

Robot Educator Tasks

Hardware

Complete the following lessons and have Mr. Gunkelman Sign-off/stamp each lesson

1. Brick Displat
2. Large Motor
3. Miedium Motor
4. Touch Sensor
5. Color Sensor (Color)
6. Color Sensor (Light)
7. Ultrasonic Sensor



Notes:

Robot Educator Tasks

Basic

Complete the following lessons

1. Configuring Blocks
2. Straight Move
3. Curved Move
4. Tank Move
5. Move Object
6. Stop at Object
7. Stop at Line
8. You may complete the other lessons if you have time

Lesson Challenges (after you have gone through ALL the Basic Lessons)

Straight Move

- None

Curved Move/Tank Move

- See Rubric (drive on curvy course)
- Worksheet
 - o BONUS: Draw an 8
 - o BONUS: Draw the first letter of your name

Move Object

- Grab and move Cuboid 10 – 15 cm and leave it
- Grab and move “large object” 10 – 15 cm and leave it
 - o Eraser and large bin
- See Rubric (drive on curvy course)
 - o Any part of the cuboid touching the end points counts as (in the box)
- Worksheet

Stop at Object

- Make the robot stop after HITTING a wall and back up at least 10 cm
- Make the robot sense a wall between 5 – 10 cm and then back up at least 10 cm
 - o BONUS: The robot senses the cuboid and then lowers the arm around it
- Worksheet

Stop at Line

- Have the robot stop at a line and back up at least 10 cm

*** All Lesson Challenges must be completed before you attempt the BONUS***

Robot Educator Tasks

Beyond Basic

Complete the following lessons

1. Color Sensor Calibrate
2. Multitasking
3. Loop
4. Switch
5. Range

Lesson Challenges (after you have gone through ALL the Beyond Basic Lessons)

Color Sensor Calibrate

- None

Multitasking

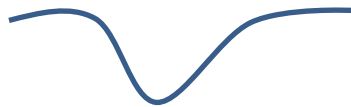
- Program the robot to
 - o Go forward 20 cm WHILE playing a sound, turn 90° and play a different sound WHILE driving at least 20 cm
 - o Go forward 20 cm WHILE playing a sound AND displaying something on the robot

Loop

- Program the robot to go forward until it hits something, turn and repeat until I say stop
 - o BONUS: program the robot to stay on top of a desk
 - Hint: use the ultrasonic sensor

Switch

- Race: See how fast you can get your robot to complete the Straight Line Competition
 - o Straight line of tape for 40 cm
- Race: See how fast you can complete the 90° Turn Competition
 - o 20 cm, 90° turn, 20 cm
- Race: See how fast you can get your robot to finish the Curvy Line Competition
 - o See Diagram Below



- Worksheet

Range

- None

Other:

- Create a program that will make your robot go forward until it hits something, says ouch, turns and drives away and repeats this until you I say stop (think loop)