Content Area: Coding and Gaming
Grade: 8

Unit	Enduring Understandings	Essential Questions	Objectives	Skills
Unit 1: Introduction to Coding and Gaming	Students will understand that: ● There are different languages used to code games and applications ● How to write in different code languages ● How to implement code into games and apps to achieve desired results ● What happens if there are errors in your code ● How to fix errors in code to allow games and apps to function properly	● How does code help games and apps work? ● What are the different coding languages? ● Why do you need to be specific when coding? ● What happens when you are not specific when coding? How can you fix it?	Students Will Be Able To: ● Write code to run basic functions ● Identify daily uses of coding and programming ● Analyze where and how coding is used ● Analyze and fix errors in code ● Connect and rearrange blocks of code ● Place instructions in a logical sequence ● Add new code from the toolbox to a script ● Write code using events ● Organize code across multiple sprites ● Use conditionals to make sprites react to each other ● Nest conditionals inside loops	● Analyze ● Evaluation ● Interconnection

Unit 2: Games and Animations	Students will understand that: ● Code is used to create the world, characters, and objects in games ● Code is used to program characters and objects to perform functions in games ● Code is used to allow characters and objects to interact with each other and the worlds both are in	● How do you create worlds, characters, and objects in games? ● How do you code characters and objects to function and interact with each other? ● Why is it important to ensure that the world, characters, and objects function and interact properly?	Students Will Be Able To: ● Create an interactive game using sequence and event-handlers. ● Define “coding” and “computer science.” ● Identify actions that correlate to input events. ● Identify key computer science vocabulary. ● Identify places to go to continue learning computer science and coding. ● Share a creative artifact with other students. ● Create dance	● Create ● Define ● Develop ● Share ● Identify

			animations with code ● Develop programs that respond to timed events ● Develop programs that respond to user input ● Make connections between computer science concepts and the real world	
Unit 3: App Design	Students will understand that: ● Coding and programming play a huge role in the functionality of apps they use every day ● How geographic information and statistics are used to make interactive maps	● How is coding used to create the apps you use every day? ● Why is it important to input correct data when making your apps? ● How important of a role does	Students will be able to: ● Given a series of maps showing different components, students will analyze and compare the different purposes of each map. ● Learn the basics of Sprite Lab by creating multiple sprites, changing their location,	● Identify ● Write ● Engage ● Demonstrate ● Develop

	• Coding and programming play huge roles in the design and layout of the apps they use every day • Why app design plays a huge role in the application creation process	designing play in the Application creation process? • Why is it important to have peers test and provide feedback on your apps?	setting their size property, making the sprite “speak,” assigning a behavior, and using the when touches event to make their program interactive. • Reflect on the role of a map maker to develop a deeper appreciation for the purpose and value of maps as tools for understanding the world around them. • Demonstrate geographic knowledge, coding skills and creativity by coding an interactive map with personally relevant and important landmarks. • Identify ways in which maps can vary based on the mapmaker's decisions.	

			• Utilize coding skills to incorporate text explanations within the interactive map to communicate the significance of landmarks. • Demonstrate an understanding of the power of using code to make a map interactive, engaging users and enhance geographic understanding. • Engage in a personal reflection on the coding process of creating a digital map, highlighting successes, challenges, and lessons learned. • Practice effective presentation strategies when showcasing the interactive map to peers, including clear	

			communication of implemented features, the purpose, and the significance of the project. ● Write thoughtful observations and provide constructive evaluations of peer projects, offering feedback and suggestions for improvement. ● Articulate their observations and interpretations of the graphic design choices through class discussions or written responses. ● Learn coding concepts and tools necessary for creating a digital book cover. ● Demonstrate the ability to provide and receive	

			constructive feedback by giving warm and cool feedback to a partner, and applying the received feedback to revise their own work. ● Develop summarization skills by effectively summarizing a story, including introducing two key characters and their roles in the plot. ● Identify coding blocks and concepts needed for the book cover project. ● Reflect on their own digital book cover projects and identify the design elements they chose to include and the reasons behind those choices.	
Unit 4: Artificial Intelligence	Students will understand that:	● How can AI support code development?	Students Will Be Able To:	● Form ● Understand

	• Artificial Intelligence can be used to help programmers when coding • There are concerns regarding the ethicality of Artificial Intelligence and its use in coding • There are times when Artificial Intelligence can hinder the coding process rather than help it • Pros and cons must be weighed when considering the use of Artificial Intelligence in coding	• What ethical considerations should be addressed when using AI in coding? • How can AI assist during the programming process? • How can AI enhance your ability to develop and understand algorithms? • How does integrating AI into the debugging process impact the balance between creativity and problem-solving efficiency?	• Form initial decisions on responsible AI use • Understand the ethical implications of the learner-AI relationship • Craft value statements regarding AI use in initial coding stages • Utilize AI tooling strategies useful during the initial stages of the programming process • Plan algorithms with the assistance of AI tooling strategies\ • Analyze and expand their finished programs with the assistance of AI tooling strategies.	• Craft • Utilize • Plan • Analyze