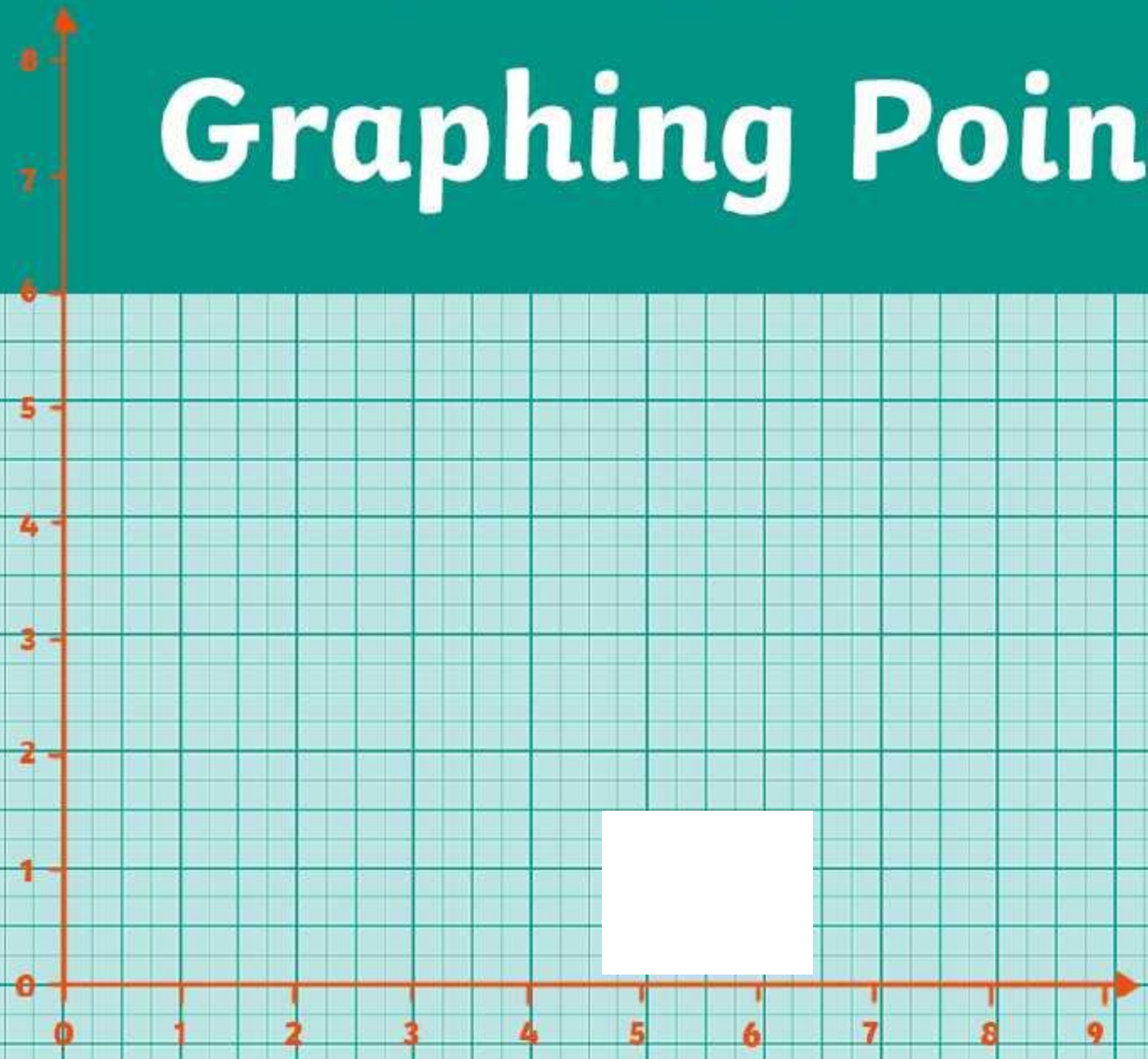
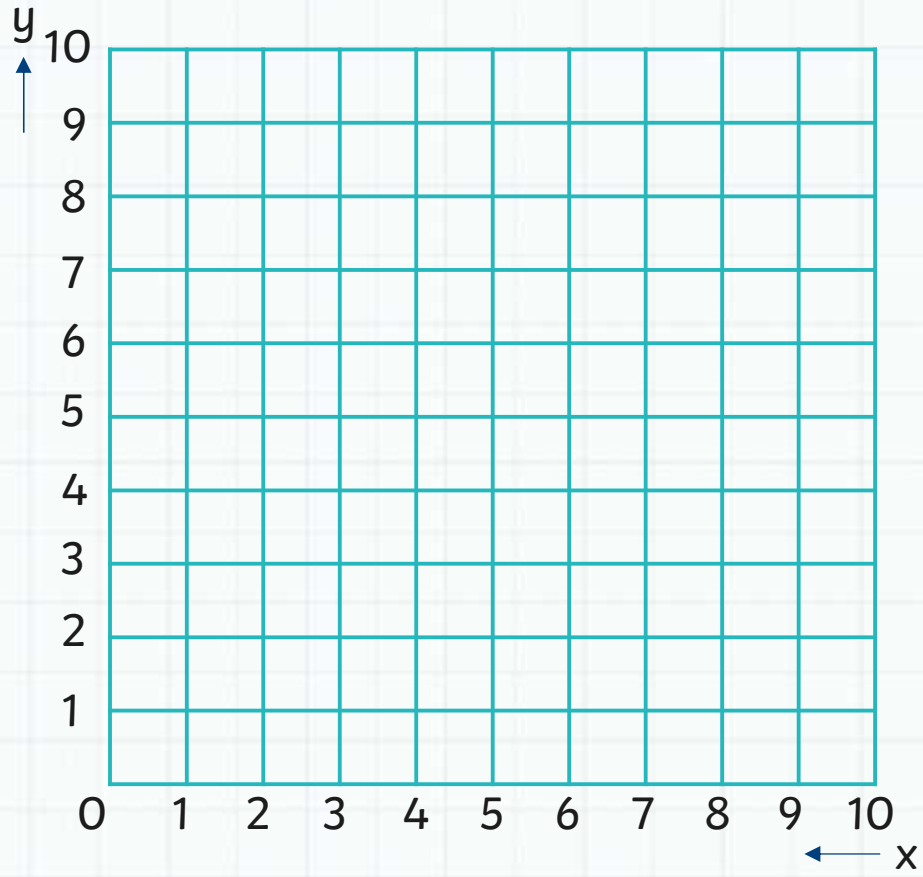
Graphing Points



