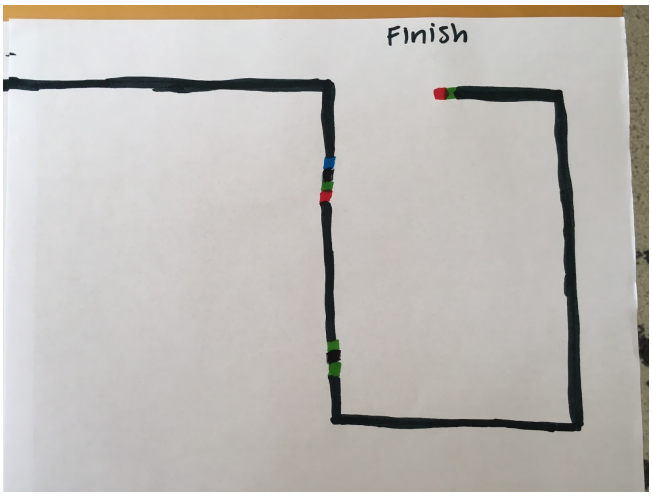
The 100 Centimeter Ozo-Dash Race allows students to think creatively to find the best solution to the following challenges. Their race tracks must include the following components in order to not be disqualified from competing:

INSTRUCTIONS:

Beginner (Grades K-5)

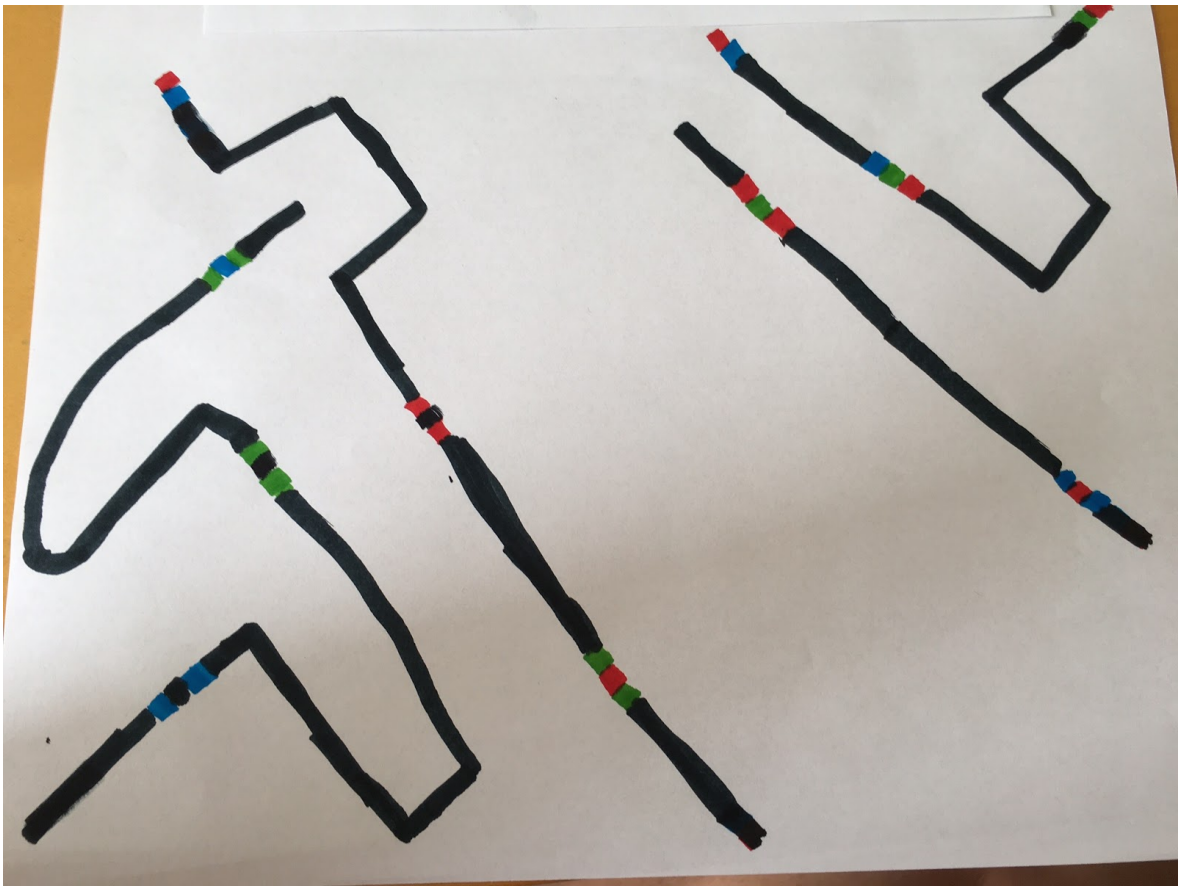
- Use butcher paper and allow students to measure 100 centimeters with a measuring tape or rulers. The course should mostly be straight. If there are turns they should be at a right-angle so that students can measure the distance of their race course.
- Students must use 5 OzoCodes
    - They may be spaced out in any way
    - They must be speed codes or cool moves. However, no code may be reused





Advanced (Grades 6-12)

- The course must be at least 100 centimeters in length
- Students must use at least 10 OzoCodes
    - At least four must be directional codes (may repeat these). This would require intersections to be created or line jumps to be used (example below). Students can be creative with how they decide to incorporate this into their race course
    - At least four speed codes must be used (may not use a speed code more than once)



*This track is slightly longer than 100 cm in length and in the path that the Ozobot takes. Four speed codes and 6 directional codes have been used.

Rules for Both Levels:

- If the Ozobot does not read a code (because it is going too fast or the code is drawn incorrectly) the race can be redrawn or blank address labels can be used to cover the code that did not work. The Ozobot cannot successfully finish the race without executing every single code.
- Each race must have a "green, red" code to end the race—this is in addition to the codes the students must choose
- Students can be creative in their execution of the race. The Ozobot must travel at least 100 centimeters for the race to be valid. The course may be longer than 100 centimeters.

Notes:

It may be helpful to give each student/pair the sheet of OzoCodes
http://play.ozobot.com/print/guides/ozobot-ozocodes-reference.pdf