



**Automation & Robotics Virtual Learning**

# **7th & 8th Virtual Robots**

**Vex VR - STEM LAB CODing a Vex Robot**

**May 20, 2020**



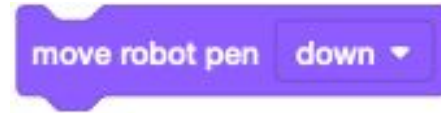
PLTW: Automation & Robotics  
Lesson: May 20, 2020

**Objective/Learning Target:**  
Learn & practice Variables & Loops in VEXcode VR

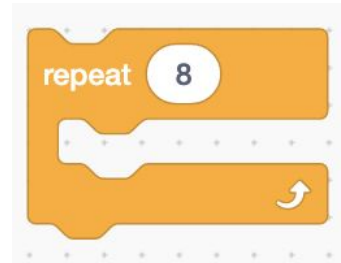
# Warm-up

IDENTIFY WHAT YOU KNOW SO FAR:

What does this block do?



What does this block do?

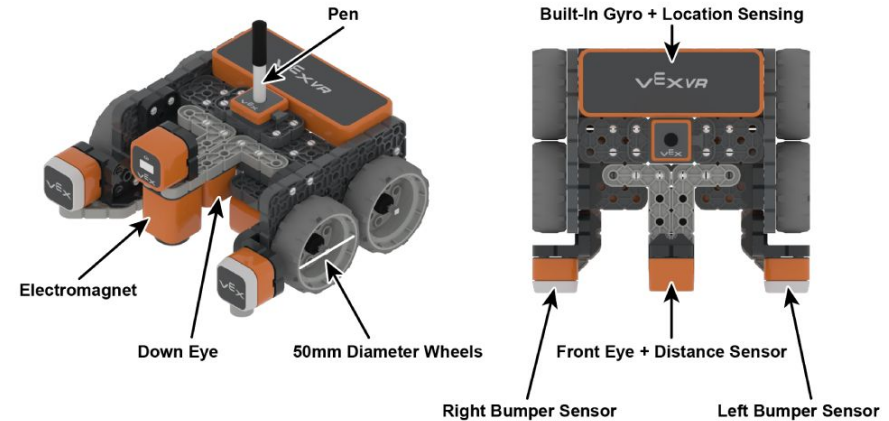


Describe what other drawing you tried to code on the Art Canvas Playground.

## 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:

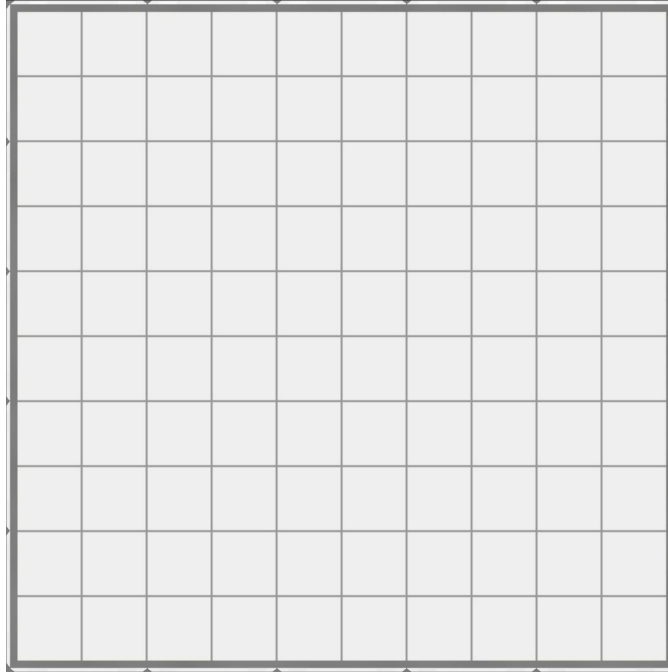
Go to [VEXcode VR](#)

**In today's practice you will:**

Develop programs with sequences and simple loops, to express ideas or address a problem. Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. Create clearly named variables that represent different data types and perform operations on their values. Design and iteratively develop programs that combine control structures.

## Lesson/Background

This is today's Playground!



You will use your knowledge to plan out creating a square spiral that touches every grid on the map using the pen.

## Practice/Challenge:

Answer ALL questions below in your focused notes. Question on the left, answers on the right.

# Loops

## Grid Sprial!

**Playground: Grid Map**

**Challenges:**

**Level 1:** Program the VR Robot to draw a spiral that hits every square on the Grid Map.

**Level 2:** Program the VR Robot to draw a spiral that hits every square. Use the Pen to have each side of the spiral a different color.

**Level 3:** Program the VR Robot to draw a spiral that hits every square. Then program the VR Robot to turn around and follow the spiral back to the beginning position.

**Helpful Hints:**

- Use the Change variable block from the Variables category to change a variable by the given value each time a loop is repeated.

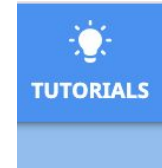


## Assessment:

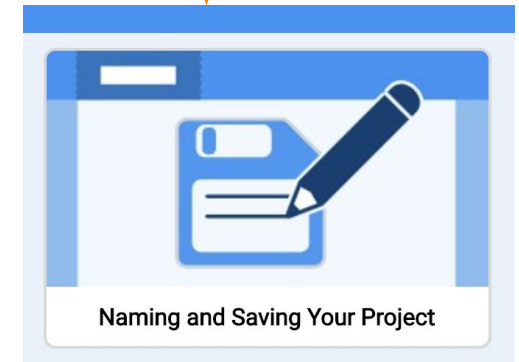
Save and download the program you make today and share it with me.  
I would love to see your progress.

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

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



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



Questions throughout  
the week?  
Email me:

[lisa\\_douthit@idschools.org](mailto:lisa_douthit@idschools.org)



### Extend Your Learning:

What other Drawn creation can you make?  
Try some other plans & explore. Send me the files if you choose.