

## Course Description:

Scratch Coding (1 of 1) introduces the basics and logic of programming language in Scratch. Topics include introducing and using the different tools in Scratch; creating programs that include loops, variables, lists, or conditionals; and identifying and fixing errors in a program. The course concludes with putting the tools and concepts all together to create a larger program.

## Course Objectives:

- Compare multiple sets of code for the same task to identify the most effective code.
- Create programs that use variables or lists.
- Write and describe specific parts of programs that include sequences, events, loops, or conditionals.
- Break problems down into smaller, manageable subproblems to create programs.
- Modify, remix, or incorporate portions of existing media or code into a program that will add more advanced features.
- Plan, develop, and modify a program by using feedback from others.
- Use appropriate credit when creating or remixing programs or media.
- Identify and fix errors of a program or an algorithm to make sure it runs as intended.
- Describe and perform role responsibilities during the design, implementation, and review stages of program development.
- Describe choices made during program development in Scratch using code comments.

## Required Materials:

None.

## Course Overview:

### Unit 1: Scratch Basics

- **Lesson 1: Learn Scratch Basics**
  - Activity 1 : Instruction: Define Basic Terms of Programming
  - Activity 2: Instruction: Describe Advantages of Learning Scratch
  - Activity 3: Practice: Learn Scratch Basics
  - Activity 4: Checkpoint: Learn Scratch Basics
- **Lesson 2: Identify Parts of Scratch:**
  - Activity 1: Warm-Up: Define Basic Terms of Programming
  - Activity 2: Instruction: Identify Different Parts of Scratch
  - Activity 3: Practice: Identify Different Parts of Scratch
  - Activity 4: Checkpoint: Identify Different Parts of Scratch
- **Lesson 3: Make Sprites Move**
  - Activity 1: Warm-Up: Identify Different Parts of Scratch
  - Activity 2: Instruction: Create Movement with One Sprite
  - Activity 3: Practice: Create Movement with One Sprite
  - Activity 4: Instruction: Create Movement with Multiple Sprites
  - Activity 5: Practice: Create Movement with Multiple Sprites
  - Activity 6: Checkpoint: Make Sprites Move

### Unit 2: Costumes, Backdrops, and Sounds

- **Lesson 4: Change Costumes**

- Activity 1: Warmup : Make Sprites Move
- Activity 2: Instruction : Let's Change the Costumes of Sprites
- Activity 3: Practice: Change Costumes
- Activity 4: Checkpoint: Change Costumes
- **Lesson 5: Add Backdrops and Sounds**
  - Activity 1: Warm-Up: Change the Costumes of Sprites
  - Activity 2: Instruction: Add and Change Backdrops
  - Activity 3: Instruction: Let's Add and Change Sounds
  - Activity 4: Practice: Add Backdrops and Sounds
  - Activity 5: Checkpoint: Add Backdrops and Sounds
- **Lesson 6: Identify and Fix Errors in Code**
  - Activity 1: Warmup: Add Backdrops and Sounds
  - Activity 2: Instructions: Identify and Fix Errors in Code
  - Activity 3: Practice: Identify and Fix Errors in Code
  - Activity 4: Checkpoint: Identify and Fix Errors in Code

### Unit 3: Loops in Scratch

- **Lesson 7: Define and Use Loops**
  - Activity 1: Warm-Up: Add Backdrops, Costumes, or Sounds
  - Activity 2: Instruction: Explain Loops
  - Activity 3: Instruction: Use Loops
  - Activity 4: Practice: Explain and Use Loops
  - Activity 5: Checkpoint: Define and Use Loops
- **Lesson 8: Add Loops Inside of Loops**
  - Activity 1: Warm-Up: Use Loops
  - Activity 2: Instruction: Add Loops Inside of Loops
  - Activity 3: Practice: Add Loops Inside of Loops
  - Activity 4: Checkpoint: Add Loops Inside of Loops
- **Lesson 9: Check the Sequence in Code**
  - Activity 1: Warm-Up: Describe Loops
  - Activity 2: Instruction: Check the Sequence in Code
  - Activity 3: Practice: Check the Sequence in Code
  - Activity 4: Checkpoint: Check the Sequence in Code
  - Activity 5: Project: Develop a Program with Loops
  - Activity 6: Project: Develop a Program with Loops- Submission

### Unit 4: Variables in Scratch

- **Lesson 10: Define Variables in Scratch**
  - Activity 1: Warm-Up: Identify and Describe Loops
  - Activity 2: Instruction: Explain Variables and Their Types
  - Activity 3: Practice: Explain Variables and Their Types
  - Activity 4: Checkpoint: Define Variables in Scratch
- **Lesson 11: Use Variables**
  - Activity 1: Warm-Up: Explain Variables and Their Types
  - Activity 2: Instruction: Use the String Variable
  - Activity 3: Instruction: Use the Number Variable
  - Activity 4: Practice: Use Variables
  - Activity 5: Checkpoint: Use Variables

- **Lesson 12: Use Variables and Loops**
  - Activity 1: Warm-Up: Explain Variables and Their Types
  - Activity 2: Instruction: Write Code with Variables and Loops
  - Activity 3: Practice: Use Variables and Loops
  - Activity 4: Checkpoint: Use Variables and Loops

## Unit 5: Lists and Event Handling in Scratch

- **Lesson 13: Define Lists in Scratch**
  - Activity 1: Warm-Up: Describe Code with Variables
  - Activity 2: Instruction: Define Lists
  - Activity 3: Practice: Define Lists in Scratch
  - Activity 4: Checkpoint: Define Lists in Scratch
- **Lesson 14: Use Lists**
  - Activity 1: Warm-Up: Define Lists in Scratch
  - Activity 2: Instruction: Use Lists
  - Activity 3: Practice: Use Lists
  - Activity 4: Checkpoint: Use Lists
- **Lesson 15: Use Broadcast Events**
  - Activity 1: Warm-Up: Describe Code with Lists
  - Activity 2: Instruction: Use Broadcast Events
  - Activity 3: Practice: Use Broadcast Events
  - Activity 4: Checkpoint: Use Broadcast Events

## Unit 6: Conditionals in Scratch

- **Lesson 16: Define Conditions in Scratch**
  - Activity 1: Warm-Up: Use Broadcast Events
  - Activity 2: Instruction: Use Conditions
  - Activity 3: Practice: Use Conditions
  - Activity 4: Checkpoint: Use Conditions
- **Lesson 17: Use Loops and Conditions**
  - Activity 1: Warm-Up: Use Conditions
  - Activity 2: Instruction: Use Loops and Conditions
  - Activity 3: Practice: Use Loops and Conditions
  - Activity 4: Checkpoint: Use Loops and Conditions
- **Lesson 18: Put It All Together**
  - Activity 1: Warm-Up: Use Loops and Conditions
  - Activity 2: Instruction: Create a Game Using Scratch
  - Activity 3: Practice: Create a Game Using Scratch
  - Activity 4: Checkpoint: Put Everything Together
  - Activity 5: Project: Put Everything Together
  - Activity 6: Project: Put Everything Together- Submission