AFRL NM STEM Academy
Slice of Py Activities
Content Standard Alignment

			Drawing a Name with Code	Drawing a Polygon with User Input	Drawing a Mosaic with User Input	Turtle Race Game	Compare Lists
Common Core Standards for English Language Arts (Grades 6-8)							
Reading Standards for Literacy in Science and Technical Subjects							
	Key Ideas and Details						
Grades 6-8	3.	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	X	X	X	X	X
	Craft and Structure						
Grades 6-8	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 *grades 6-8 texts and topics* .	X	X	X	X	X
	5.	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	X	X	X	X	X
	6.	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	X	X	X	X	X
	Integration of Knowledge and Ideas						
Grades 6-8	7.	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	X	X	X	X	X
	Range of Reading and Level of Text Complexity						
Grades 6-8	10.	By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.	X	X	X	X	X
Common Core Standards for Mathematics (Grades 6-8)							
Mathematical Practices							
1.		Make sense of problems and persevere in solving them.	X	X	X	X	X
2.		Reason abstractly and quantitatively.	X	X	X	X	X
4.		Model with mathematics.	X	X	X	X	X
5.		Use appropriate tools strategically.	X	X	X	X	X
6.		Attend to precision.	X	X	X	X	X
7.		Look for and make use of structure.	X	X	X	X	X

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Next Generation Science Standards (Grades 6-8)							
Performance Expectations							
Science and Engineering Practices							
Engaging in scientific investigation requires not only skill but also knowledge that is specific to each practice.							
	1.	Asking questions (for science) and defining problems (for engineering)	X	X	X	X	X
	2.	Developing and using models	X	X	X	X	X
	3.	Planning and carrying out investigations	X	X	X	X	X
	5.	Using mathematics and computational thinking	X	X	X	X	X
	6.	Constructing explanations (for science) and designing solutions (for engineering)	X	X	X	X	X
	8.	Obtaining, evaluating, and communicating information	X	X	X	X	X
Computer Science Standards (Grades 6-8)							
Algorithms and Programming							
2-AP-11		Create clearly named variables that represent different data types and perform operations on their values.	X	X	X	X	X
2-AP-12		Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.		X	X	X	X
2-AP-13		Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.	X	X	X	X	X
2-AP-14		Create procedures with parameters to organize code and make it easier to reuse.	X	X	X	X	X
2-AP-16		Incorporate existing code, media, and libraries into original programs, and give attribution.	X	X	X	X	X
2-AP-19		Document programs in order to make them easier to follow, test, and debug.	X	X	X	X	X

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International Society for Technology Education Standards							
Innovative Designer							
	◆	**Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources**					
	4a	Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	X	X	X	X	X
	4c	Students develop, test and refine prototypes as part of a cyclical design process.	X	X	X	X	X
Computational Thinker							
	◆	**Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.**					
	5a	Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.	X	X	X	X	X
	5d	Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	X	X	X	X	X
Creative Communicator							
	◆	**Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.**					
	6b	Students create original works or responsibly repurpose or remix digital resources into new creations.	X	X	X	X	X
	6c	Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.	X	X	X	X	X