Rossville Middle/Senior High School
Curriculum Map

Course: Computer Science 6th Grade	**Quarter 1/2/3/4 Rotational**	**Academic Year: 2023-2024**

Essential Questions for this Unit:

1. Why would I want to use a Graphics Program to Draw?
2. How would I draw using a Graphics Program?
3. What does a storyboard do in the design process?
4. Why types of projects could I use a storyboard for?
5. Why would I want to use a Web Authoring Tool?
6. How do I use a Web Authoring Tool?
7. How do I use Graphics with a Web Authoring Tool?
8. What is the purpose of using a Web Authoring Tool to present information?

Unit	**Data and Information**
Time Frame	**2 Weeks**
Standards	6-8.DI.1: Decompose (break down) problems into smaller, more manageable subsets by applying the algorithmic problem solving steps to make the possible solutions easier to follow, test, and debug. 6-8.DI.2: Collect data using computational tools (e.g., sensors, inputs like microphones) and transform the data to make it more useful and reliable. 6-8.DI.3: Examine the data represented by different program variables to ensure consistent format and remove errors. 6-8.DI.4: Describe that data can be represented in multiple encoding schemes such as binary, RGB values, hexadecimal codes 6-8.DI.5: Create visuals such as flowcharts, diagrams, pseudocode to represent complex problems as algorithms.

Content	1-Google Logo Draw Assignments 2-All About Me Storyboard 3-All About Me Website 4-All About Me Presentation
Skills/Objectives	1. Fostering an inclusive computing culture; 2. Collaborating around computing; 3. Recognizing and defining computational problems; 4. Developing and using abstractions; 5. Creating computational artifacts; 6. Testing and refining computational artifacts 7. Communicating about computing
Assessment	Google Drawing Rubric All About Me Rubric
Resources	Google Drawing YouTube Tutorials Word Document Wix.Com

Essential Questions for this Unit:

1. What is the correct hand placement for typing correctly?
2. How does the Home Row in Typing Affect All Keystrokes?
3. How does using the Correct Typing Format Affect my Typing Speed?

Unit	**Digital Literacy-Typing**
Time Frame	**2 Weeks**
Standards	6-8.DL.1: Select appropriate tools and technology resources to support learning and personal productivity, publish individual products, and design, develop, and publish data, accomplish a variety of tasks, and solve problems. 6-8.DL.2: Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts. 6-8.DL.3: Demonstrate an understanding of the relationship between hardware and software.
Content	1-Lessons 1-18 Over Learning How to Type the Correct Procedures 2-Timed Writings Over Correct Format of Typing
Skills/Objectives	1. Fostering an inclusive computing culture; 2. Collaborating around computing; 3. Recognizing and defining computational problems; 4. Developing and using abstractions; 5. Creating computational artifacts; 6. Testing and refining computational artifacts 7. Communicating about computing
Assessment	Completed FreeTypingGame.net Lessons 1-18 Timed Writings
Resources	Internet Computer FreeTyping.net

Essential Questions for this Unit:

1. What is a Computer Physical Components?
2. How do you Input Data into a Computer?
3. How do you Output Data with a Computer?
4. How does the Computer Process the Data that You Put In?
5. What are the different processes for storing data on a Computer?
6. How can you create an App that processes Input Data and give Output Data?

Unit	**Computing Devices and Systems**
Time Frame	**2 Weeks**
Standards	6-8.CD.1: Design projects that combine hardware and software components to collect and exchange data. 6-8.CD.2: Systematically identify and fix problems (troubleshoot) with computing devices and their components (e.g. checklist, decision tree, flowchart). 6-8.CD.3: Recommend improvements to the design of computing devices, based on analysis of how users interact with the devices. 6-8.CD.4: Describe what distinguishes humans from machines focusing on ways we can communicate, as well as ways in which computers use models of intelligent behavior (e.g., robot motion, speech and language understanding, and computer vision).
Content	1-Code.org Lesson 2-4 What is a Computer? 2-Code.org Lesson 2-5 Input and Output 3-Code.org Lesson 2-6 Processing 4-Code.org Lesson 2-7 Storage 5-Code.org Lesson 2-8 Propose an App
Skills/Objectives	1. Fostering an inclusive computing culture; 2. Collaborating around computing; 3. Recognizing and defining computational problems; 4. Developing and using abstractions; 5. Creating computational artifacts; 6. Testing and refining computational artifacts

	7. Communicating about computing
Assessment	Propose an App Rubric
Resources	Code.org Website

Essential Questions for this Unit:

1. How can you use a computer program to design a Game?
2. What are the steps for the Programming Process?
3. What are the different Programming stages in designing a Game?
4. What are the basic steps in Designing a Game?
5. Why Do I Test and Debug a Game I Have Created?
6. How Do I Test and Debug a Game I Have Created?

Unit	**Programs and Algorithms**
Time Frame	**3 Weeks**
Standards	6-8.PA.1: Demonstrate dispositions to open-ended problem solving within programming (e.g., persistence, brainstorming, creativity, debugging, iterating). 6-8.PA.2: Modify, remix, or incorporate portions of an existing program into one's own work to develop something new or add more advanced features. 6-8.PA.3: Design and iteratively develop programs that combine the following: sequencing, looping (including nested loops), conditionals (including compound conditionals), expressions, variables, functions, and parameters. 6-8.PA.4: Systematically test and refine programs using a range of test cases 6-8.PA.5: Use the basic steps in the algorithmic problem-solving process to evaluate and revise solutions using a range of test cases. 6-8.PA.6: Incorporate existing code, media, and libraries into original programs and give attribution 6-8.PA.7: Document programs in order to make them easier to follow, test, and debug.

Content	1-Gamemaker Space Bubbles Game Tutorial 1 2-Gamemaker Space Bubbles Game Tutorial 2 3-Gamemaker Space Bubbles Game Tutorial 3 4-Gamemaker Space Bubbles Game Tutorial 4 5-Gamemaker Space Bubbles Game Tutorial 5 6-Gamemaker Personal Game Test
Skills/Objectives	1. Fostering an inclusive computing culture; 2. Collaborating around computing; 3. Recognizing and defining computational problems; 4. Developing and using abstractions; 5. Creating computational artifacts; 6. Testing and refining computational artifacts 7. Communicating about computing
Assessment	Gamemaker Space Bubbles Tutorial 1-5 Completion Gamemaker Personal Game Test Rubric
Resources	GameMaker Software Graphic Programs Internet