

# Boy + Bot

## RIF EXTENSION ACTIVITIES FOR EDUCATORS

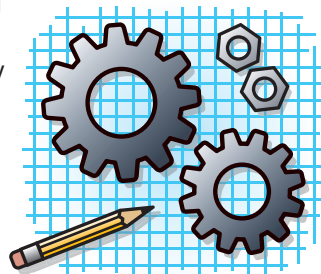
STEAM-THEMED: SCIENCE, TECHNOLOGY, ENGINEERING, ART, MATH

### SCIENCE, WRITING INVENTORS CHALLENGE!

Put students into teams or small groups and have them design a robot to help your school.

They should consider the following: What problem does the school need to solve? How can a robot help? What should our robot be made of? What size should it be? What will it use for energy? Who will watch it after school? Draw a picture of your robot.

Younger students can share their answers orally; older students should make a poster.



### TECHNOLOGY, ENGINEERING CLEAN THOUGHTS!

Visit [www.prezi.com/3q6gm2glchst/jeromes-dirty-floors](http://www.prezi.com/3q6gm2glchst/jeromes-dirty-floors) for a story version of the creation of the robotic vacuum.

### ENGINEERING, SCIENCE, MATH EARLY CHILDHOOD ROBOTICS NETWORK

Visit [www.tkroboticsnetwork.ning.com](http://www.tkroboticsnetwork.ning.com) for resources on using robotics in the K-2 environment

### ART, ENGINEERING, MATH RECYCLED ROBOTS

Materials: plastic cups (short and tall), paper towel tubes, cereal boxes, oatmeal containers, bottle caps, buttons, construction paper, craft glue, tape, silver metallic spray paint, wiggle eyes

Let children use the materials to build their own robots. Have an adult spray the robots with spray paint. Let dry. Add wiggle eyes with craft glue. Encourage children to think of names for their robots and describe one thing their robot likes to do. They should also list the 3-D shapes they used to build their bot.

### MATH BUILD A BOT!

#### Kindergarten

Give students pattern blocks to make their own robots. Students can count and graph the shapes used.

#### 1st/2nd Grade

Assign each type of pattern block a number value and give students a key. Instruct students to create a robot out of pattern blocks. Using the number values, students must add together how much each robot body part is worth based on the pattern blocks used. For example: if square blocks are worth 1 and a student uses 3 squares to make a leg, that leg is worth  $(1+1+1)$ .

#### 2nd Grade

Robots need to be programmed and given specific directions to complete a task. Let students practice being programmers and robots while working on coordinate grids. Make a large grid using a plastic shower curtain and colored electrical tape. Label the grid. Place robot pieces (pattern blocks) on grid. Have one child (the robot) stand at (0,0) while the programmer gives directions on which coordinate to move to in order to collect the block. Construct robot as each block is collected.