Coordinating System of Graphing Points

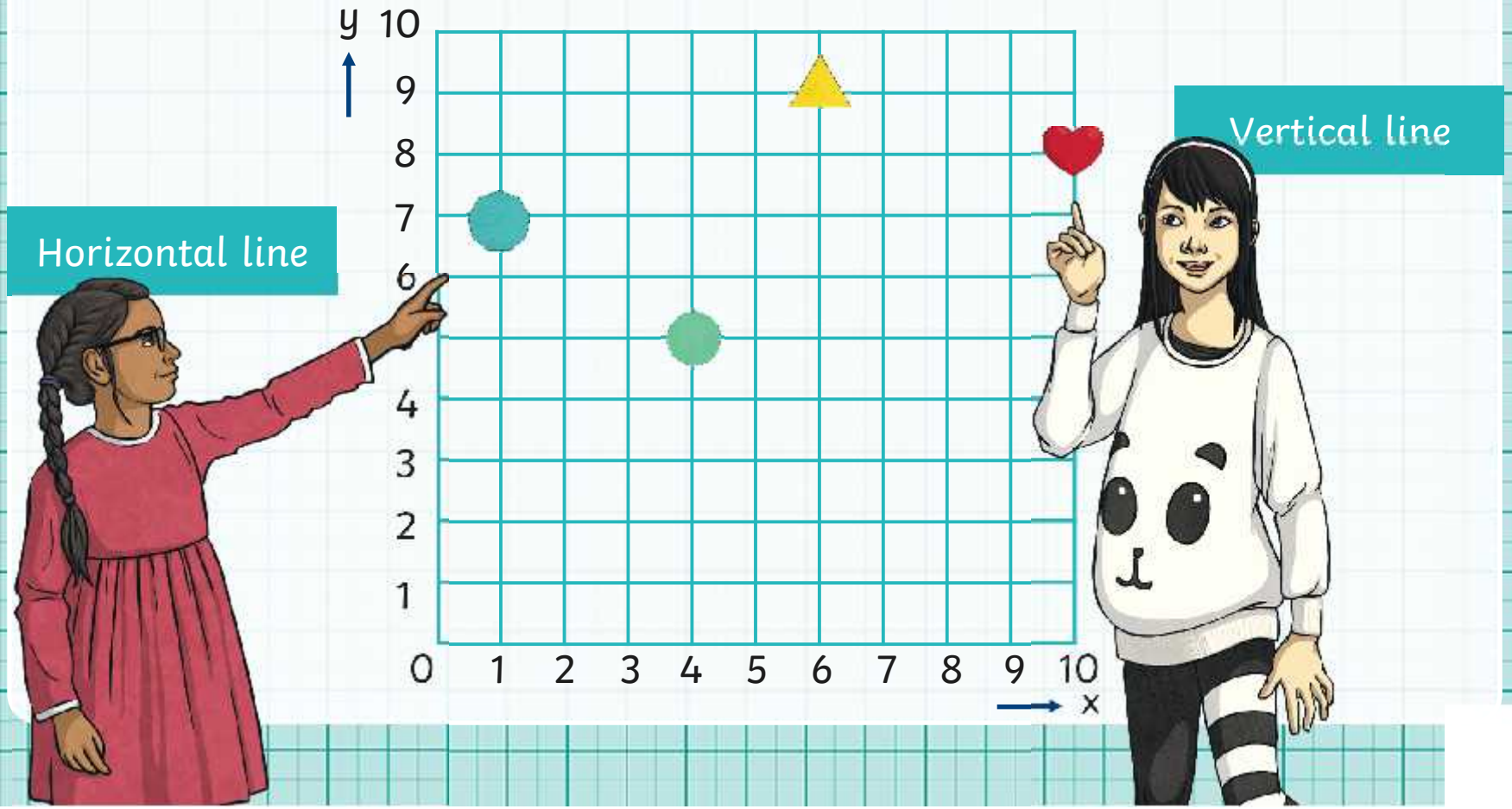
A coordinating system is a method for finding points on a coordinate plane or flat surface (such as a graph).

For example: Some coordinate planes will look similar to the one to the right with a two-dimensional number line with two perpendicular lines or axes.



Coordinating Axes

The horizontal axes are called the x-axis, while the vertical axes are called the y- axis. The origin is where both the axes (or lines) intersect (or meet). The axes meet when both x and y axes intersect when they are at zero. The coordinates will appear as (0,0).



What Is an Ordered Pair?

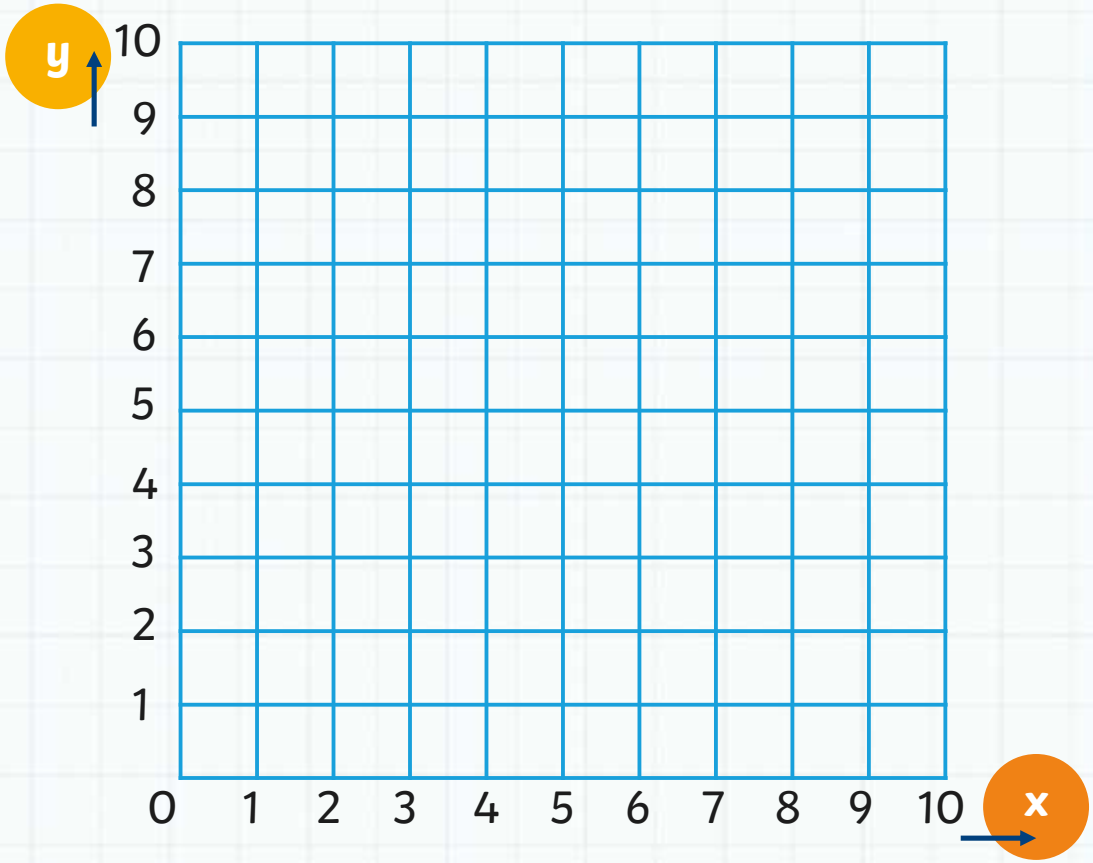
Now, that we have discussed the Coordinating System consisting of axes, horizontal, and vertical lines in a coordinate plane (graph), let's talk about ordered pair.

Turn and talk to your neighbor or small group about what an ordered pair might be. Use your background knowledge to help you.

After discussing, share your thoughts with the whole group.

