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Unit of Study: P5 Unit One	**Lesson 5 - Shape Layering with Color**
Topic: Shape Layering with Color	**CSDFS: Algorithms and Programming:** **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.6 Design, compare and refine algorithms for a specific task or within a program.** **CSDFS: Algorithms and Programming:** **7-8.CT.10 Document the iterative design process of developing a computational artifact that incorporates user feedback and preferences.** **CCLS: RST 6-8:4 - Determine the meaning of symbols, key terms, and other domain specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.** **Blueprint for the Arts: Digital Media**
Skill: Shape Layering with Color	**Academic Vocabulary:** Function parameter argument canvas JavaScript Pixels Hue Saturation Brightness Transparency Alpha RGB
Warm Up: Think/Write/Pair/Share: Warm Up: How does the program run in P5 in order for the sketch to print effectively.	
Connection: (Review with Class) - We have been working in the P5 editor with JavaScript learning different shapes and grayscale colors. We are now going to learn about the different methods of layering shapes and filling them in with color.	
Mini Lesson: How do we create shapes that can be layered in P5 and filled in with color the way we want them to be filled in? **Remember, in the set up function, we are setting up the background and then in the draw function we**	

are telling P5 what we want it to draw and it is technically constantly looping drawing in the background. With this in mind, how do you think this might affect what you are drawing? Elicit responses from students.
After discussion, have the students open a P5 editor and try drawing an ellipse with the following arguments first ellipse(0, 0, 50, 50); and then draw an ellipse with the arguments(0, 0, 100, 100); and ask them to describe what happens with the two shapes. Then have them reverse the order in which they draw the shapes. What happens now? Why? After discussion, have the students draw a face with two eyes (round or square), a nose (triangle) and a mouth (a line or an arc) using the reference guide if needed. Use comments for each shape like the sample model to help with drawing, layering and filling in with color. Remember, color must come before the shape and each shape must have the color you want it to have or else it will take on the previous color. If you want stroke, you must write stroke() and if you don't want stroke then you write noStroke() & if you don't want color, you use noFill(). Be creative: Add ears, hair, neck, whatever you can. See Example:
https://editor.p5js.org/pelfers-truth/sketches/sw287N7Bf

Quick Check: What did you notice about where I placed the ears in the P5 program?

Work period:
Task: Using the sketch provided with directions, draw the face that you have directions for. If you think you can change some of the shapes, be sure to change the comments to reflect the changes you are making in the sketch. You must have at least 4 different shapes used and 4 different colors. You will turn your work in with your shared link from your P5 sketch and put it in Google Classroom under the appropriate heading for Lesson 5.

Assessments/Questions:

Share/Discuss: What did you create? Let's present a few examples. Any volunteers?

Closing/Exit Ticket:
- Share one new thing that you learned.
- What was challenging? Why?
- What elements would you add to your drawing if you had more time?

Note on grouping:
Students are seated next to a partner with differing ability so the more experienced student can work with the less experienced student. ELL students have similar language partners for additional translation help (if available)

Materials and Scaffolds used: P5 graph, Shapes Reference Sheet, Slide Deck for Lesson, P5 Editor

Additional details used for ELL's and SWD students

Modifications -English Language Learners	Modifications-Special Education/Support Group
• Working with partners • Using visuals/gesture • Total physical response • Rep of modeling • Vocabulary dictionary in the program	• Working with partners • Using visuals/gesture • Total physical response • One/one modeling when needed • Vocabulary dictionary in the program