Robotics in the Classroom

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Introductions

- Name
- Position
- Robotics Experience

Robot: a definition

A machine which:

- follows instructions to
- complete a task which is often
- too dangerous, complex, or repetitive for humans

Components of a robot:

HUMAN		ROBOT (NXT)
Brain	*remembers and follows instructions*	NXT Brick
Muscles / Legs	*moves (output)*	Motors / Wheels
Nervous system	*relays messages*	Wires
Sensory organs	*receives information (input)*	Light Sensor, Ultrasonic Sensor, Touch Sensor, Sound Sensor

Getting ready

Prepare your robot by:

- installing batteries (or recharge pack) in the NXT brick
- install the NXT-G (LabView) software
- establish connection with bluetooth or USB cable
- explore the kit and identify the 4 sensors & 3 motors
- practice navigating through the NXT brick menus

Programming your robot:

- Click http://www.ni.com/academic/mindstorms/works.htm to see a demonstration

Task #1

play a sound

(no building necessary)

Task #2

drive forward for 4 feet and stop

(build the TRIBOT driving base)

Task #3

drive forward for 4 feet
then return to the starting point

(use the TRIBOT driving base)

Task #4

drive in a square
returning to the starting point

(use the TRIBOT driving base)