Ordered Pair Explanation

An ordered pair consists of the coordinates of one point in the coordinating system. A point is named by its ordered pair, for example, (x,y). The first number corresponds to the x-coordinate, and the second number coordinates with the y-coordinate

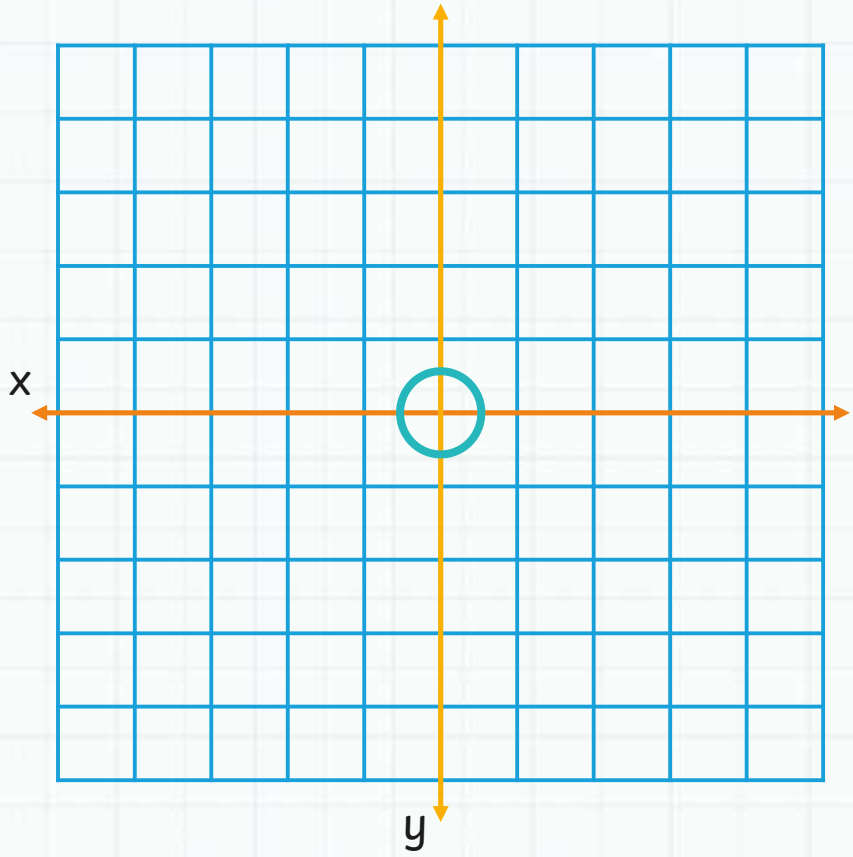


X-Coordinate (3,2) Y-Coordinate

How to Graph a Point

To graph a point, you would draw a dot at the coordinates that correlate to the ordered pair. When graphing a point, begin at the origin. Again, the origin is where both the axes (or lines) intersect (or meet).

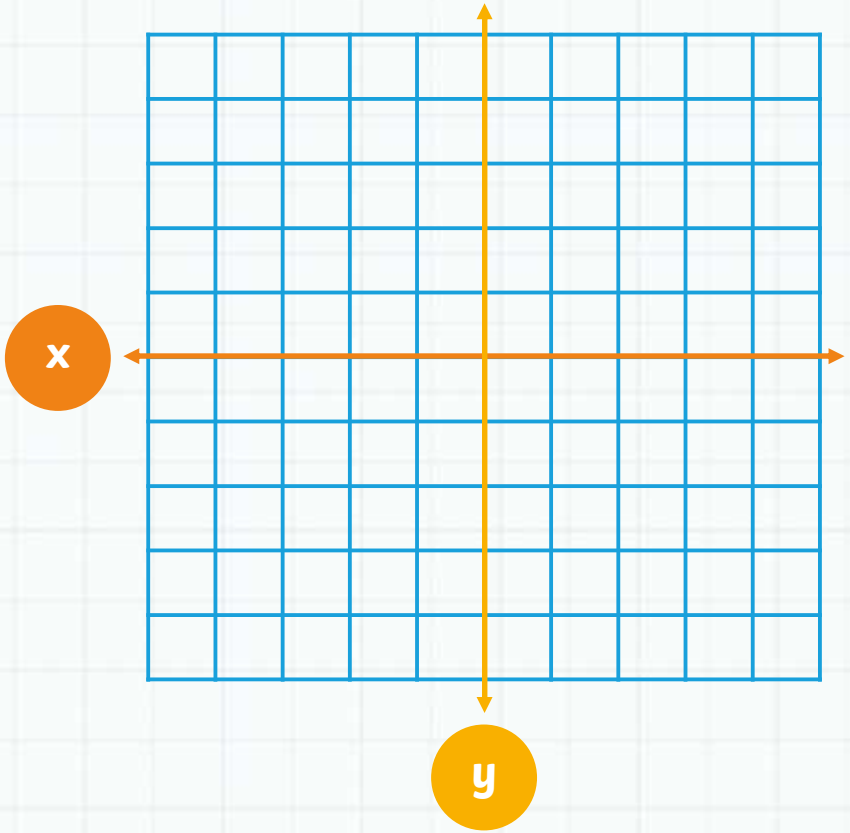
Origin (0,0) is where all points intersect.



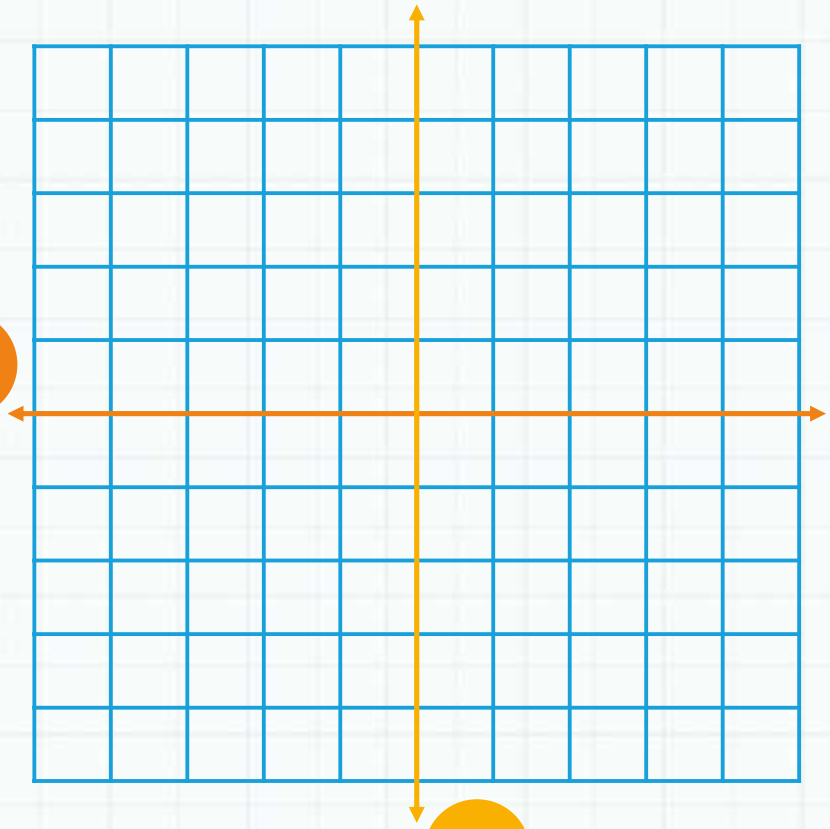
When graphing a point, you must know that coordinates can be positive or negative.

Often, the x-coordinate will tell you how to proceed to the right (meaning positive) or left (meaning negative) along the x-axis, whereas the y-coordinate will tell you how to move up (meaning positive) or down (meaning negative) along the axis.

Note: The x-axis always comes before the y-axis in parenthesis.



The x-axis shows you how to move to the right (positive) or left (negative).

