TITLE: INTRODUCTION TO p5.js

DEVELOPED BY:  **Jerusha, Patti & Sarani**

| 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** |
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| 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**](https://editor.p5js.org)  ADDITIONAL MATERIALS:See individual lessons |
| Resources: Rubric:  <https://drive.google.com/file/d/1lMPVtwNHcEIQUMTBpnfV06O1dyQXV8D9/view?usp=sharing>  P5Graph <https://drive.google.com/file/d/1ZRwv7PxCBkZcXK21mRlOGEJMbZh19Ron/view?usp=sharing>  Culture Project Planning Packet <https://drive.google.com/file/d/1ro1pvdYHlK4bwFTDWH1aLwD2nE-utkmS/view?usp=sharing>  Reference Page <https://drive.google.com/file/d/1_gXl_PfzrZelWk0g-aqvn74oL2p9WM4G/view?usp=sharing>  **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%**  [**https://drive.google.com/file/d/1o-fy7MuzLR\_5sF\_my9K4CW5EZW2XjkKm/view?usp=sharing**](https://drive.google.com/file/d/1o-fy7MuzLR_5sF_my9K4CW5EZW2XjkKm/view?usp=sharing) **(Lesson)**  [**https://drive.google.com/file/d/1CILvaa4HdAQfOzYJH5T\_xo6Xo8QGUIBG/view?usp=sharing**](https://drive.google.com/file/d/1CILvaa4HdAQfOzYJH5T_xo6Xo8QGUIBG/view?usp=sharing) **(Slide Deck)**  WEEK 2: Creating With Shapes in the P5 Editor -Using the Graph  <https://drive.google.com/file/d/1Q4_U-BsCfFWQ5l6EG6uWa_1PCroYzlYV/view?usp=sharing> (Lesson)  <https://drive.google.com/file/d/1gC2aLxqKyPrYhwnoS-STo5nF5dzojBxk/view?usp=sharing> (Slide Deck)  **WEEK 3:** **Creating with Additional Shapes**  [**https://drive.google.com/file/d/12QbDDfeXE37RHqFTNK-tPer38zDNopFu/view?usp=sharing**](https://drive.google.com/file/d/12QbDDfeXE37RHqFTNK-tPer38zDNopFu/view?usp=sharing) **(Lesson)**  [**https://drive.google.com/file/d/1X-Nc21u\_GBA\_EwU0uNzDyg9XgClixpsS/view?usp=sharing**](https://drive.google.com/file/d/1X-Nc21u_GBA_EwU0uNzDyg9XgClixpsS/view?usp=sharing) **(Slide Deck)**  WEEK 4: Introduction to Creating with Digital Colors  <https://drive.google.com/file/d/1D5oz9EjiSMkIPvOY57EoXSYsWPt6Ihae/view?usp=sharing> (Lesson)  <https://drive.google.com/file/d/1AqjWhXkFbG504WZBDGvDGCJO2gFGqBzI/view?usp=sharing> (Slide Deck)  **WEEK 5:** Introduction to Shape Layering with Color  <https://drive.google.com/file/d/19PVmbOQGpeBo4-b2boLBtOQ9c0MvF-mF/view?usp=sharing> (Lesson)  <https://drive.google.com/file/d/1RcMP0Sy4Wc0ux6WTPY0jT67znRlHyORe/view?usp=sharing> (Slide Deck)  WEEK 6: P5 Summative Quiz  <https://drive.google.com/file/d/1Sdm6jPXen9VpoGczrYBw-7oe8k1hugaH/view?usp=sharing> (Lesson Plan for Assessment)  <https://drive.google.com/file/d/10XgGQ4kLQUoemgdF4FP0GfQDpJQCoITr/view?usp=sharing> (Quiz)  <https://drive.google.com/file/d/1P-Hwr-hJB3fE6eP0TjrJhpbQlFbOx23p/view?usp=sharing> (Answer Key)  Introduction to **WEEK 7: Review of HTML & CSS**  [**https://drive.google.com/file/d/18z\_hElNNbjgOa83pmWjiiAEc9E6FHTRw/view?usp=sharing**](https://drive.google.com/file/d/18z_hElNNbjgOa83pmWjiiAEc9E6FHTRw/view?usp=sharing) **(HTML Review Lesson)**  [**https://drive.google.com/file/d/12scQcO8EMRWSVCEW3\_7iqvnHnhLRQBAj/view?usp=sharing**](https://drive.google.com/file/d/12scQcO8EMRWSVCEW3_7iqvnHnhLRQBAj/view?usp=sharing) **(Slide Deck)**  WEEK 8: CSS Review, Integration & Culminating Project  <https://drive.google.com/file/d/1zdx1o0gFzNZQXDiQ6xaD98U_Rx7Rju4Y/view?usp=sharing> (CSS Review Lesson)  <https://drive.google.com/file/d/184B9Jcn1zgw5tyhXhOL7EDV69FpukWdK/view?usp=sharing> (Slide Deck)  **WEEK 9: Project Lab Day 1: Work Pd for Project Recap Expectations, Tricks, Tools and Reminders**  [**https://drive.google.com/file/d/1XlW\_1IbV8K3rrpvKPX6KaCcsCWhATOm-/view?usp=sharing**](https://drive.google.com/file/d/1XlW_1IbV8K3rrpvKPX6KaCcsCWhATOm-/view?usp=sharing) **(Final Project Lesson)**  [**https://drive.google.com/file/d/15D64qpnhUjt0lJ5HJusMW2jRxsWftz7U/view?usp=sharing**](https://drive.google.com/file/d/15D64qpnhUjt0lJ5HJusMW2jRxsWftz7U/view?usp=sharing) **(Final Project Slide Deck)**  WEEK 10: Project Lab Day 2: Complete Project and Peer to Peer Support/Feedback & Gallery Walk  <https://drive.google.com/file/d/1S5zh5td7zvloB1CDMhR1ZP60nD62FbiE/view?usp=sharing> (Slide Deck  <https://drive.google.com/file/d/15D64qpnhUjt0lJ5HJusMW2jRxsWftz7U/view?usp=sharing> (Lesson on Reflection and Peer Feedback) |
| Assessments SUMMATIVE: Unit One Quiz  <https://drive.google.com/file/d/1Sdm6jPXen9VpoGczrYBw-7oe8k1hugaH/view?usp=sharing> (Lesson Plan for Assessment)  <https://drive.google.com/file/d/10XgGQ4kLQUoemgdF4FP0GfQDpJQCoITr/view?usp=sharing> (Quiz)  <https://drive.google.com/file/d/1P-Hwr-hJB3fE6eP0TjrJhpbQlFbOx23p/view?usp=sharing> (Answer Key)  FORMATIVE: Culture Project  Culture Project Planning Packet <https://drive.google.com/file/d/1ro1pvdYHlK4bwFTDWH1aLwD2nE-utkmS/view?usp=sharing> |