

Intro to Computer Science: Unit1: Intro to Programing

Stage 1 Desired Results

ESTABLISHED GOALS:

Competencies:

- *Students will demonstrate the ability to effectively communicate by creating a digital product.*
- *Students will demonstrate the ability to manipulate and analyze data in order to solve problems.*
- *Students will demonstrate the ability to engage appropriately with a variety of digital tools to understand their place in the digital world.*
- *Students will demonstrate the ability to select and utilize a variety of digital tools to meet their learning objectives.*
- *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.*
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Content Standards:

- 2-AP-11 Create clearly named variables that represent different data types and perform operations on their values.
- 2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.
- 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse.
- 3A-AP-18: Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.

Transfer

Students will be able to independently use their learning to use tools to complete tasks.

Meaning

ENDURING UNDERSTANDINGS

Students will understand that...

- Programs are lists of instructions, in a very specific syntax, that are executed by computers.
- Programs can be used to develop a wide array of solutions to complex problems.

ESSENTIAL QUESTIONS

- Do all problems need solutions?

Acquisition

Students will know...

- that python is one of many programing languages.
- That programming solutions use an array of computer science techniques sch as loops, conditionals, variables and funcions.

vocabulary: variable, conditional, loop, function, parameter.

Students will be skilled at...

- Breaking down complex problems into smaller components that can be solved more easily.
- Developping Python programs to draw images on a computer canvas.
- Reducing code repetition through the use of loops.
- Reusing code through the use of functions and parameters.
- Developing programs that make decesions through the use of if/else statements.

• 3B-AP-14: Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests •		
Content Area Literacy Standards		21st Century Skills
<u>RST.9-10.4</u> 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 9-10 texts and topics</i>. <u>RST.11-12.3</u> 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. <u>RST.11-12.4</u> 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>. <u>RST.11-12.9</u> 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. <u>WHST.11-12.4</u> Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		• <i>Reason Effectively</i> • <i>Access and Evaluate Information</i> • <i>Be Self-directed Learners</i> • <i>Solve Problems</i>

Stage 2 - Evidence

<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

<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	