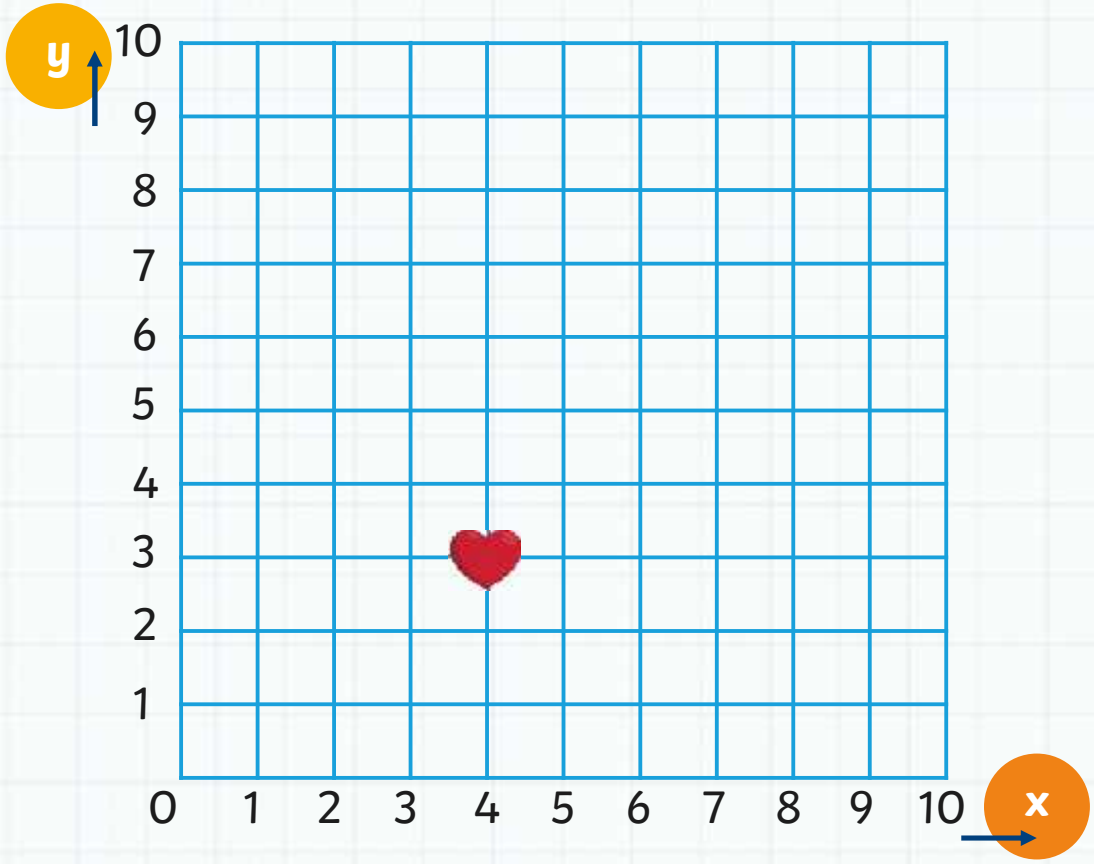


The y-axis shows you how to move up (positive) or down (negative).

Let's Graph a Set of Points Together

Using a laminated grid, let's graph a set of points together using the following ordered pair.

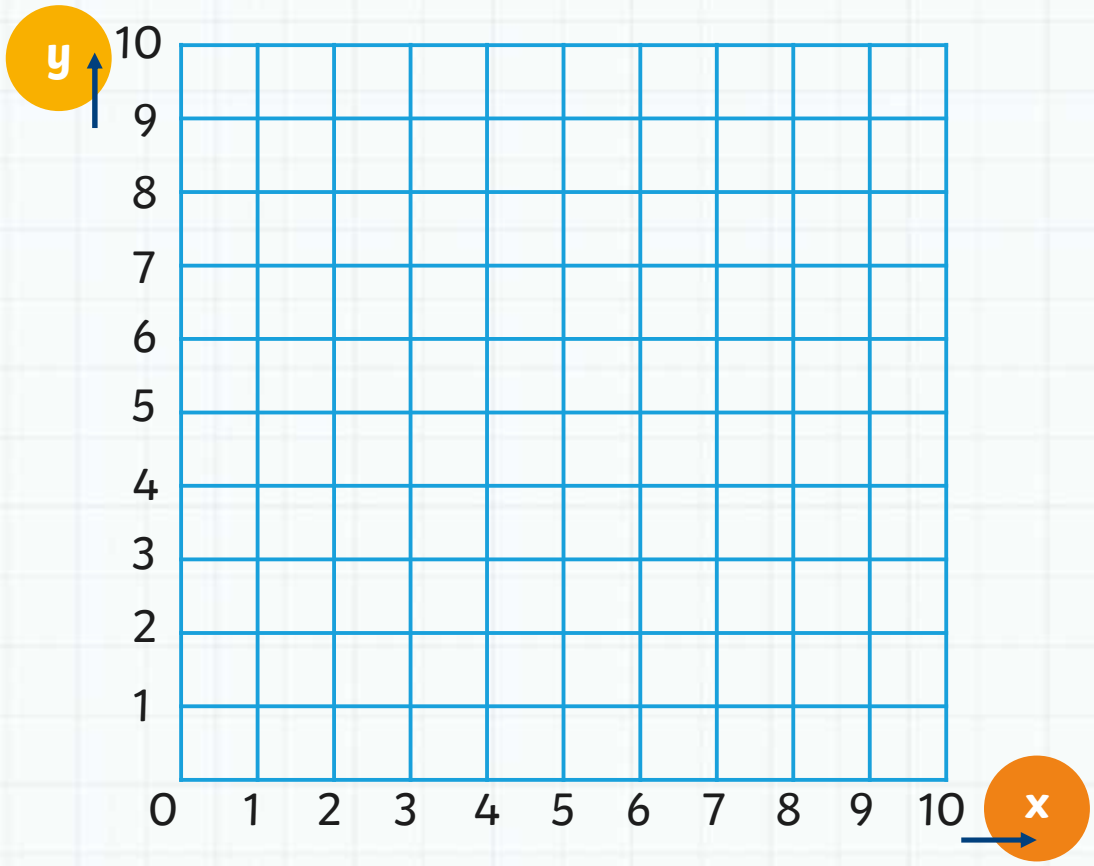
(4,3)



We know 4 is on the x-axis, and we go to the right (positive). And 3 is the y-axis, and we go up (positive).

Your Turn With a Partner!

