**Computer Literacy**

**Intro to Coding**

**Apple Swift Playgrounds Level 1 & 2**

**Arlington Middle School (Grades 6-8)**

**Ms. Beasley (8th Grade)**

In our Computer Literacy (Intro to Coding) course, we will be teaching **Apple’s Swift Playground** course to your student.

**WHAT IS CODING?**

Technology has a language. It’s called code, and we believe coding is an essential skill. Learning to code teaches you how to solve problems and work together in creative ways, and it helps you build apps that bring your ideas to life. We think everyone should have the opportunity to create something that can change the world, so Apple has designed a new program that lets anyone learn, write, and teach code.

Apple. (2017). *Everyone Can Code*. Retrieved from https://www.apple.com/education/everyone-can-code/)

 **Students learn:**

how the Internet works

basic computer programming

logic, problem solving, and creativity

**WHY CODING?**

Software is everywhere. It’s shaping almost every aspect of how we live our live, but very few kids are learning how to create games, apps and programs.

 **Did you know?**

90% of American schools don’t teach computer science.

Fewer students are learning how computers work than a decade ago!

All students can learn to code. But girls and students of color are severely underrepresented in computer science.

By 2020, it is estimated that 500,000 informational technology jobs will be available.

In keeping with our school’s mission, Computer Literacy will allow us to empower our students with critical-thinking skills for navigating a diverse and technological world.

Learn more at <https://www.apple.com/education/everyone-can-code/>

**Curriculum Outline (Tentative)**

**Learn to Code 1 (Semester 1)**

By solving puzzles in a dynamic 3D puzzle world, students will develop a set of coding skills to build up their basic programming vocabulary. Their coding journey begins with simple commands, functions, and loops. From the start, they’ll write real Swift code—the same code used by real programmers.

* **Lesson 0**—Getting Started. Students get an introduction to computer science and the goals of the course. Lesson 1—Think Like a Computer: Commands and Sequences. Students learn about the use of commands and sequences in an everyday situation, then code using commands and sequences.
* **Lesson 2**—Think Like a Detective: Debugging. Students learn about the use of debugging in an everyday situation, then debug with code.
* **Lesson 3**—Think Efficiently: Functions and a Bit of Loops. Students learn about the use of functions and for loops in an everyday situation, then code using functions and for loops. Review and Reflect. Students review Lessons 1 through 3, review their portfolios, and create a community with peer-to-peer review.
* **Lesson 4**—Thinking Logically: Conditional Code. Students learn about the use of conditional code, Booleans, and logical operators, then code using conditional code, Booleans, and logical operators.
* **Lesson 5**—Think Again and Again: While Loops. Students learn about the use of while loops in an everyday situation, then code using while loops.
* **Lesson 6**—Think the Same Idea: Algorithms. Students learn about the use of algorithms in an everyday situation, then code using algorithms.
* **Review and Reflect**. Students review coding concepts from Lessons 3 through 6, continue reflection on their portfolios, and continue their community experience.

**Learn to Code 2 (Semester 2)**

Students will build on their fundamental knowledge of Swift. They’ll journey beyond simply solving puzzles and create worlds of their own. They’ll learn about variables and types, the coding constructs that allow them to store and access information. These new skills, along with initialization and parameters, will give them even more ways to use code to interact with their characters and the puzzle world, allowing them to change the rules of the world itself.

* **Lesson 7**—Think Like a NewsBot: Variables. Students learn about the use of variables in an everyday situation, then code using variables.
* **Lesson 8**—Think Like an Architect: Types. Students learn about the use of types in an everyday situation, then code using types and initialization.
* **Lesson 9**—Think Specifically: Parameters. Students learn about the use of parameters in an everyday situation, then code using parameters.
* **Lesson 10**—Think Organized: Arrays. Students learn about the use of arrays in an everyday situation, then code using arrays.
* **Milestone Project.** Students build their own worlds using the concepts learned throughout the program, creating a story to go with the world. They reflect on what they've learned, using both their portfolios and the community peer-to-peer review.

**How Will I Be Graded?**

Assessments will come from the following three categories:

1. **Warm-Up Activities** (assigned daily) **10%**
2. **Portfolio** (performance-based assignments, journal reflection, written responses) **30%**
3. **Tests/Projects** (comprehensive assessments over material in Swift Playground lessons) **40%**
4. **Quizzes** (vocabulary assessments for Swift Playground lessons) **20%**

 **TOTAL 100%**

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**THIS FORM MUST BE SIGNED AND RETURNED TO YOUR TEACHER BY FRIDAY, AUGUST 11**

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Parent Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_