

TECHNOLOGY-8
ESSENTIAL UNIT 4 (E04)

(Practical Programming)
(July 2017)

Unit Statement: The student will have the opportunity to think creatively, reason systematically, and work collaboratively through the medium of simple programming. Through the use of Scratch, the student will learn how to create their own interactive stories, games, and animations. Additionally, the student will be able to share their creations with the digital community, modify the creations of others, and participate in an online collaborative learning setting.

This unit does not presume any familiarity with programming concepts or Scratch/ScratchJR in particular. If the student already possess knowledge in this area then their work should be held to higher expectations than outlined here.

Essential Outcomes: (must be assessed for mastery)

1. The Student Will construct a program involving movement by using blocks to create a script.
2. TSW modify a program with sound by using sound blocks.
3. TSW write text into a program by using a say block.
4. TSW illustrate a program by modifying the background image.
5. TSW add an additional character to a program by using a pre-generated or student provided image.
6. TSW synthesize a program utilizing each of the five preceding TSWs.

Introduced & Practiced Outcomes:

1. The Student Will share their program to the Scratch community.
2. TSW modify a program created by another community user.

Suggested Materials/Software:

[Getting Started Guide](#) - A step by step guide that provides an easy introduction to Scratch.

[Scratch Cards](#) - Cards the demonstrate something you can do in Scratch.

Suggested Websites:

Destiny Webpath Express (found on QSI schools Library site)
Use this search engine to find age-appropriate websites that align with this unit.

Scratch - Scratch's home website.

Scratch Video Tutorials - Helpful tutorials on various aspects of Scratch.

ScratchEd - An online community for educators using Scratch.

Scratch Wiki - A wide variety of articles on Scratch, including advanced topics and tutorials.

Scratch Offline Editor - An downloadable version of Scratch - useful if your internet is unreliable.

Scratch and the Physical World - Connecting Scratch to the physical world with MaKey MaKey, LEGO WeDo, or PicoBoard.

Makeblock - Another way to connect Scratch with the physical world.

Suggested Activities, Assessment Tools, & Strategies:

Step by Step Intro

Getting Started Video

Given that students will be creating many artifacts during this unit, assessment should largely be comprised of visual confirmation that their programs work.

ASSESSMENT RUBRIC FOUND ON FOLLOWING PAGE.....

Assessment Rubric – E04 - Introduction to Making (Practical Programming)

Student Name: _____ **Date:** _____

To receive a ‘B’ the student must show ‘B’ level mastery on ALL Essential Outcomes. (TSW’s)

To receive an ‘A’, the student must show ‘A’ level mastery on 4 of 6 available and ‘B’ level mastery on all remaining TSW’s.

TSW	‘A’ Level Mastery	‘B’ Level Mastery	‘P’ Comments
1. The Student Will construct a program involving movement by using blocks to create a script.	The student can construct a program with multiple varieties of movement, with each movement serving a distinct purpose.	The student has constructed a program that involves movement.	
2. TSW modify a program with sound by using sound blocks.	The student can include multiple sounds in a program, each serving a specific purpose.	The student can include sounds in their program.	
3. TSW write text into a program by using a say block.	The student can add meaningful text into a program, and the text serves a purpose.	The student can add text into a program.	
4. TSW illustrate a program by modifying the background image.		The student can modify the background of a program.	
5. TSW add an additional character to a program by using a pre-generated or student provided image.	The student can add additional characters to a program by using a pre-generated or student provided image, and each character serves a purpose.	The student can add an additional character to a program by using a pre-generated or student provided image.	
6. TSW synthesize a program utilizing each of the five preceding TSWs	The student can create a program with at least three elements from each previous TSW with a purpose.	The student can create a program with at least one element from each previous TSW.	