Automation & Robotics Virtual Learning

7th & 8th Virtual Robots

Vex VR - STEM LAB COding a Vex Robot
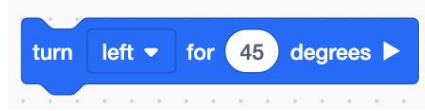
May 18, 2020

PLTW: Automation & Robotics
Lesson: May 18, 2020

Objective/Learning Target:
Learn & practice Sensors in VEXcode VR

Warm-up

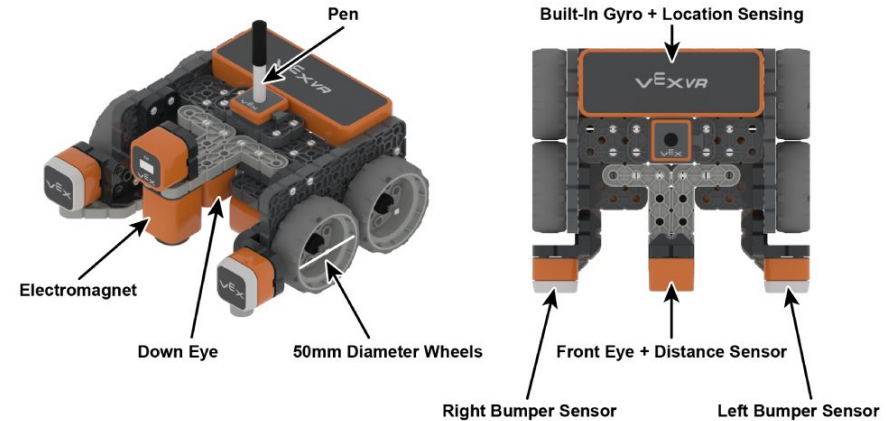IDENTIFY WHAT YOU KNOW SO FAR:

What does this block do?

What does every VexVR Code program start with? (HINT: *It's a gold block...*)

What is a loop? What does this look like in the block code we are using?

Lesson/Background:

Remember your Virtual Bot can...
Navigate, use sensors to solve maze and a
Pen that can be coded for creative drawing.

Make sure you have your navigation blocks knowledge!

With each lesson you will learn more about how to code your VEX VR bot.
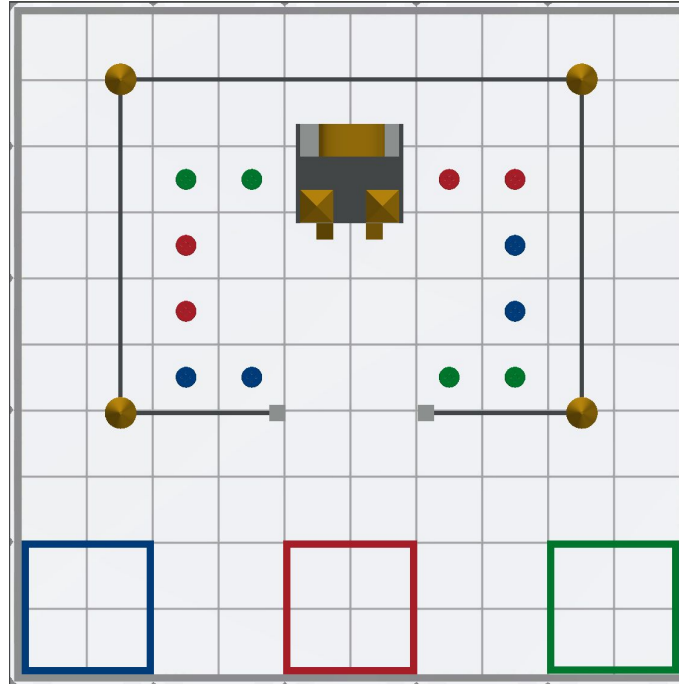
For today's lessons you will need:
TO:
Go to VEXcode VR

You will be decomposing (break down) problems into smaller, manageable subproblems to make a program work, then test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended."

Lesson/Background

This is today's Playground!

The Blue, Green and Red Squares protection areas for your castle. Your goal is to get the correct color disks to the correct colored goal outside your castle walls.

Sensors

Protect the Castle!

**Playground: Disk Transport**
Challenges:
Level 1: Using the electromagnet, pick up and place one disk of each color inside the correct colored goals located outside the Castle walls.

Level 2: Using the electromagnet, pick up and place all four disks of each color inside the correct colored goals located outside the Castle walls.

Level 3: Using the electromagnet, pick up and place three disks of each color inside each colored goal, then hide the remaining 3 disks behind the wall around the Castle!

Helpful Hints:
- The electromagnet can only pick up one disk at a time.
- Each square in the Disk Transport measures 200mm by 200mm
- The disks are placed in the center of each grid square, however the electromagnet is at the front of the robot. Adjust your drivetrain values appropriately!
- Pick up and drop disks using the "boost" and "drop" settings on the energize magnet block from the Magnet category.
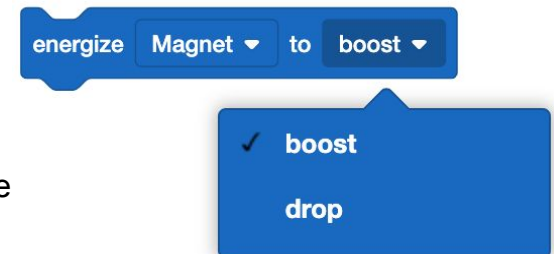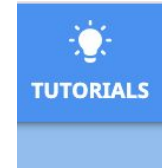

vEx.code vr

Assessment:

Save and download the program you make today and share it with me.
I would love to see your progress.

Don't know how to name, save or download your files?

While in VexCode VR - go to tutorials ---> TUTORIALS

At the top row of tutorials, the last one is How to Name & Save

Questions throughout
the week?
Email me:
lisa_douthit@isdschools.org

Naming and Saving Your Project

Extend Your Learning:
Check out these cool robots for 2020!

8 Cool ROBOTS