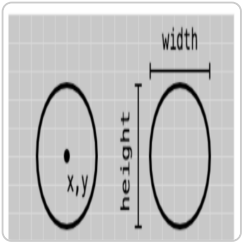


Intro to the p5 Coordinate Grid

SESSION CODE

Overview

Experiment and practice with the p5 coordinate grid

Activity Checklist

- [ ] Complete the activity using student preview.
- [ ] Identify your learning targets for the activity.
- [ ] Determine the screens where you'll bring the class together using Teacher Pacing and Pause Class. What will you discuss on those screens?
- [ ] Anticipate screens where students will struggle, then plan your response.
- [ ] Plan a challenge for students who finish the activity quickly and successfully.
- [ ] Make yourself available during the activity to students for individual help and questions when appropriate.
- [ ] Write out your summary of the activity's main ideas. How will you pull student work into that summary? Which parts of the activity can you skip to ensure that summary receives sufficient time?

My Learning Targets:

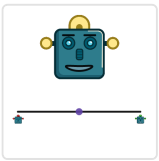
Activity Screens: Teacher Pacing and Pause Class

Use this page to plan your use of Teacher Pacing and Pause Class. Teacher Pacing lets you restrict students to a single screen or a range of screens. Pause Class keeps students from interacting with whatever screens they are currently viewing. Use these two tools to create conversations in your classroom. Consider these questions as you plan:

- Which screen(s) should everyone work on at the same time? Why?
- Which screen(s) do you want to keep students from seeing until you're ready for the class to see them together? (Perhaps because they reveal answers or require a whole class conversation for introduction.)
- Are there any points in the lesson where you will want to make sure students aren’t playing with the screens while you discuss something as a class?

Activity Screens

1 Check in: How are…



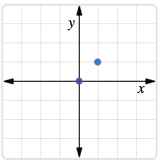
Instructions: Drag the dot to how you

2 Drawing with p5

In p5, we will write code to draw shapes. This means we need to tell the computer things like:

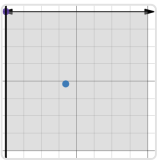
- the type of shape

3 In Math, you may …



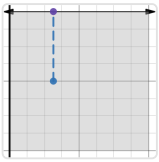
Info: The numbers on the x-axis increase as you go to the

4 In p5, the coordina…



Info: The origin (0, 0) is in the top left

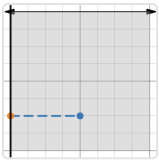
5 Moving the dot!



Instructions:

1. Drag

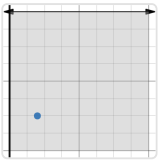
6 Moving the dot!



Instructions:

1. Drag

7 Let's place some …



Info: The blue point is at x: 80, y: 300

8 Let's find some po…

Info: The blue point is at x: 100, y:

9 More points!

Instructions: Write the x and y

10 Let's try it with lin…

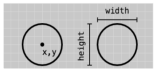
Instructions:

1. Write in the

11 Make your own li…

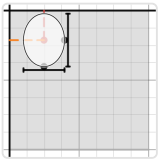
Instructions: Make your own line

12 Making rectangle…



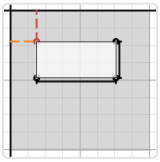
In p5, we will use the coordinate grid to tell the computer the

13 Ellipse & circle



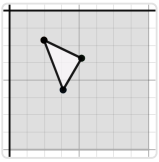
[See CL for correct text!]

14 Rectangle



[See CL for correct text!]

15 Triangle

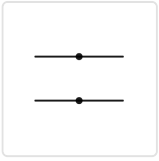


[See CL for correct text!]

16 Now let's try som…

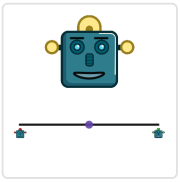
Instructions: Write values in

17 Reflection



Check which lesson targets

1 Check in: How are yo…



Instructions: Drag the dot to how you are…

Instructions: Drag the dot to how you are feeling today.

If you'd like, say more about your response below.

When you are done:
1. Click Submit.

2. To go to the next page, click the Next button in the upper right corner of your screen.

My Notes:

---

2 Drawing with p5

In p5, we will write code to draw shapes. This means we need to tell the computer things like:

- the type of shape we want

In p5, we will write code to draw shapes. This means we need to tell the computer things like:

- the type of shape we want
- where we want the shape
- the size of the shape (often width and height)

To tell the computer where we want to put a shape, we will use a **coordinate grid**!

(Click Next to go to the next slide!)

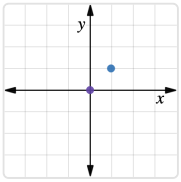
Teacher Tips:

Have student read aloud.

My Notes:

---

3 In Math, you may hav…



Info:
The numbers on the x-axis increase as you go to the right.

Info:
The numbers on the x-axis increase as you go to the right.

