

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

<p><b>Students will understand</b></p> <ul style="list-style-type: none"> <li>List and describe the different tools used in programming languages.</li> <li>Describe data types, variables, and logic as it relates to programming and software tools.</li> <li>Communicate with clarity and precision.</li> <li>Build a design and programming journal for each project.</li> </ul>	<p><b>Essential Questions: How does science and Biology relate to me?</b></p> <ul style="list-style-type: none"> <li>How are software tools and how are they different from programming?</li> <li>How is Software tools used to modify programs and their ability to communicate with the robot via hardware?</li> </ul>
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**Sub-Unit Components/Sub-Headings/Objectives**

Programming Language	Programming Journal				
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**Knowledge—Students will know...**

<p>List and describe the different programming languages.  Describe data types, variables, and logic as it relates to programming.  Communicate with clarity and precision.  Build a design and programming journal for each project.</p>
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**Standards**

**Assessments/Evidence**

<p>(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.</p>	<p>Closed –Ended Selected Response (Optional)</p> <ul style="list-style-type: none"> <li>Multiple Choice</li> <li>True/False</li> <li>Matching</li> </ul> <p>Open-Ended Constructed Response (Required)</p> <ul style="list-style-type: none"> <li>Short Answer</li> <li>Visual Representation (Web, Concept Map, Flow Chart, Graph / Table, Picture)</li> </ul> <p>Products (Required)</p> <ul style="list-style-type: none"> <li>Log/Journal</li> </ul> <p>Student Self-Assessment (Required)</p> <ul style="list-style-type: none"> <li>Teacher-Made Prompts for Reflection</li> <li>Bell-Ringers</li> <li>Discussion (Whole-Class or Small Group)</li> <li>Self Evaluation</li> </ul> <p>Peer Evaluation (Required)</p>
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**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**

- Software
- Computers
- Compilers