Scratch Cross-Curricular Integration Guide

ScratchEd resources for educators seeking to blend Scratch across K-12 content areas

Intro to Scratch Cross-Curricular Integration

Scratch Curriculum Guide
Understanding what creative computing is in a variety of grade-levels and content areas

Levels of Scratch Integration
Thinking of Scratch cross-content integration in three different ways

Creative Computing
Workshop on supporting computational thinking in the classroom

Scratch Across the Curriculum
Presentation on using Scratch in a wide range of subject areas

Scratch Goes to School
Connecting Scratch to classroom curricular goals

Problem Solving & Critical Thinking with Scratch
Showcase of Scratch promotes problem solving and critical thinking across content areas

Integrating Scratch in the Classroom
Cross-curriculum integration ideas

6 Ways to Scratch the Surface
Six strategies for launching Scratch in any classroom

ELA	Math	Science	Fine Arts	Social Studies

Whether you are seeking to plan one lesson merging Scratch with specific academic standards or planning for year-long opportunities for students to explore certain content areas in and through Scratch, the links in the above table provide a launching point for experienced or novice Scratch educators interested in cross-curricular integration.

Each content area tab provides a broad set of resources that explore Scratch in relation to English Language Arts, Math, Science, Arts, and Social Studies. Additionally, each content area tab provides examples of student projects divided into grades 3-8 and 6-12. Projects listed are certainly not exhaustive of what is possible with Scratch or even in given grade-level bands, but they serve more as food for thought or launching points for you and your students to tinker with Scratch whether it be while writing poetry or exploring the water cycle.

Scratch ELA Integration

Resources

The following links provide a broad overview of Scratch and English Language Arts integration

ELA integration & Scratch
Visual Guide to Scratch
Wikibook - Introduction to Scratch
Common Core Technology Literacy
Ideas for Elementary Scratch Curriculum

The following links offer resources with a limited scope on integrating Scratch and ELA instruction

Creating Animated Poems
Creative Writing
Digital Storytelling
Making Vocabulary Quizzes
Read-Aloud Scratch Books
Scratch Book Report
Scratch Journaling
Storytelling - Google CS First
Unit Plan - Creating Scratch Documentary

Project Examples

The links below provide examples of shorter projects integrating Scratch and ELA content

Grades 3-8

Biographical Writing - Black History Month C.J. Walker
Book Report
Creation Myths Retelling
Informative Writing - Water Cycle
Literature Circles
Parts of Speech - Random Sentence Generator
Persuasive Writing - PSA Global Warming

Grades 6-12

Autobiographical Photo Project
Biography - Emily Dickinson
Greek & Latin Roots
Jeopardy - *House on Mango Street*
Poetry - Loneliness
Writing Character Dialogue
Writing Coordinating Conjunctions
Shakespeare Project - 12th Night
    Challenge
    Student Sample

Scratch Math Integration

Resources

The following links provide a broad overview of Scratch and Mathematics integration

Scratch in Math and Science Classes
Using Scratch to Teach Mathematics
Assessing Math through Scratch
Using Scratch to Teach Mathematics
Computational Thinking Webinar

The following links offer resources with a limited scope on integrating Scratch and Math instruction

Algebra-Geometry Unit Plan
Math Exploration Guides
Scratch Galleries Math Projects
Algebra-Geometry Unit Plan
Creating Math Quizzes
Math Algorithms in Scratch
Messages and Variables
Programming Variables Activity
Remixing Activity
Scratch Challenges
Sorting Algorithms in Scratch

Project Examples

The links below provide examples of shorter projects integrating Scratch and Math content

Grades 3-8

Building a Multiplication Game
Coordinate Systems
Creating a Simple Calculator
Estimation Game – CCSS Aligned
Fibonacci Sequence
Fractions MicroWorld
Geometry Lesson
Knight Moves: Patterns
Making a Shape Calculator
Number Theory and Geometry
Probability – Dice Roll Guy
Scratch in Citizens Math

Grades 6-12

Coordinate Planes – 6th CCSS: Introducing Programming through Math
Functions – 8th CCSS: Introducing Programming through Math
Geometry Coordinate Game
Scale Factor – 7th CCSS: Introducing Programming through Math

Scratch Science Integration

Resources

The following links provide a broad overview of Scratch and Science integration

Scratch in Math and Science Classes
Exploring Computer Science
Scratch User Guide

The following links offer resources with a limited scope on integrating Scratch and Science instruction

Lesson Ideas for Middle School Classrooms
Programming Variables Activity
Mitosis: Introducing Programming through Middle School Life Science
Scratch Challenges
Measure Manipulate Reflect
WeDo Project Ideas

Project Examples

The links below provide examples of shorter projects integrating Scratch and Science content

Grades 3-8

Using Loops to Create Gravity System
Poison in American Food: Nutrition
Animated Biome
Connect the Code
Tic-Tac-Toe and Sudoku

Grades 6-12

Anion Game
Binary Counter
Build Lunar Lander
Circuit Simulation
Element Maze
Hybridization of Orbitals
Ohm and Kirchhoff's Laws
Soluble or Insoluble
States of Matter - Kitchen
Working with Graphs

Scratch Fine Arts Integration

Resources

The following links provide a broad overview of Scratch and Fine Arts integration

Art Elements and Principles
Assessing Computational Thinking
Sharing with Scratch

The following links offer resources with a limited scope on integrating Scratch and Fine Arts instruction

Collaborative Scratch Projects
Creative Computing 2012: Show & Tell
From Scratch to Image
Media Mashup
Playing with Text
Scratch Game Booklet
Virtual to Reality

Project Examples

The links below provide examples of shorter projects integrating Scratch and Fine Arts content

Grades 3-8

Colours of the Rainbow
Let's Draw Together (K-3)
Making Interactive Landscapes
Story Time
Fine Arts Programming Projects
Animating Aesop Fables

Grades 6-12

Animated Music Video or Poem
Animation Lessons
Art Exhibition Challenge
Avatar Project
Collaborative Scratch Projects
Dance Party
Design Patterns
Designing Games
Exquisite Corps
Generative Art
Got Art?
Interactive Collage
Polystar
Sequencing Animation
STEAM 6th Grade Curriculum
Top Scratch – Video Game Toolbox

Scratch Social Studies Integration

Resources

The following links provide a broad overview of Scratch and Social Studies integration

Coding in Social Studies Studio
Sharing with Scratch
6 Ways to Scratch the Surface

The following links offer resources with a limited scope on integrating Scratch and Social Studies

Media Mashup
Making Interactive Landscapes
Sharing with Scratch
Lessons for a Middle School Classroom
Scratch Documentary
Digital Storytelling
Making Vocabulary Quizzes
Scratch Book Report
Scratch Journaling

Project Examples

The links below provide examples of shorter projects integrating Scratch and Social Studies content

Grades 3-8

Social Studies Presentation

Grades 6-12

Henry VIII
U.S. Geography & History