

AP Computer Science Unit 2: Primitive Data Types and Objects

Unit #:	APSDO-00019733	Duration:	3.0 Week(s)	Date(s):	
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Team:
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Grades:
11, 12

Subjects:
Mathematics, Science

Unit Focus

In this unit, students will focus on the Java primitive data types int, double, boolean and char. Students are introduction to the concept of objects using the String class. Students learn about the size and magnitude of built in data types. Students use the assignment statement and operator precedence. Summative assessments may include projects, labs and tests. Primary instructional materials include: Java Software Solutions for AP Computer Science, Lewis, Loftus and Cocking, APCentral Computer Science Course Webpage.

Stage 1: Desired Results - Key Understandings

Established Goals	Transfer	
<p>Common Core <i>Mathematics: 11</i></p> <ul style="list-style-type: none"> Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. <i>CCSS.MATH.CONTENT.HSF.IF.A.1</i> Interpret complicated expressions by 	<p>T1 (T10) Describe, classify, and compare objects/numbers and sets of objects/numbers. T2 (T14) Perform operations within the real and complex number system. T3 (T31) Represent, summarize, and interpret data to clarify and solve problems or to make informed decisions.</p>	
	Meaning	
	Understandings	Essential Questions
	<p>U1 (U100) Objects and sets of objects can be given numerical descriptions. U2 (U307) A data set is summarized by its properties (e.g., central tendency, variability). U3 (U550) Attention to detail, such as</p>	<p>Q1 (Q511) What characteristics/attributes define this type of problem? Q2 (Q551) How precise do my quantities need to be for my calculations to be accurate?</p>

<p>viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.</p> <p><i>CCSS.MATH.CONTENT.HSA.SSE.A.1.B</i></p> <ul style="list-style-type: none"> Attend to precision. <i>CCSS.MATH.MP.6</i> 	<p>specifying units of measure and labeling, leads to clarity in expressing mathematical information.</p>	<p>Q3 (Q550) Did I use clear language (symbols, labels, terms, units of measure and significant digits) to explain my reasoning to others?</p>
Acquisition of Knowledge and Skill		
Knowledge		Skills
		<p>S1</p> <p>Classification of data into primitive data types int, double, char and boolean</p> <p>S2</p> <p>Assignment statements with correct data types</p> <p>S3</p> <p>Programming mathematical expressions with appropriate data structures</p> <p>S4</p> <p>The manipulation of string objects</p> <p>S5</p> <p>The declaration and instantiation of objects from the standard Java libraries</p>
Stage 3: Learning Plan		
Coding	Code	Description of Learning Activity