Overview

This unit will introduce your students to the fundamentals of Scratch. At the end of this unit, students will be able to code their own projects with animated characters, add text or voice for narration, import graphics of their choice, and they will be able to time conversations between characters. They will be able to create animated stories and interactive reports on any topic. This unit also briefly introduces students to the computer science concepts of sequence, event, and loop.

In this unit, students will be able to:

1. Create and log into a Scratch account.
2. Import and edit sprites in the Scratch environment.
3. Define "sequence", "algorithm", "program", "events", "loops", and "animation".
4. Code a project with animation.
5. Code a project using "broadcast" and "receive" blocks to synchronize elements in their project.

Vocabulary Terms

sequence: A set of instructions that follow one another in order
algorithm: A list of steps to complete a task
project: An algorithm written in a language that a computer understands
event: An action that causes something to happen
loop: A sequence of instructions that is repeated
animation: costumes of sprites are "changed" quickly in order to create the appearance of movement in Scratch
sprite: the actors or the main characters of a project

The Big Idea in this unit is to provide students with a basic familiarity and understanding of the Scratch environment so that they are able to comfortably code projects of their own.

Unit Walk-Through

Lesson 1.1: Setting Up Scratch Accounts (25 minutes)	**Lesson 1.2:** Introduction to Scratch (50 minutes)	**Lesson 1.3:** Scratch Charades (50 minutes)	**Lesson 1.4:** Coding Concepts 1 - Sequence, Algorithm, Program (50 minutes)	**Lesson 1.5:** Coding Concepts 2 - Events, Loops, Animation (50 minutes)	**Lesson 1.6:** Broadcasting and Receiving (30 minutes)
Students will create and log into a new Scratch account. Students will be introduced to the Scratch environment. Students will learn about role model Ada Lovelace.	Students will explore parts of the Scratch environment. They will learn how to add their projects to a Scratch students and how to edit edit and import an image in Scratch.	Students familiarize themselves with coding commands, specialfically in the Scratch language, in an unplugged activity acting the scripts out. Students enjoy playing this version of the familiar charades game.	Students will be introduced to the concepts of sequence, algorithm, and program. They will learn the difference between the "glide" and "go to" Scratch block. They will debug an existing project. Finaly, they will tinker in Scratch.	Students will learn about events, loops, and animation. They will learn that animation is a series of images that are in a loop. They will gain an understanding of the concept from a lecture, from videos, from debugging and from making their own flipbook.	Students will learn how to time interactions in Scratch by using the "broadcast" and "receiving" block. This skill enables students to time interactions between characters when creating a digital story or when including narration or music in a project.