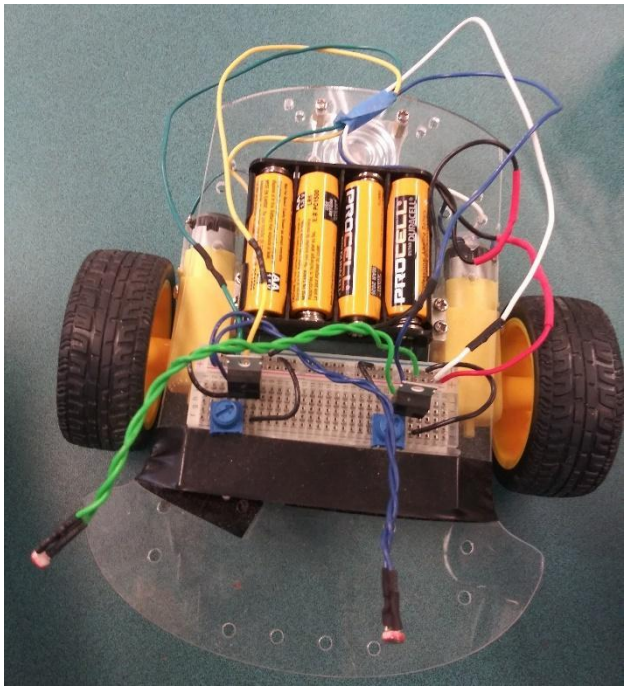
Light Sensitive Rover

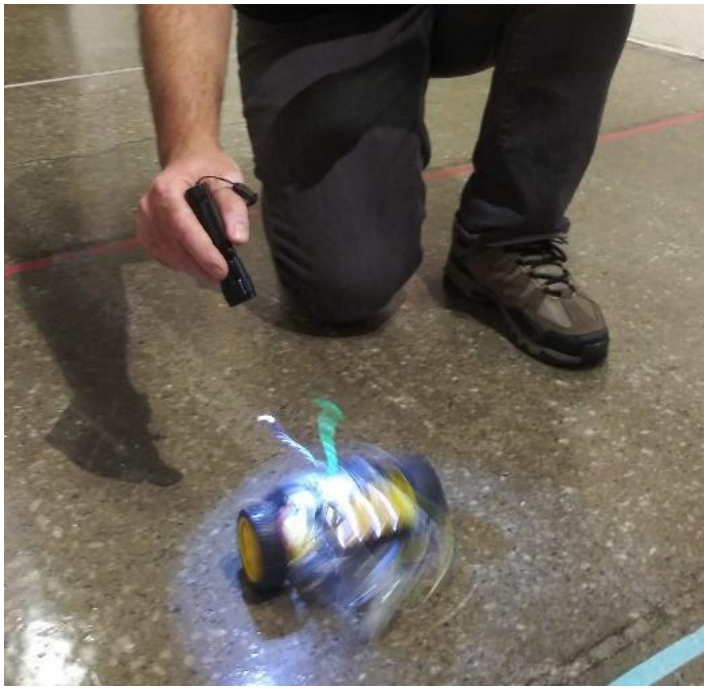
Shared by: K12Maker team at MIT Edgerton Center

Specialized tools and materials used:	Experience level required:
Electronic components and breadboards	Intermediate

