Code a Bug – Debug Your Code

Grade: 5

This Discovery lab allows students to engage with robotics and coding as they work through a series of team programming challenges. Students will learn that algorithms are a series of steps followed to complete a task and work collaboratively to learn about design and revision process to creating the best possible algorithm for their robot.

K-12 Computer Science Standards Framework: Algorithms and Program Development Common Core: 5.OA.1/2.

During the Discovery Lab students will be expected to:

· Sit in groups of 4 students per table.

· Work cooperatively with one another at the table.

· Follow the hands-on procedures just as the Lab teacher or assistant explains them.

· Handle materials and equipment carefully.

It is important that teachers and chaperones:

· Help focus the students' attention.

· Assist students with lab activities through questioning allowing the student to do the programming and robot use. For example a parent might ask, "What did you notice when you pushed that button?"

· Engage students at a higher level by asking open-ended questions throughout the class. For example: why did you choose _____?

· Turn off cell phones and other electronic devices during the class.

Literary connection:

To get students excited about the upcoming Discovery lesson we suggest reading the following book with your students: *Ada Lovelace, Poet of Science: The First Computer Programmer* by Diane Stanley. This fantastic biography tells the story of an amazing, but little-known, hero of STEM, Ada Lovelace. The art is whimsical and her story is told in an orderly fashion. Included in the back of the book is a glossary, notes from the author and a timeline of important dates in computer science. We think this is a great way to introduce kids to the concept of computer programming.

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