ROBOTS IN SPACE

Day 1:
1. Introductions, Rules, Expectations, Class Overview, Partner Matching
2. Robots in Space discussion:
   a. What types of robots are in space? What do they do?
   b. What is the benefit of using a robot instead of a person?
3. Begin Satellite construction
   a. Discuss programming with sensors (sequence beam, move blocks, wait blocks, settings)
   b. Complete Satellite programming checklist

Day 2:
Build TaskBot, add one of the Flippers
   a. Discuss programming differences between Point Turns and Curve Turns
   b. Complete FlipperBot checklist
   c. Modify FlipperBot for bomb removal challenge

Day 3:
1. Complete bomb removal challenge (Taskbot must navigate around obstacles and remove the "bomb" before time runs out.) *bonus points for returning to starting position after removing the bomb.
2. a. Discuss sensors (Ultrasonic, sound, light and touch) and explain how each are used.
   b. Groups will add sensors
   c. Complete FlipperBot With Sensors Checklist

Day 4:
Bomb Removal and/or Disarming Challenge

Day 5:
1. Complete challenge and/or Optional sumo matches
2. Disassemble FlipperBots
3. Begin construction of RoverBot

Day 6:
Complete construction of RoverBot
   a. Compare/Contrast the Rover with previous robots
   b. Discuss unique programming considerations for Roverbot's steering
   c. Complete RoverBot Checklist

Day 7:
Complete Heat Shield Infrared Repair activity (Robot must navigate through a maze using sensors for turning and the light sensor to light up a designated spot on the floor)

Day 8:
Add remote control to RoverBot
   a. Practice driving the Rover, through a maze, using the remote control

b. Complete Heat Shield Infrared activity using remote control

Day 9:

Mars Rover Race!

    a. Construct an obstacle course and race two Rovers around the track.

    b. Have a championship to determine the fastest rover

Day 10:

Complete Championship

    a. Mars Rover Race!

    b. Optional Sumo match with remote controls

    c. **<u>Disassemble and sort pieces!</u>**