Grade Level and Subject: High school Computer Science, Engineering

Topic/Content Standards: Computational Thinking, Analog electronics



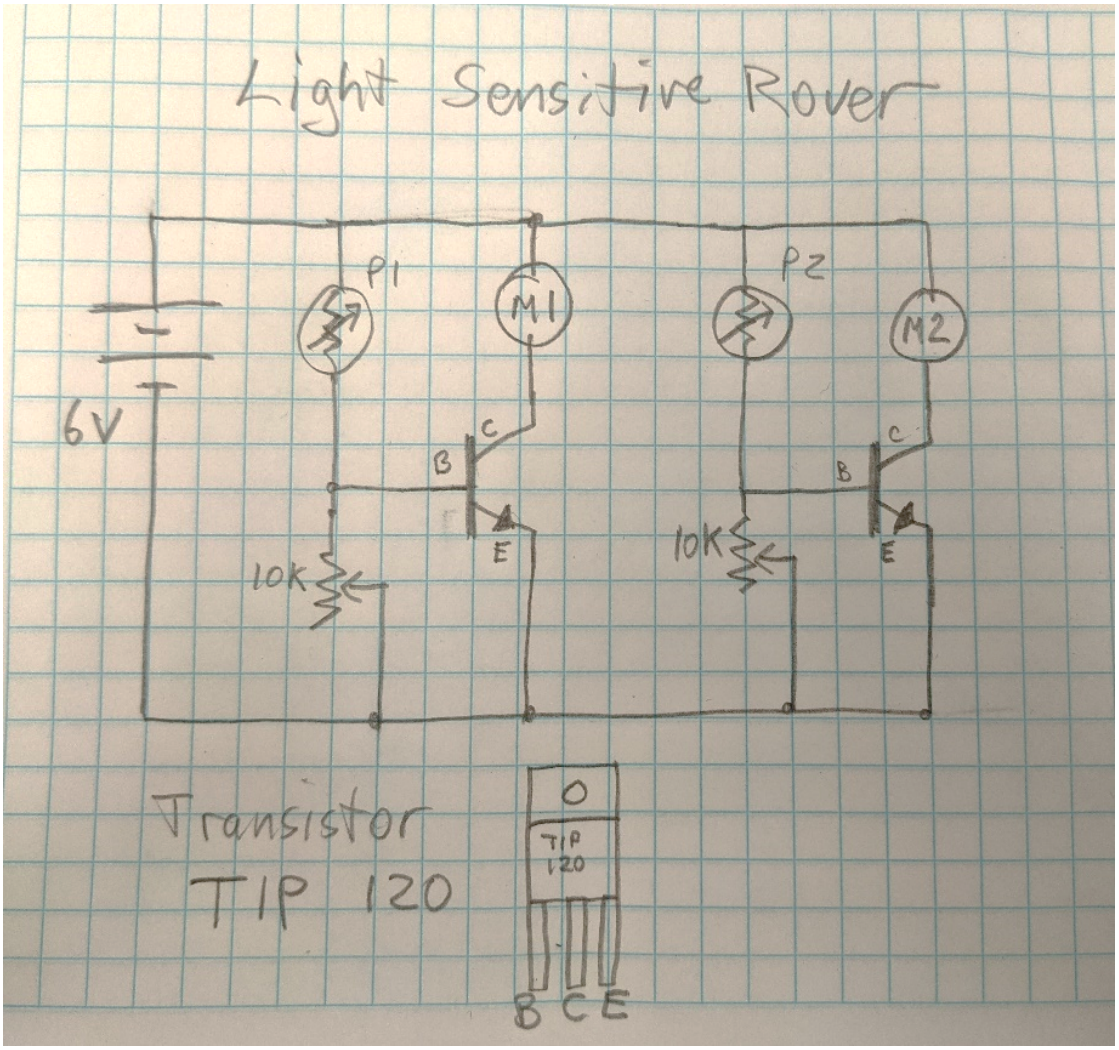


Summary of Project:

Students investigate robotics that don't use a computer to process logic. In this project, simple analog components to create a motor driver circuit that responds to light.

Moving the light sensors changes the behavior of the robot car - it can chase the light or run away from it.

Use a robot car kit or build you own with hobby motors and wheels. Adjust the potentiometers to match the light levels in the space and balance the performance of the motors.



Materials

- Simple car with 2 gear motors such as Amazon.com: 2WD Smart Robot Car
- 6 V battery pack
- Solderless Breadboard
- 2 Power transistors: TIP 120 such as TIP120-R NPN Power Transistor, NPN: Amazon.com
- 2 Potentiometers, 10K such as Amazon.com: 10K Ohm Breadboard Trim Pot
- 2 Photoresistors such as 30 Pieces Photoresistor: Amazon.com