



Ladybug Robots -This Way and That Way



Background: Our PK students attend library on a regular basis. They are read to and discuss stories and books on a variety of themes.

The librarian will read: What the Ladybug Heard, by Julia Donaldson. The plot of the story is about Hefty Hugh and Lanky Len who have a cunning plan: they'll sneak past all the animals and steal the farmer's fine prize cow. But they forget all about the tiniest, quietest creature on the farm—the ladybug.

The PK teacher will lead a brief discussion about ladybugs; their body parts, wings, colors.

The ITRT will demonstrate how the robot ladybugs (Blue Bot) are operated.

Each teacher will have a group of students, a Blue Bot, and materials to make a farm.

Challenge: Plan and implement a straight path for the robot ladybug to reach the "pond" at the end of the library table.

Criteria-Design 1: Using Step by Step, the students will program the Blue Bot to reach the "pond" at the end of the library table. How many times do you have to push the button for the robot to reach the pond? Use a 6" ruler or 6" cardboard square to measure the distance between the Blue Bot and the lake. How many presses will it take for the robot to reach the pond? Was your estimation close, exact, way off?

Materials-Design 1: 6" Ruler, 6" cardboard square, library table, pond, Blue Bot

Criteria-Design 2: Obstacles such as farm animal toys and fences will be placed in the path of the Blue Bot. Students will have to plan how to maneuver the robot around these obstacles to reach the pond. An additional button will need to be incorporated on this challenge that allows the robot to change direction. Can you predict how many straight and how many turns you will need to reach the pond? Was your estimation close, exact, way off?

Materials-Design 2: Same as above, but add obstacles such as farm animal toys, fencing.

What's next? Design a road and write down how many times to push the forward button and the turn buttons. Ask a friend to program a Blue Bot to follow your directions.

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