Let's graph the following points:



(5,7)

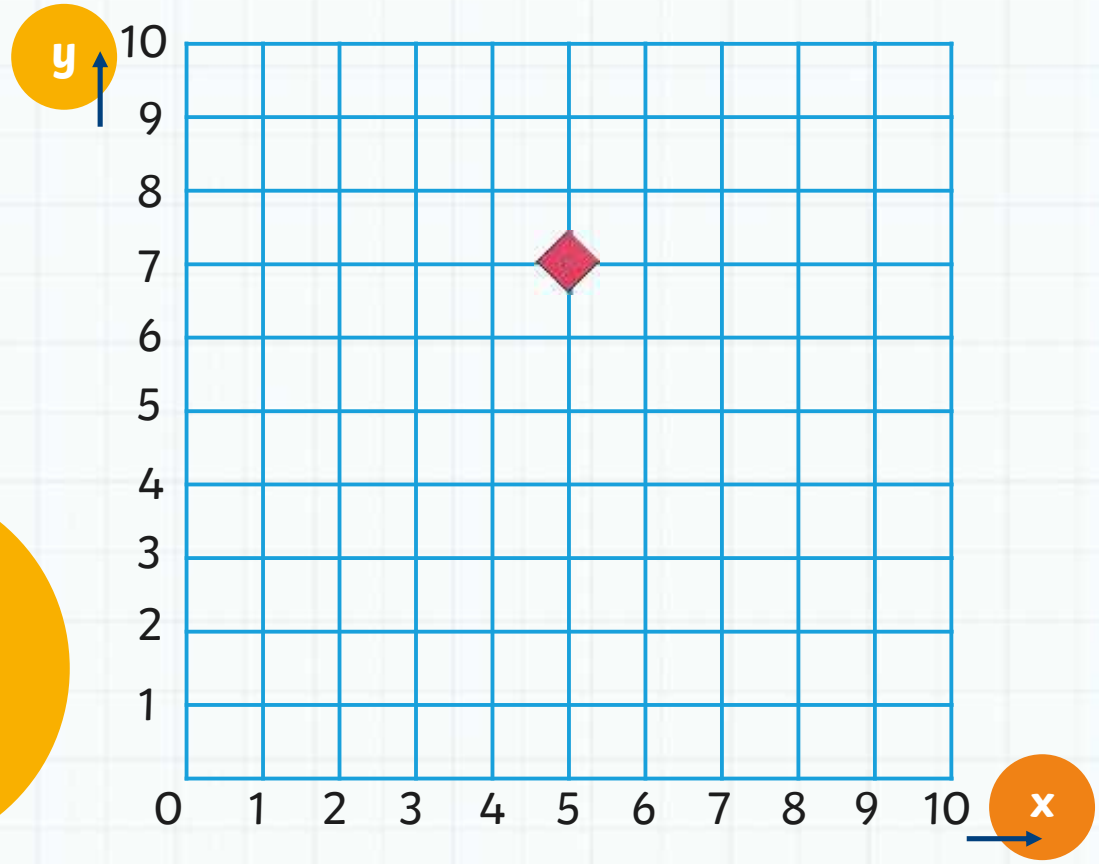
Your Turn With a Partner!

Let's graph the following points:

You and your partner were asked to locate **(5,7)**.

Remember, 5 is located on the x-axis, while 7 is located on the y-axis.

How did you do? Show your graphs!

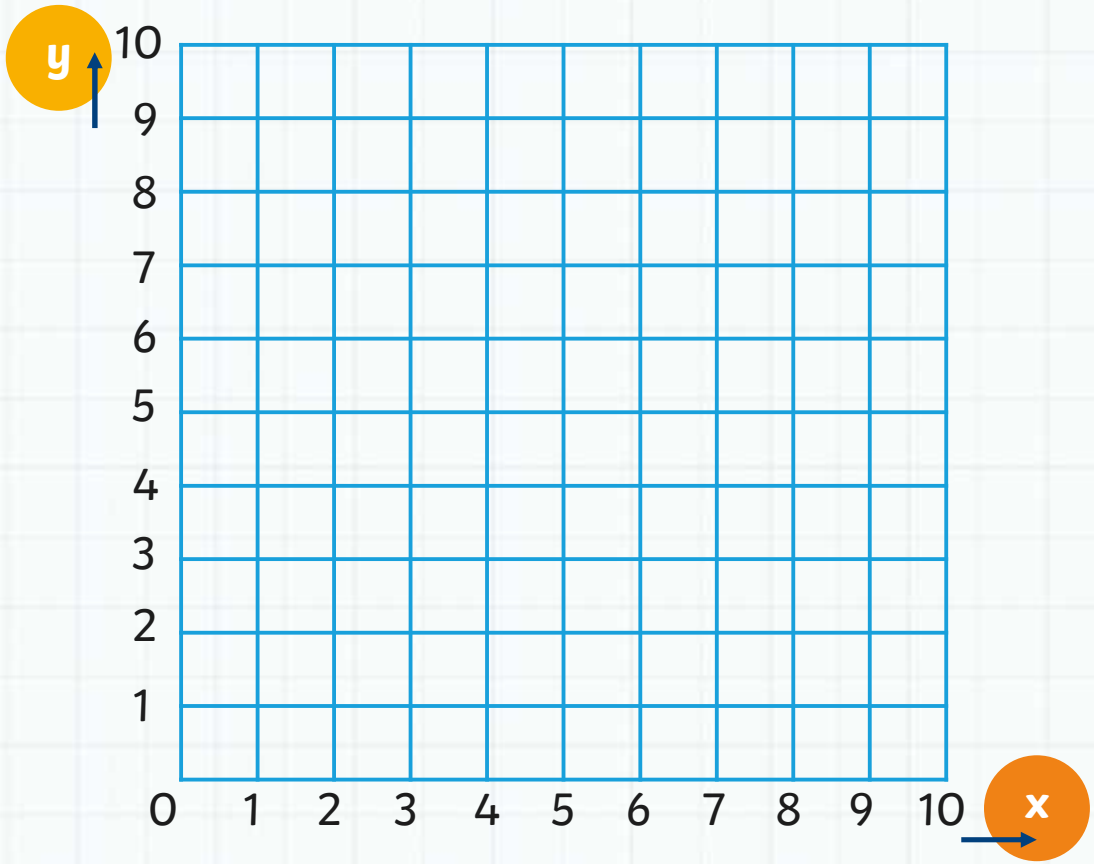


Let's Graph a Set of Points Together

Next, to demonstrate your knowledge, create your own points for a classmate to graph.

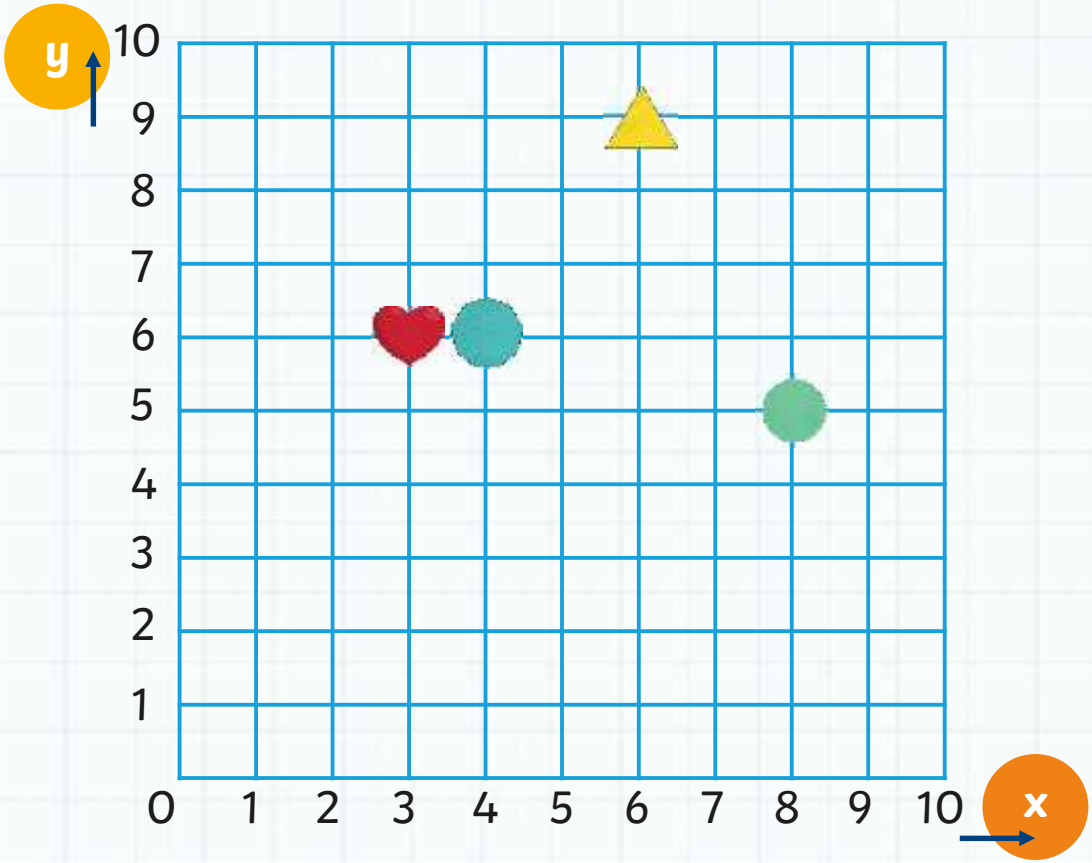
For example, you could use the following points:

