KOHL CHILDREN'S MUSEUM

STEAM Explorers

THE PLACE WHERE AWESOME LIVES

BUILD IT, SOLVE IT

Children will learn how to use simple robotics. They will then build a maze to code their robot through.

Big Idea

Children will become engineers and practice building a set of buildings or a maze to code a robot through. This activity will help children understand the previous domains of Early Coding, including the importance of following and giving directions, cause and effect, sequencing, and recognizing symbols.

Standards

IELDS 6.C.ECa Count with understanding of numbers, number names, and numerals.	Students will count the number of clicks and rolls it takes to move the robots in each direction of the maze.
IELDS 7.B.ECa Practice estimating in everyday play and everyday measurement problems.	Students will estimate how many clicks and rolls it takes to move the robot in each direction of the maze.
CCSS.MATH.CONTENT.K.CC.B.4.A When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	Students will count the number of clicks and rolls it takes to move the robots in each direction of the maze. They will count each click as its own movement.

Materials

- Code & Go Robot Mouse and/or dash robot with tablet or phone
- batteries
- Blocks
- Examples of mazes

Setup

Open floor space for building mazes, building, bridges, etc. For Code & Go make sure they have charged batteries and are switched on. For the dash robot, make sure the device has the "Wonder Workshop GO" app.

Directions

1. Introduce students to your robots. Show them how to program each robot. (Explain the arrows on robot mouse, or how to use the GO app to move the dash robot.)
2. Encourage students to build a maze for the robots.

3. Once students have completed their maze, they can take their robot and try to move it through the maze by programming different commands.

Investigation Questions: I noticed the robot went this way, how can we get it to go that way? How are you moving the robot through the maze? What do you notice the robot doing? How many clicks will it take to move the robot over here? Why is it doing that? How else could you design your maze for the robot?