Unit 5: Java Software	Estimate Unit Length: 1-2 weeks
Course Code/Course Title: Robotics 1	Date Created: 7/16/2018

Students will understand	**Essential Questions: How does science and Biology relate to me?**
- Describe what Java software is and what functions it controls. - Describe data types, variables, and logic as it relates to programming. - While working in teams, program several different functions for the built robot, utilizing different sensors - Communicate with clarity and precision. - Build a design and programming journal for each project.	- What is Java Software? - How can Java software be used to manipulate robot hardware?

Sub-Unit Components/Sub-Headings/Objectives

Java Software	Data Variables	Logic Applications	Robot Build		

Knowledge—Students will know…

Describe what Java software is and what functions it controls.
Describe data types, variables, and logic as it relates to programming.
While working in teams, program several different functions for the built robot, utilizing different sensors
Communicate with clarity and precision.
Build a design and programming journal for each project.

Standards	**Assessments/Evidence**
(HS-ETS1-1) Analyze complex real-world problems by specifying criteria and constraints for successful solutions. (HS-ETS1-4) Use mathematical models and/or computer simulations to predict the effects of a design solution on systems and/or the interactions between systems.	Closed –Ended Selected Response (Optional) - Multiple Choice - True/False - Matching Open-Ended Constructed Response (Required) - Short Answer - Visual Representation (Web, Concept Map, Flow Chart, Graph / Table, Picture) Products (Optional) - Log/Journal Student Self-Assessment (Required) - Teacher-Made Prompts for Reflection - Bell-Ringers - Discussion (Whole-Class or Small Group)

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	• Self Evaluation Peer Evaluation (Required)

Reading and Writing Standards (except for English/Language Arts courses)

RST.11-12.7 - Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. (HS-ETS1-1), (HS-ETS1-3)

RST.11-12.8 - Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. (HS-ETS1-1), (HS-ETS1-3)

RST.11-12.9 - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. (HS-ETS1-1), (HS-ETS1-3)

Instructional Resources/Materials

- Java Software
- Computer
- Compiler