(4,6) (8,5) (6,9) (3,6)



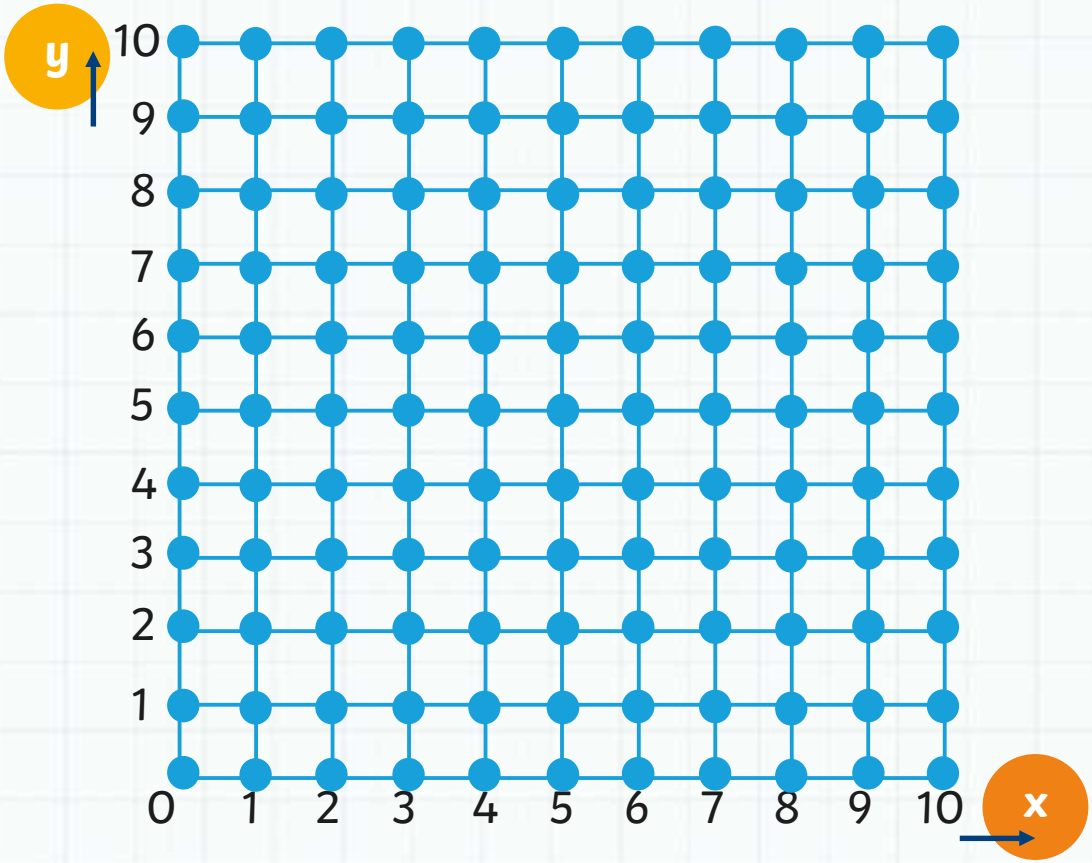
Share Your Graph Points With a Partner

Graph your points!



Whole Group Share

Students graph your points using the interactive graph below:



Student Class Challenge

Work independently and solve the following graph points.

(5,7)

(8,10)

(9,5)

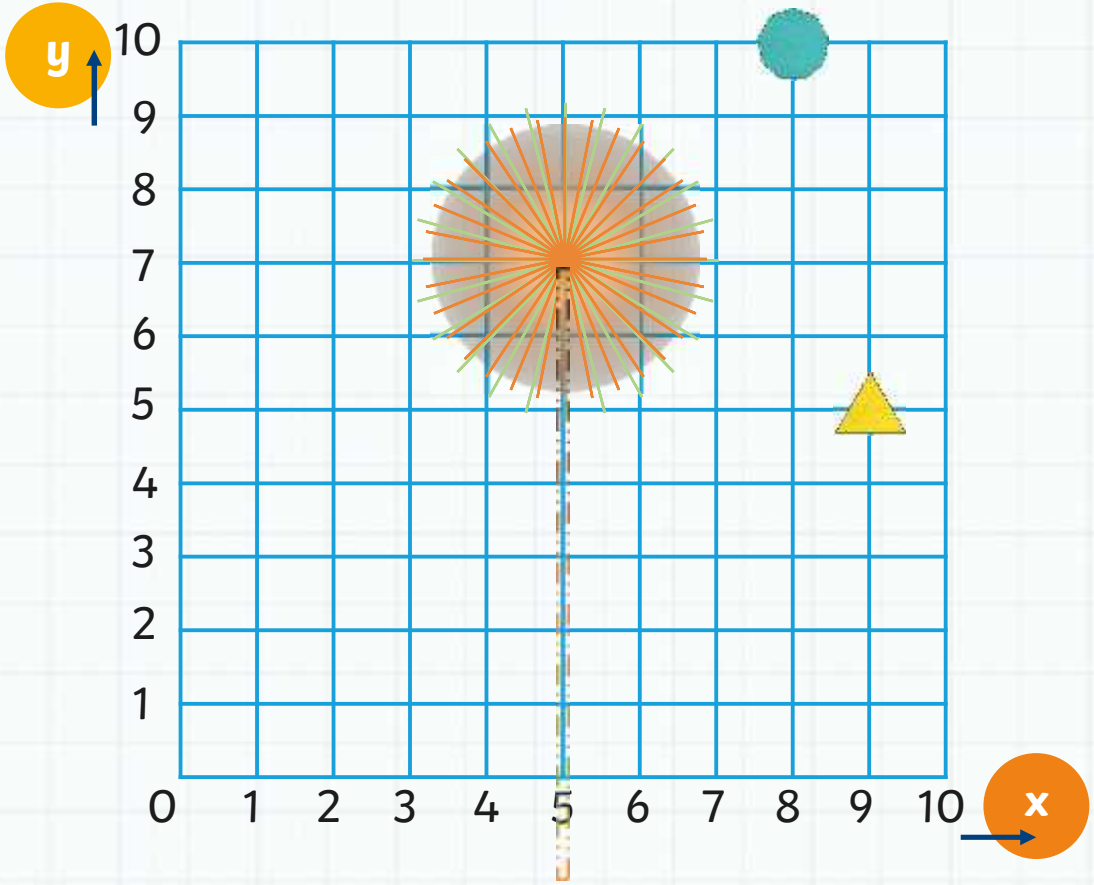
Turn and share with your neighbor. How did you do?

