TITLE: **INTRODUCTION TO p5.js**

DEVELOPED BY: **Jerusha, Patti & Sarani**
Github Link: https://github.com/hunter-teacher-cert/unit_plan-p5-j5-s5-wot

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GENERAL OVERVIEW - UNIT DESCRIPTION

APPLICABLE GRADE(S): **6th, 7th and 8th.**

TOTAL NUMBER OF LESSONS: **10 - 2-3 Weeks**

FORMAT: **Project Based Assessments & Summative and Formative Assessments**

MOTIVATION FOR UNIT:

Our decision to create this unit was to develop a series of p5.js introductory lessons that are ready to be implemented including a thematic culminating project of expressing ones culture.

NY STATE COMPUTER SCIENCE STANDARDS:

Abstraction and Decomposition:
7-8.CT.4 Write a program using functions or procedures whose names or other documentation convey their purpose within the larger task.

7-8.CT.5 Identify multiple similar concrete computations in a program, then create a function to generalize over them using parameters to accommodate their differences.

Algorithms and Programming:
7-8.CT.6 Design, compare and refine algorithms for a specific task or within a program.

7-8.CT.7 Design or remix a program that uses a variable to maintain the current value of a key piece of information.

7-8.CT.8 Develop or remix a program that effectively combines one or more control structures for creative expression or to solve a problem.

7-8.CT.9 Read and interpret code to predict the outcome of various programs that involve conditionals and repetition for the purposes of debugging.

TOOLS USED:

PROGRAMMING LANGUAGE: **p5.js**

PROGRAM ENVIRONMENT(S): **p5.js IDE** LINK: **https://editor.p5js.org**

ADDITIONAL MATERIALS: See individual lessons

RESOURCES:

Rubric: CurrDev- P5 Project Rubric .pdf
P5Graph CurrDev-p5 graph.pdf
Culture Project Planning Packet CurrDev-CulturalProjectPlan.pdf
Reference Page CurrDevP5 Reference.pdf
INSTRUCTIONAL LINKS:

- https://p5js.org
- https://p5js.org/reference/
- https://p5js.org/examples/
- https://www.codecademy.com/learn/learn-p5js/modules/p5js-introduction-to-creative-coding/cheatsheet
- https://www.w3schools.com/tags/default.asp (W3schools HTML Cheat Sheet)
- https://www.w3schools.com/cssref/index.php (W3Schools CSS Cheat Sheet)
- http://htmlcolorcodes.com (for coloring for P5)

VIDEO LINKS:

- https://www.youtube.com/watch?v=yPWkPOfnGsw&list=PLRqwX-V7Uu6Zy51Q-x9tMWIv9cueOFTFA&index=1&t=0s
- https://www.youtube.com/watch?v=MXs1cOlidWs
- https://www.youtube.com/watch?v=c3TeLi6Ns1E&list=PLRqwX-V7Uu6Zy51Q-x9tMWIv9cueOFTFA&index=4
- https://www.youtube.com/watch?v=riiJTF5-N7c&list=PLRqwX-V7Uu6Zy51Q-x9tMWIv9cueOFTFA&index=5
- https://www.youtube.com/watch?v=LuGsp5KeJMM&list=PLRqwX-V7Uu6Zy51Q-x9tMWIv9cueOFTFA&index=6
- https://www.youtube.com/watch?v=LuGsp5KeJMM&list=PLRqwX-V7Uu6Zy51Q-x9tMWIv9cueOFTFA&index=6
- Youtube - The Coding Train Channel for Additional tutorials

LESSON DETAILS:

ANTICIPATED DURATION: 2 Weeks

LESSON TABLE OF CONTENTS:
WEEK 1: Introduction to P5 Interface - What is P%

Lesson: CurrDev-Unit One- Lesson One- P5 InterfaceCurrDev .pdf

Slide Deck: CurrDev - Unit 1 - Lesson 1 - P5 Interface.docx.pdf

WEEK 2: Creating With Shapes in the P5 Editor -Using the Graph

CurrDev-P5 - Unit 1 - Lesson 2 - Creating with Shapes -CurrDev.docx.pdf (Lesson)

CurrDev-P5 Unit One - Lesson 2 - Creating with Shapes.pdf (Slide Deck)

WEEK 3: Creating with Additional Shapes

CurrDev - Unit 1 - Lesson 3 -Creating With Additional Shapes.docx.pdf (Lesson)

CurrDev-P5 Unit 1 Lesson 3 - Creating Additional Shapes.pdf (Slide Deck)

WEEK 4: Introduction to Creating with Digital Colors

CurrDev-P5 - Unit 1 - Lesson 4 -Creating Digital Colors.docx.pdf (Lesson)

CurrDev-P5 - Unit 1 - Lesson 4 - Digital Colors in P5.pdf (Slide Deck)

WEEK 5: Introduction to Shape Layering with Color

CurrDev - Unit 1 - Lesson 5 -ShapeLayering WithColor.docx.pdf (Lesson)

P5 - Unit One - Lesson 5 - Shape Layering With Color (1).pdf (Slide Deck)

WEEK 6: P5 Summative Quiz

Lesson Plan for Assessment: **CurrDevP5-Lesson6 - Summative Assessment.docx.pdf**

Quiz: **_CurrDev-P5 Quiz for Unit 1 .pdf**

Quiz Answer Key: **CurrDev-P5 Quiz for Unit 1 -AnswerKey.pdf**

Introduction to WEEK 7: **Review of** HTML & CSS

Lesson: **CurrDev - Unit 1 - Lesson 7 - HTML_CSS review.docx.pdf**

Slide Deck: **CurrDevLesson7rev-HTML - Review.pdf**

WEEK 8: CSS Review, Integration & Culminating Project

Lesson: **CurrDev-P5 Unit1 Lesson8CSS Review.docx.pdf**

Slide Deck: **CurrDev P5 Unit One - Lesson 8 - CSS Review.pdf**

WEEK 9: Project Lab Day 1: Work Pd for Project Recap Expectations, Tricks, Tools and Reminders

Lesson: **CurrDevP5 Unit1 Lesson 9 Culminating Project.docx (1).pdf**

Slide Deck: **CurrDevP5 - Unit 1 - Lesson 9 - Cultural Project.pdf** (Final Project Slide Deck)

WEEK 10: Project Lab Day 2: Complete Project and Peer to Peer Support/Feedback & Gallery Walk

Lesson: **CurrDevP5 - Unit 1 - Lesson 9 - Cultural Project.pdf**

Slide Deck: **P5 - Unit 1 - Lesson 10 - Self Reflection and Peer Review (1).pdf**

ASSESSMENTS

SUMMATIVE: Unit One Quiz

CurrDevP5-Lesson6 - Summative Assessment.docx.pdf (Lesson Plan for Assessment)

 _CurrDev-P5 Quiz for Unit 1 .pdf (Quiz)

CurrDev-P5 Quiz for Unit 1 -AnswerKey.pdf (Answer Key)

FORMATIVE: Culture Project

Culture Project Planning Packet CurrDev-CulturalProjectPlan.pdf