

C++ Unit 2 Unit 2: Advanced Syntax

ESTABLISHED GOALS:		
<u>Competencies:</u> - Students will demonstrate the ability to explain the process used to translate high level languages to low level languages in order to create executable images. - Students will demonstrate the ability to analyze machine code to utilize its correct interpretation in order to solve a problem. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> CSTA - Computer Science Teacher Association <u>CSTA 3B-A-5-7:</u> Decompose a problem by creating new data types, functions, or classes. <u>CSTA 3B-A-5-8:</u> Demonstrate code reuse by creating programming solutions using libraries and APIs (e.g. graphics libraries, maps API.) <u>CSTA 3B-D-4-25:</u> Discuss how data sequences (e.g. binary, hexadecimal, octal) can be interpreted in a variety of forms (e.g. instructions, numbers, text, sound, image.)	Transfer	
	Students will be able to independently use their learning to improve efficiency through creating complex structures and use of patterns.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - mathematical operators are a subset of the larger set of computer operators. - logic can be used to analyze a situation and devise an efficient solution.	ESSENTIAL QUESTIONS What decisions are appropriate for computers to make for people?
	Acquisition	
	Students will know... - that C++ consists of a robust language syntax that includes many operators used to process and display data. - that C++ uses decision structures to allow for alternative actions based on data values. - that C++ has looping structures that allow lines of code to be repeated. - that creating a looping structure for multiple lines of code reduces potential error. <u>vocabulary:</u> assignment statement, cin, comparison operator, cout, decision structure, false path, IDE, logical operator, modulus operator, loop, true path	Students will be skilled at... - applying C++ operators to produce results for word problems. - breaking down problems by creating new data types, functions, or classes. - selecting the most appropriated structure to solve a problem. - evaluating and using the most suitable program structure to solve a problem. - explaining how data sequences can be interpreted. - creating a program solution that shows code reuse.
Content Area Literacy Standards		21st Century Skills
RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text		Make Judgements and Decisions

RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. WHST.9-10.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.	● <i>Manage Goals and Time</i> ● <i>Be Self-directed Learners</i> ● <i>Solve Problems</i>
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<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

<i>Summary of Key Learning Events and Instruction</i>	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
● 1.OA.1 Use	● 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
● 1.OA.1 Use	