Answers!

(5,7)

(8,10)

(9,5)



Review

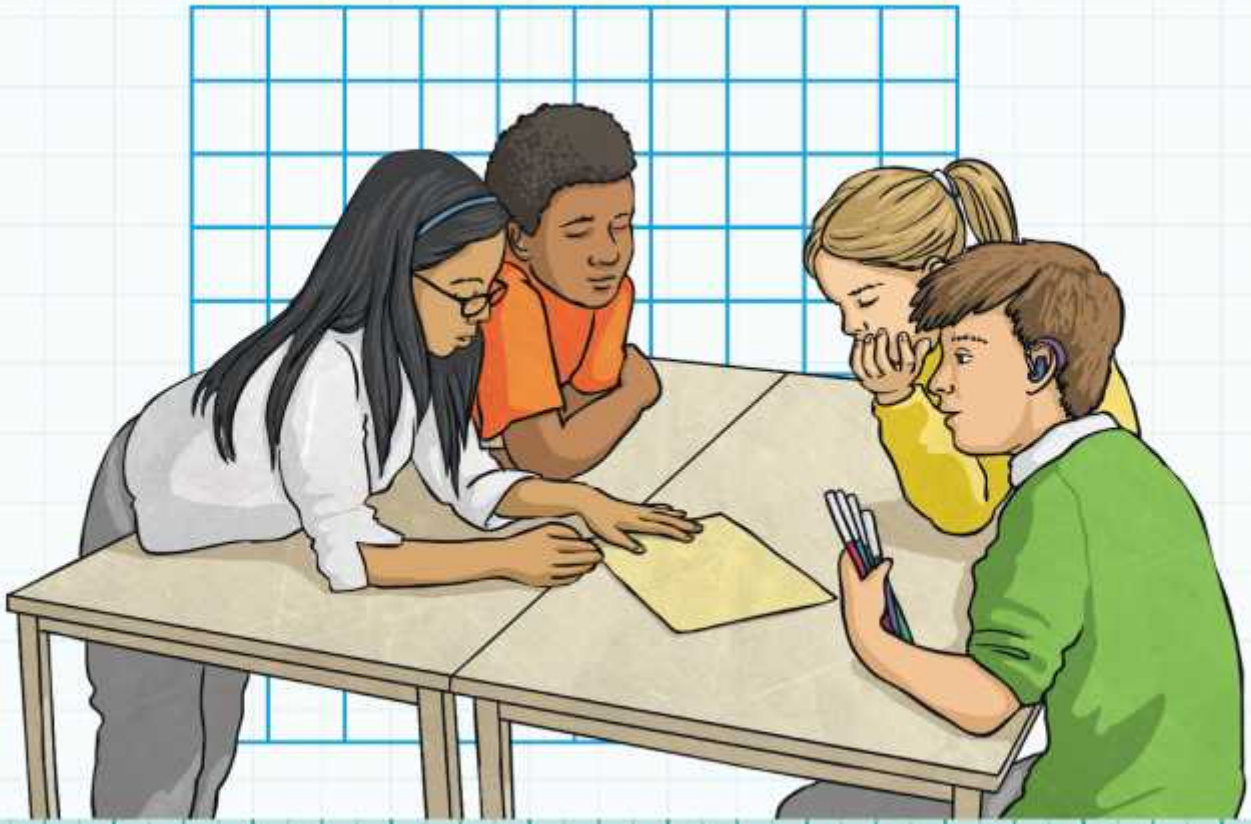
A coordinating system is a method for finding points on a coordinate plane or flat surface (such as a graph).

Test your skills:

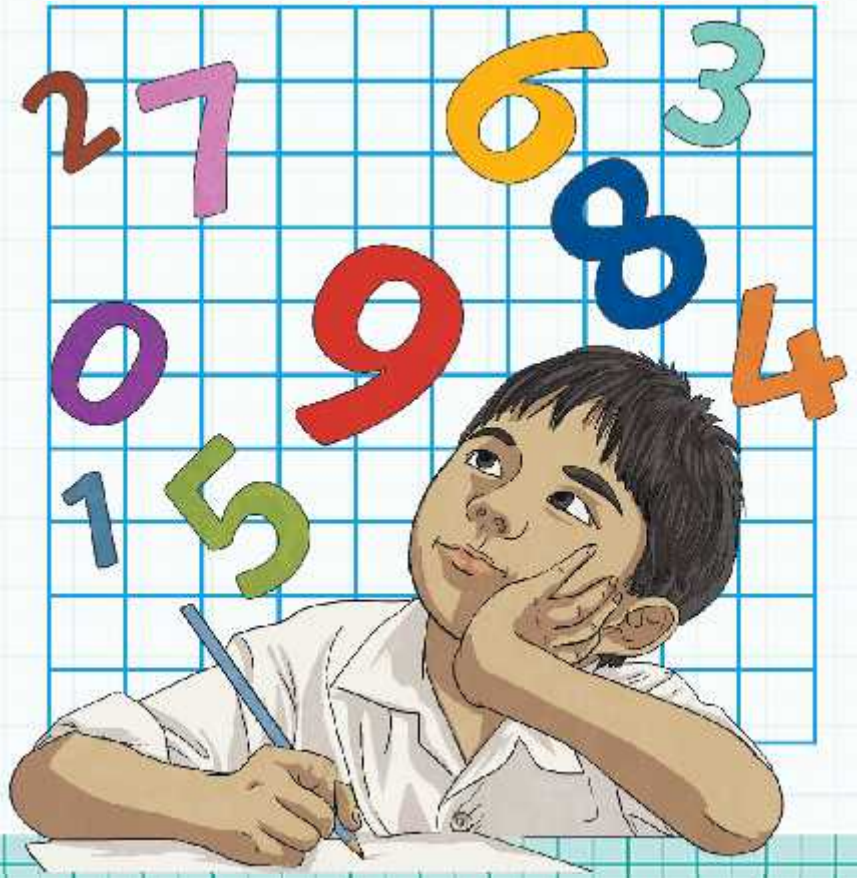
What is the horizontal axes called? y-axis/x-axis	Answer: **x-axis**
What is the vertical axes called? x-axis/y-axis	Answer: **y-axis**
Origin is when both axes (or lines) _____. intersect/separate	Answer: **intersect**
Both x and y axes intersect or meet at) _____. two/zero	Answer: **zero**

