SUBJECT: Design and Animation	GRADE: 7
Unit Title: Drawing with Shapes	**Time Frame: 14 Days**
UNIT OVERVIEW	
Within this unit students will learn how to create drawings and shapes with colors and opacity.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
Creativity and Innovation (S3B)	**1A-AP-14:** Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. **2-AP-13:** Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. **2-AP-17:** Systematically test and refine programs using a range of test cases.
COMPETENCIES	**LEARNING TARGETS**
I can demonstrate an understanding of the canvas.	• I can use (x, y) coordinates to talk about places on the canvas.
I can draw various shapes on the canvas.	• I can draw shapes with a radius- circles and stars. • I can draw shapes with width/height- rectangles and ovals. • I can draw miscellaneous shapes- lines and labels.
I can use inputs to change the alignment or visual properties of shapes.	• I can recognize which inputs can be applied to which shapes • I can successfully use inputs to replicate shapes and text • I can explain the purpose of a specific input.

SUBJECT: Design and Animation	GRADE: 7
Unit Title: Basic Animations	**Time Frame: 10 Days**
UNIT OVERVIEW	
Within this unit students will learn how to use functions, onMousePress and onMouseRelease events and other shape properties.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
Critical Thinking and Problem-Solving (S4B)	**1A-AP-14:** Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. **1B-AP-08:** Compare and refine multiple algorithms for the same task and determine which is the most appropriate. **1B-AP-10:** Create programs that include sequences, events, loops, and conditionals. **2A-AP-13:** Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. **2-AP-17:** Systematically test and refine programs using a range of test cases. **3A-AP-16:** Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.

	3A-AP-21: Evaluate and refine computational artifacts to make them more usable and accessible.
COMPETENCIES	**LEARNING TARGETS**
I can use functions to cause mouse events.	● I can use 'onMousePress' to cause an event when the mouse is pressed. ● I can use 'onMouseMove' to cause an event when the mouse is moved. ● I can use arithmetic to offset the distance of a shape being drawn.
I can change the properties of shapes.	● I can identify the position, size and appearance of shapes. ● I can create a variable to access the property of a shape. ● I can use arithmetic to add or subtract from a property. ● I can recognize properties such as: size, position, fill, border and other.
I can approach a challenge with computational thinking.	● I can debug a program using a variety of methods ● I can use the iterative process to solve a problem ● I can create programs by creating and testing code in an incremental approach

SUBJECT: Design and Animation	**GRADE: 7**
Unit Title: Giving Programs Options	**Time Frame: 10 Days**
UNIT OVERVIEW	
Within this unit students will learn how to onMouseMove and onMouse Drag events, conditionals, and helper functions.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
Critical Thinking and Problem-Solving (S4B)	**1A-AP-14:** Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. **1B-AP-08:** Compare and refine multiple algorithms for the same task and determine which is the most appropriate. **1B-AP-10:** Create programs that include sequences, events, loops, and conditionals. **2-AP-12:** Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. **2-AP-13:** Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. **2-AP-17:** Systematically test and refine programs using a range of test cases. **3A-AP-16:** Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions. **3A-AP-21:** Evaluate and refine computational artifacts to make them more usable and accessible. **3A-AP-23:** Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
COMPETENCIES	**LEARNING TARGETS**
I can code a program with conditionals.	● I can use common conditions and if-else statements to run code.

I can use key functions to interact with the canvas.	• I can use the 'onKeyPress' function to cause a key event in my code.
I can use best practices while programming.	• I can use pair programming techniques to complete a project • I can test code frequently to assure that it is working correctly. • I can make sure my project meets the requirements

SUBJECT: Design and Animation	**GRADE: 7**
Unit Title: Animating Lots of Shapes	**Time Frame: 10 Days**
UNIT OVERVIEW	
Within this unit students will learn how to use groups, loops and random values.	
LRG SKILLS AND DISPOSITIONS	**PA STANDARDS**
Critical Thinking and Problem-Solving (S4B)	**1A-AP-10:** Develop programs with sequences and simple loops, to express ideas or address a problem **1A-AP-14:** Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. **1B-AP-08:** Compare and refine multiple algorithms for the same task and determine which is the most appropriate. **1B-AP-10:** Create programs that include sequences, events, loops, and conditionals. **2-AP-12:** Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. **2-AP-13:** Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. **2-AP-17:** Systematically test and refine programs using a range of test cases. **3A-AP-13:** Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests. **3A-AP-21:** Evaluate and refine computational artifacts to make them more usable and accessible. **3A-AP-23:** Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
COMPETENCIES	**LEARNING TARGETS**
I can simplify complex behaviors.	• I can create a group of shapes that can be moved or changed together. • I can add, remove and change the properties of shapes within a group. • I can use for loops to access individual shapes within a group.
I can approach a challenge with computational thinking.	• I can identify patterns when working through challenges • I can plan and create a project by breaking it into smaller parts using procedures. • I can use the iterative process to solve a problem

	• I can create programs by creating and testing code in an incremental approach • I can describe the purpose of a section of code.
I can use best practices while programming.	• I can use correct terminology • I can test code frequently to assure that it is working correctly. • I can recognize that identifying and defining problems and proposing a solution can be challenging. • I can make sure my project meets the requirements