

7th Grade Computer

2018-2019

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Scope

- This course is offered three times every two weeks for **three** quarters of the entire year. It is designed to develop a deeper level of use of the computer as a viable tool in their career as middle school students.
- [MAKING](#) in the Middle School

Learning Objectives

- By providing them with weekly hands-on computer lessons, students will:
 - Become familiar with technology related vocabulary
 - Gain an in-depth working knowledge of:
 - Scratch to create interactive game
 - Conditional statements (if, if/else, when touching sprites, x or y location)
 - Loops (forever, repeat, repeat until)
 - Create variables (score, timer)
 - Define and call Functions
 - Adobe Photoshop to edit images found on the internet
 - Audacity to edit and record audio for multimedia projects
 - Physical computing with MakeyMakey to create custom controller
 - Students will use the Stanford's Design Thinking Method to create a custom game controller to be used by a specific age group (pre-K/first grade)
 - TinkerCad to design and create 3D printed objects
 - Take the 2D model used with Makey Makey to create it in 3D.
 - Export file as .stl, utilize a slicer program, and troubleshoot and problem solve settings if not working properly
 - Lego Robotics Mindstorm to build robots and program to perform specific tasks.
 - Top Down Design
 - Structure of program
 - Conditional statements
 - Use of Sensors
 - Loops
 - Switches
 - Physical Computing:

- Physical computing with the **HummingBird** Kit to use as a final project to incorporate into programming with Scratch :
 - Sensors and Wiring
 - Incorporate Sensors

- Physical computing with the **CircuitPlayground Express**
 - Using sensors to light up LEDs
 - Motors

Homework

- [TinkerCad](#) online tutorial to prepare for 3D design.
- Continue to practice keyboarding using online typing program to become more proficient and to build speed. Click [here](#) for the link to TypingPal.com
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Method of Assessment

- Students will demonstrate proficiency of specific skills by working independently on computer and collaboratively with a partner

Grading

- Students will be rewarded primarily for maintaining a high level of effort and demonstrating a positive attitude as they pursue increasing levels of interaction with the computer.