

COMPUTER SCIENCE (CODING/PROGRAMMING/ETC...)

Grade:
6th - 8th (Middle School)

Unit Plan: Interactive Game Design (Javascript Block Code)

Pacing: 15/20 Day Plan

PLC Question: What do we want all students to know and be able to do?

Grade Level Priority Standards:

- ***8.AP.V.01** - The Proficient student: 1) Creates clearly named variables; 2) Creates variables that represent different data types; and 3) Performs operations on the values of variables.

Supporting Standards:

- ***8.DA.CVT.01** - The Proficient student uses computational tools to: 1) Transform data to improve reliability by removing errors and 2) Highlight or expose relationships in the data.
- ***8.AP.M.01** - The Proficient student decomposes problems and sub-problems into parts for the design, implementation, and review of programs.
- ***8.AP.PD.04** - The Proficient student documents programs in order to make them easier to follow, test, and debug.
- ***8.IC.SLE.01** - The Proficient student: 1) describes tradeoffs between allowing information to be public and keeping information private and secure.

Essential Question:

- Can you create a game with Javascript Block coding?

Learning Progression:

*5.AP.V.01

*8.AP.V.01

*L1.AP.V.01

Student Friendly Learning Targets

Standard:

- I am learning how to code **Javascript** for a game:
 - ☐ I will correctly: **create a sprite** in my code
 - ☐ I will correctly: **use dot notation for my sprite properties**
 - ☐ I will correctly: **add text** to my code
 - ☐ I will correctly: **create a sprite** in my code
- I am learning how to code **Javascript** for a game:
 - ☐ I will correctly: **use the draw loop** to animate my code
 - ☐ I will correctly: **use the counter pattern for specific movement** in my code

Essential EDD's

- Class Expectations
- Get Ready for Class
- Review of Previous Day
- Learning Target/Success Criteria
- Introduction to Skill
- Work on Skill Together
- Student Work on Skill
- Exit Ticket (Skill Learned)
- Advanced Work

PLC Question: How will we know when students have learned the information?

Assessment and Evidence

State Required Assessments • N/A	District Essential Assessments • Team Generated Common Formative Assessments (2 to 3 weeks) • End of Module/Unit Project.	Supporting Evidence Classroom Assessment and Evidence: • Daily Work • Exit Tickets • Checklists and observation
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Priority Standard Proficiency Scale

Score 4	The student will: Create an game with incorporating all score 3 attributes (16/16 and more) and making sounds.
Score 3	The student will: Create an animated scene with all of the score 2 attributes (16/16):

	☐ Sprites ☐ Score/Lives ☐ Game Controls ☐ Comments ☐ Clean code (no bugs, correct formatting, comments)
Score 2	The student will: Create an animated scene with most of the following attributes (13/16): ☐ Sprites ☐ 2 Character Sprites ☐ 1 Background Sprite ☐ Named Properly ☐ Changed Parameters ☐ Sprite Properties ☐ Score/Lives ☐ Text to show ☐ Counter to add to score/lives ☐ Font Color ☐ Font Size ☐ Align the text ☐ Game Controls ☐ 2 ways to move the player ☐ Moving obstacles that loop ☐ Win Screen ☐ Lose Screen ☐ Comments ☐ Clean code (no bugs, correct formatting, comments)
Score 1	The student will: Create an animated scene with some of score 2 attributes (12/16 or less): ☐ Teacher assistance
Score 0	No Evidence (Missing Completely)

PLC Question: How will teachers facilitate the learning?

Key Curriculum Resources and Instructional Strategies		Supporting Resources and Instructional Strategies
• Computer		Digital Tools: • Code.org • Canvas
PLC Question: What will we do when students have not learned the information?		
Interventions		
Tier 3 • Before/After school assistance	Tier 2 • Extra time in class • Peer Tutoring (Mentoring)	
PLC Question: What will we do when students have learned the information?		
Enrichment		
Investigate building an animated game.		

PLC Reflections
How will we increase our instructional competence? PD and Online Resources
How will we coordinate our efforts as a collaborative team? Work on questioning techniques and organizational strategies.