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<b>Unit of Study: P5 Unit One - Creating With Additional Shapes</b>	<b>Lesson 3 - Creating With Additional Shapes</b>
<b>Topic: Creating Using Additional Shapes Using Vertex</b>	<b>CSDFS: Algorithms and Programming:</b> <b>7-8.CT.10 Document the iterative design process of developing a computational artifact that incorporates user feedback and preferences.</b> <b>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.</b> <b>Blueprint for the Arts: Digital Media</b>
<b>Skill: Creating Using Additional Shapes</b>	<b>Academic Vocabulary:</b> Function parameter argument canvas JavaScript Pixels Hue Saturation Brightness Transparency Alpha RGB Vertex/Vertices
<b>Warm Up: Think/Write/Pair/Share: Warm Up: How does the program run in P5 in order for the sketch to print effectively?</b>	
<b>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 creating shapes using the beginShape() method that uses angles or vertices.</b>	
<b>Mini Lesson: How do we create other types of shapes on the P5 Interface?</b> <b>Lets review the coding for rectangles and ellipses and the punctuation needed.</b> <b>( open parenthesis and</b> <b>Closed parenthesis )</b> <b>{ open curly brace and</b> <b>Closed curly brace}</b> <b>Also a semi colon;</b> <b>And a forward slash /</b> <b>And a comma,</b>	

To start with we like to use comments to describe what we are about to create and we can also use the comment to help us remember the syntax needed for the code for the particular shape or function we are creating. We write this with two forward slashes..// like this

//This is a comment. The P5 editor does not read it. It ignores it and goes to the code.

Here are some tips to help you with your program.

Use auto save, comment your code, debug, duplicate your file, take a break, get a second look from a collaborator!

Lets review the ellipse, rectangle and add the square and the circle

ellipse(x, y, width, height)

rect(x, y, width, height)

square(x, y, width)

circle(x, y, width)

Use the graph to draw your shapes if that helps before you plot them on the P5 editor. Try making one of each shape on the same program. Remember that you have to save your work and rename it. Call it My Second Shapes Project. If you finish early you can try layering your shapes in the following task.

Lets try some other shapes: using beginShape()

vertex(x, y)

endShape(CLOSE)

Here are some examples and can also be found on the reference page under Help, and then search the word Shape or beginShape

beginShape();

vertex(30, 20);

vertex(85, 20);

vertex(85, 75);

vertex(30, 75);

endShape(CLOSE);

**Points:**

beginShape(POINTS);

vertex(30, 20);

vertex(85, 20);

```
vertex(85, 75);
```

```
vertex(30, 75);
```

```
endShape();
```

#### **Lines**

```
beginShape(LINES);
```

```
vertex(30, 20);
```

```
vertex(85, 20);
```

```
vertex(85, 75);
```

```
vertex(30, 75);
```

```
endShape();
```

```
triangles:
```

```
beginShape(TRIANGLES);
```

```
vertex(30, 75);
```

```
vertex(40, 20);
```

```
vertex(50, 75);
```

```
vertex(60, 20);
```

```
vertex(70, 75);
```

```
vertex(80, 20);
```

```
endShape();
```

See the slide deck or reference page for more examples.

Work Period:

Task:

Task: Open up a P5 Editor and use at least four of the beginShape methods introduced in the Slide Deck. Use fill to fill in the shapes with colors and use stroke to give your shapes borders.

**Quick Check: What did you notice about where you placed your coordinates in the beginShape method in the P5 program?**

**Assessments/Questions: How might you use this beginShape() method in other ways?**

**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 Coding Train: <https://www.youtube.com/watch?v=c3TeLi6Ns1E&t=5s>**

**Additional details used for ELL's and SWD students**

Modifications -English Language Learners	Modifications-Special Education/Support Group
<ul style="list-style-type: none"><li>• Working with partners</li><li>• Using visuals/gesture</li><li>• Total physical response</li><li>• Rep of modeling</li><li>• Vocabulary dictionary in the program</li></ul>	<ul style="list-style-type: none"><li>• Working with partners</li><li>• Using visuals/gesture</li><li>• Total physical response</li><li>• One/one modeling when needed</li><li>• Vocabulary dictionary in the program</li></ul>