Introduction to LEGO Mindstorms EV3

This document will help familiarize you with what Mindstorms are, how they work, and how SCLS is making them available for libraries to use for programming.

LEGO Mindstorms are robotic building sets that uses Technic, a more versatile LEGO building system using beams, pins, gears and axles. EV3 is the 3rd generation robot in the Lego Mindstorms robotic line. In addition to the standard Technic building blocks, Mindstorms has three electric motors, five sensors, data cables and a “Brick”. The idea behind Mindstorms is that youth of any age can build, program, test, and modify robots.

* Brick: Each building system comes with one Brick. Think of the Brick as the brain of the robot. It’s a CPU that has 4 inputs, 4 outputs, control panel, display, USB and SD device ports. It also has a rechargeable battery pack with a charger.
* Motors: Individual kits contain 2 large motors for turning wheels and 1 small motor for moving gears. Motors are connected to the output of the Brick.
* Sensors: Individual kits contain 2 touch sensors, 1 ultrasonic sensor, 1 gyro sensor and 1 color sensor. The sensors are connected to the input of the Brick.

SCLS purchased the educational “Core” set. The Core set is designed more for problem solving.

SCLS is offering two Mindstorms labs. Each lab will contain 5 sets of LEGO Mindstorms and 5 laptops with the LEGO Mindstorms software installed. To minimize the possibility of missing equipment between labs and maximize the number of libraries able to borrow the labs, libraries may borrow **ONE** lab at a time.

The laptops in the labs all have DeepFreeze installed so any programs created or changes to existing programs need to be saved to a USB flash drive or SD card before shutting the laptop down. Changes will not be saved once the laptop is rebooted.

The LEGO Mindstorms software installed on each of the laptops contains information about building and programing each of the 5 robots in the kit.