

Essential Skills for Algorithms & Programming: Variable

Grade	Standards AP.V.01	Essential Skills
K	With guidance, model the way programs store and manipulate grade-level data by using numbers or other symbols to represent information (e.g., encode or decode words using numbers, pictographs or symbols to letters, words, or direction).	<p>Identify and interpret symbols that are used to represent information such as numbers for quantities or letters for sounds.</p> <p>Create and use symbols to represent information such as establishing hand signals for "I agree" or creating emoji-like symbols for feelings.</p>
1	With guidance, model the way programs store and manipulate grade-level data by using numbers or other symbols to represent information (e.g., encode or decode words using numbers, pictographs or symbols to letters, words, or direction)	<p>Identify and interpret symbols that are used to represent information such as mathematical operators, pictographs,</p> <p>Create and use symbols to represent information such as comparative quantities, repeating patterns, a series of actions, or directions.</p>
2	Model the way programs store and manipulate grade-level data by using numbers or other symbols to represent information (e.g., encode or decode words using numbers, pictographs or symbols to letters, words, or direction).	<p>Encode or decode messages that use representations such as arrows, pictographs, etc. when given a key.</p>
3	Create programs that use variables to store and modify grade appropriate data .	<p>Create a computer program, using code that is provided, in which variables are used to store data.</p> <p>Identify the data that is stored in a variable in a computer program that uses a variable.</p>
4	Create programs that use variables to store and modify grade-appropriate data.	<p>Create a computer program in which a variable is used to store data.</p> <p>Identify how a variable changes within a computer program that uses a variable.</p>
5	Create programs that use variables to store and modify grade-appropriate data.	<p>Create a computer program in which the value of a variable changes, resulting in a change in the output of the program.</p> <p>Use variables for more than one type of data (e.g., text and numbers) in a computer program.</p>

Skills for Standard: AP.V.01 Grades K-5

These annotations are a collaboration between [Maryland Center for Computing Education](#) and the [Maryland State Department of Education](#).