The numbers on the y-axis increase as you go up.

The x and y axes meet at the origin (0, 0).

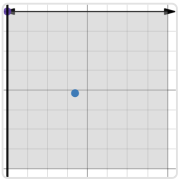
Instructions:
1. Drag the blue point 🔵 to move it around and watch how the numbers change.

2. Place the blue point 🔵 on your favorite location!

3. When directed, **click Next** to go to the next slide.

My Notes:

4 In p5, the coordinate …



Info:
The origin (0, 0) is in the top left

Info:
The origin (0, 0) is in the top left corner.

The x-axis goes to the right.

The y-axis goes down.

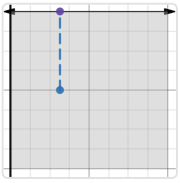
Instructions:
1. Drag the blue point 🔵 to move it around and watch how the numbers change.

2. Place the blue point 🔵 on your favorite location.

3. What do you notice when you move the point? What do you wonder?
Write your noticings & wonderings below, then click Submit.

My Notes:

5 Moving the dot!



Instructions:

1. Drag

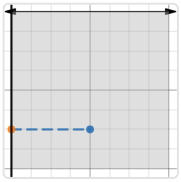
Instructions:

1. Drag the blue point 🔵 to the right ➡️ (this way --->)?

2. What happens to the **x-coordinate** when you drag the blue point to the right?

My Notes:

6 Moving the dot!



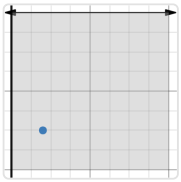
Instructions:

1. **Drag** the blue point 🔵 up ⬆️ (^)

2. What happens to the **y-coordinate** when you drag the blue point up?

My Notes:

7 Let's place some poi…



Info: The blue point is at x: 80, y: 300

Info: The blue point is at x: 80, y: 300.

Instructions:

1. Write different numbers in the table to place the orange, green, and purple points on your grid. (Make sure each of your numbers is between 0 and 400)

2. When you are done, click Next.

My Notes:

8 Let's find some point…

Info: The blue point is at x: 100, y: 300

Info: The blue point is at x: 100, y: 300.

Three open dots are now on the grid. You need to find their locations!

Instructions:
Write the x and y values in the table so that your dots are filled in the their corresponding color. You can also check your work by clicking the Check button.

My Notes:

9 More points!

Instructions: Write the x and y

Instructions:
Write the x and y values in the table so that your dots are filled in with their corresponding color. Note: the fainter grid lines count by 20s. You can also check your work by clicking the Check button.

My Notes:

10 Let's try it with lines!

Instructions:
1. Write in the

Instructions:
1. Write in the coordinates for the starting and ending points for each line.

2. Check your work by clicking on the Check button.

My Notes:

11 Make your own line …

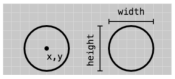
Instructions:
Make your own line

Instructions:
Make your own line design by writing in the coordinates for the starting and ending points. You can make a letter or a design of your own making!

Hint: draw your design first, then write the coordinates of your design.

My Notes:

12 Making rectangles a…

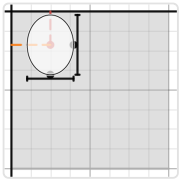


In p5, we will use the coordinate grid to tell the computer the location and size of our shapes.

For a circle or an ellipse, we use the x and y coordinates of the center to place our shape!

My Notes:

13 Ellipse & circle



[See CL for correct text!]

Instruction

[See CL for correct text!]

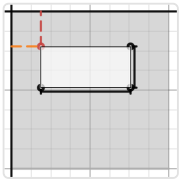
Instructions:
Drag the points on the ellipse.

Here's the p5 code that we would use to make the ellipse:

What do you notice? What do you wonder?

My Notes:

14 Rectangle



[See CL for correct text!]

Instruction

[See CL for correct text!]

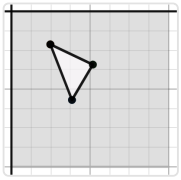
Instructions:
Drag the corners of the rectangle.

Here's the p5 code that we would use to make the rectangle:

What do you notice? What do you wonder?

My Notes:

15 Triangle



[See CL for correct text!]

Instruction

[See CL for correct text!]

Instructions:

Drag the corners of the triangle.

Here's the p5 code that we would use to make the triangle:

triangle(99, 85, 207, 137, 154, 228)

What do you notice? What do you wonder?

My Notes:

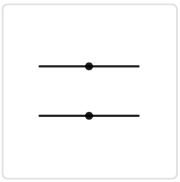
16 Now let's try some s…

Instructions:
Write values in the tables

Instructions:
Write values in the tables below to create shapes. You can draw on the sketch first if that helps!

My Notes:

17 Reflection



Check which lesson targets

Check which lesson targets were met for you in this activity below:

My Notes:

Summary Notes: