Grade:

Discovery Lab Description:

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.

During the Discovery Lab students will be expected to:

- Sit 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 actual data collection and decision making. 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 activity.

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.



K-12 Computer Science Standards Framework: Algorithms and Program Common Core: 5.0A.1/2

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