Video Game Design

Subject: Computer Science	**Topic or Unit of Study:** Computer Programming
Grade/Level: Grades 6-8	**Time Allotment:** 6 hours
Objectives: ● Students will learn the basics skills of the Scratch coding platform. ● Students will design and program a chase game. ● Students will create their own controller for their game.	**Standards:** ● **5.AP.A.01:** Develop, compare, and refine multiple algorithms for the same task and determine which algorithm is the most appropriate. ● **5.AP.C.01:** Create programs using a programming language that includes sequences, loops, conditionals, event handlers, and variables that utilize mathematics operations to manipulate values in order to solve a problem or express an idea. ● **3-5.AP.M.02:** Modify, remix, or incorporate portions of an existing program into one's own work, to develop or add more advanced features (grade-level appropriate). ● **5.AP.PD.03:** Create, test, and debug a program that includes sequencing, repetition, and variables in a programming language to ensure it runs as intended.
Synopsis: Students will use Scratch to create their own video game, then create a video game controller for their own game!	**Materials:** ● Teacher/instructor lesson plan ● Teacher/instruction Google Slides presentation ● Teacher computer with access to internet and teacher presentation ● Student computers ● Scratch login information for each student (this needs to be done prior to class using a Scratch educator account) ● Game Planning Paper (one copy per student) ● MakeyMakey (one per student) ● Aluminum foil strips (one per student)