Turn and Talk With Your Group

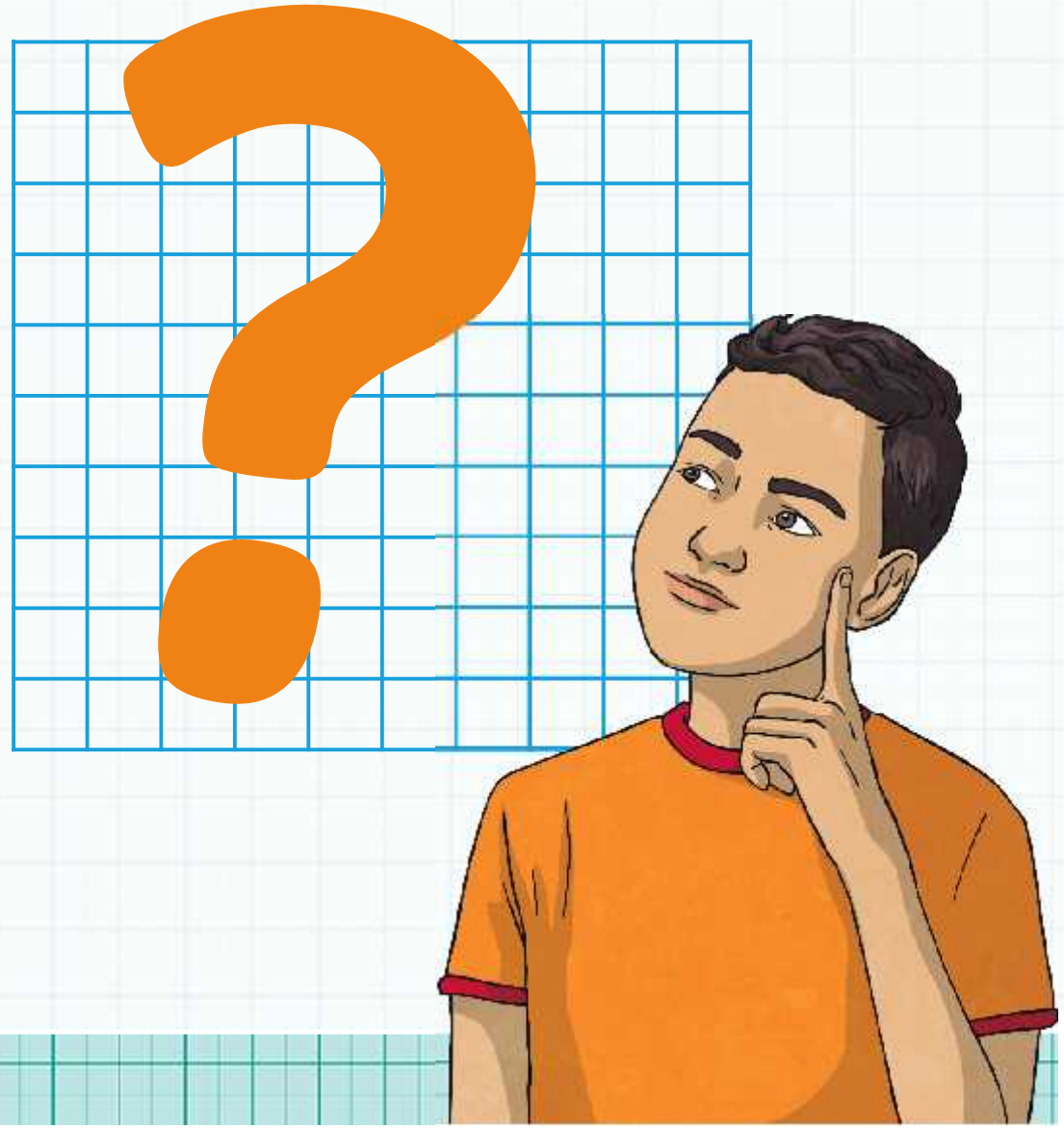
Share one or two things you learned today from Plotting Graphs.
In groups, share your thoughts.

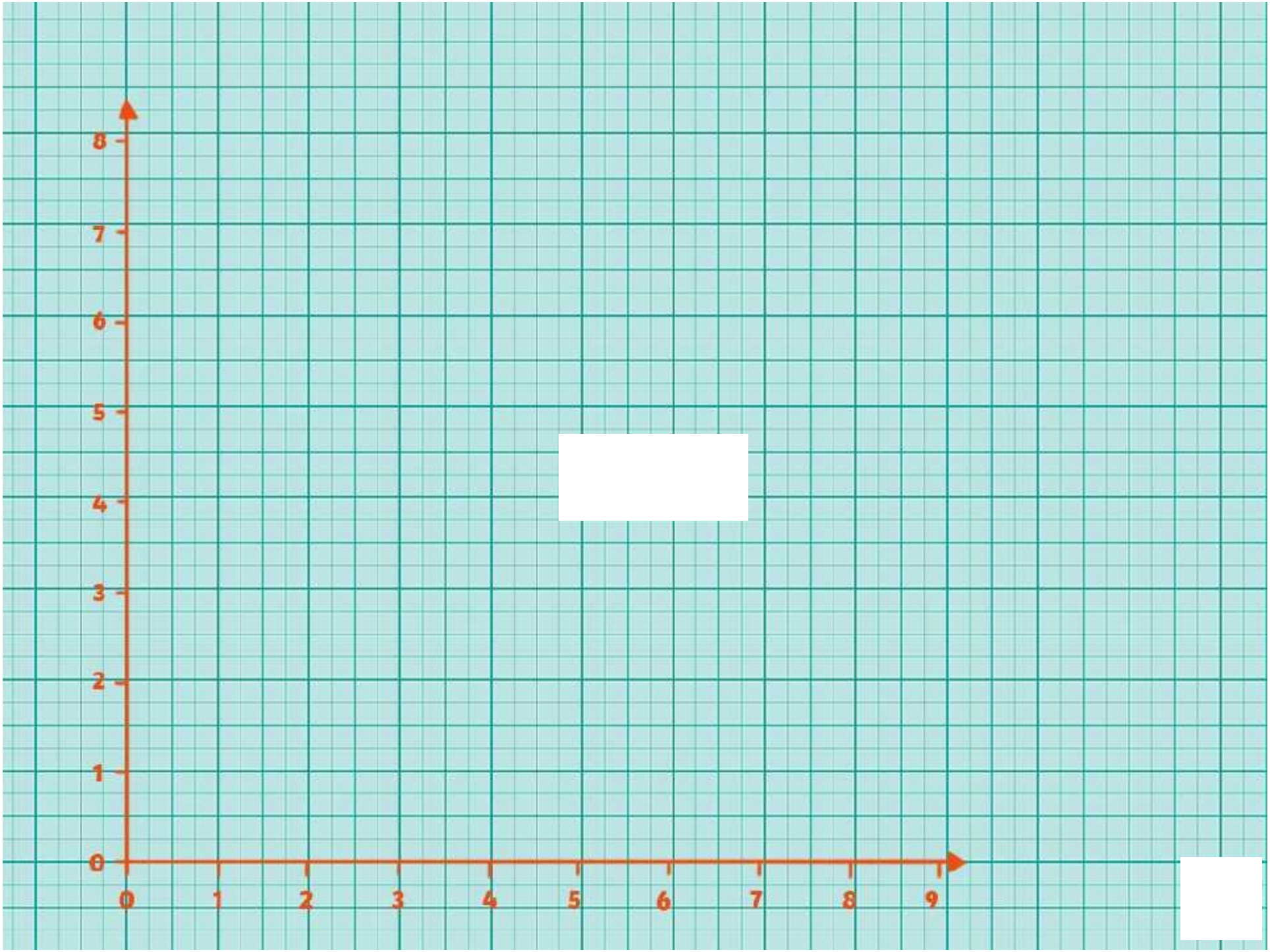


Create 2 or 3 of your own graph points for your end-of- the-unit quiz on this topic. You just might find your questions on your next quiz!



Any questions?

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