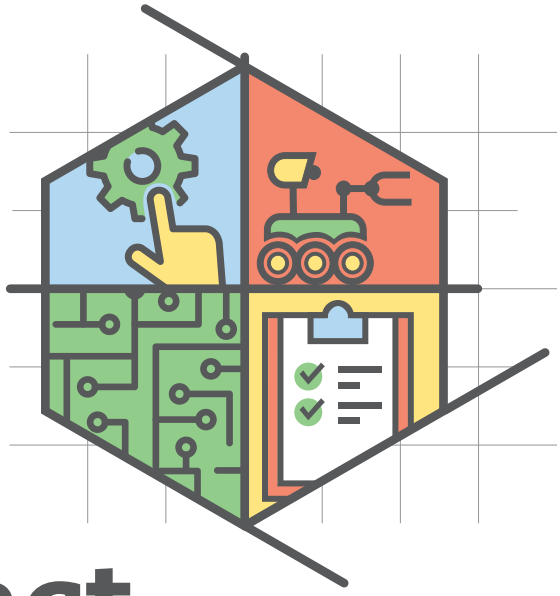
Expressions & Equations Digital Artifact



6th grade mathematics & technology lesson

STEM

6.24.20

ABOUT THIS UNIT

These units were developed by students taking their first pedagogy courses (Fundamentals of Instruction and Methods of Technology Integration) at Washington State University Vancouver's College of Education. ESD 112 and WSUV have partnered together to integrate computer science fundamentals into teacher education courses with the goal of demystifying computer science and encouraging more elementary teachers to expose students to computer science/computational thinking concepts across the curriculum.

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A digital copy of this document is available on the STEM Materials Center website at:
https://www.stemmaterials.org/expressions-equations

ATTRIBUTION

This lesson is a result of a collaborative effort between Educational Service District 112 and Washington State University Vancouver.

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STEM
Science
Technology
Engineering
Math

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OSPI

Overview

Summary/Purpose

The purpose of this lesson is for students to build upon and demonstrate their understanding of Expressions and Equations by engaging in a technology project. This is useful to students in future math classes, as well as a way to reteach what they have learned.

Common Core State Standard

EXPRESSIONS AND EQUATIONS 6.EE.2.A
Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5-y.

CS or Ed Tech Standard

EDUCATIONAL TECHNOLOGY LEARNING STANDARDS: GRADES 6–8: 6.C.
Students create digital artifacts to communicate ideas visually and graphically.

Background/Prior Knowledge

Basic understanding of expressions and equations.

Learning Targets & Assessments

TARGET	ASSESSMENT(S)
Students will create a digital artifact about expressions.	Summative - Formal: Group Technology project: Powerpoint, Google Slides, or Scratch Program.

Sample Artifact

Let's Travel Through Space Google Slides Videogame

Expressions & Equations Scratch Game

Materials Needed

Device connected to the internet

Scratch

Student handout

Instructional Sequence

WHAT WILL THE TEACHER BE DOING?	WHAT WILL THE STUDENTS BE DOING?
Teacher Introduction: "Imagine that you are creating a video game all about expressions and equations. What would your game be like? Would it have a theme? What would the overall goal be? What about expressions and equations would you include? Turn to your neighbor and come up with a list (for about 2 mins) discussing the important key points about expressions and equations that you would include in your possible video game."	
	Students will discuss with their neighbors and create a list.
Introduce targets: "The list you all made on important key points about expressions and equations is going to be created into a digital artifact. Who here knows what a digital artifact is?" (wait time about 40 seconds)	
	Students will volunteer ideas.
If no one answered correctly or answered incompletely: "A digital artifact is any type of item produced and stored in a digital/electronic format, like a computer program, slide presentation, etc. Now that we all know what a digital artifact is, let's create our own about EXPRESSIONS and EQUATIONS!" Distribute and go over project handout.	