

**Davison Community Schools**  
**7th-8th Grade Computer Science Discoveries**

**Course Outline**

- Unit 1: The Problem Solving Process
- Unit 2: Creating Graphics
- Unit 3: Sprites
- Unit 4: Animation in Loops
- Unit 5: Conditionals & Inputs
- Unit 6: Complex Motion & Collisions
- Unit 7: Functions
- Unit 8: Game Design
- Unit 9: Physical Computing

**Priority Standards**

**COMPUTING SYSTEMS**

2-CS-01	Recommend improvements to the design of computing devices, based on an analysis of how users interact with the devices.
2-CS-02	Design projects that combine hardware and software components to collect and exchange Data.
2-CS-03	Systematically identifies and fixes problems with computing devices and their components.

**ALGORITHMS AND PROGRAMMING**

2-AP-10	Use flowcharts and/or pseudocode to address complex problems as algorithms.
2-AP-11	Create clearly named variables that represent different data types and perform operations on their values.
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-14	Create procedures with parameters to organize code and make it easier to reuse.
2-AP-15	Seek and incorporate feedback from team members and users to refine a solution that meets user needs.
2-AP-16	Incorporate existing code, media, and libraries into original programs, and give attribution.
2-AP-17	Systematically test and refine programs using a range of test cases.
2-AP-18	Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.
2-AP-19	Document programs in order to make them easier to follow, test, and debug.