Pirate Treasure Hunt

The Big Idea:

To find hidden treasure, you need a good map. Today you'll be pirates who map the seas, and then you'll use coordinates to find the treasure before anyone else!

You Will Need:

★ To print: Ocean Object Coordinates

★ To print (optional): Graph Paper for *Picture This!* Activity (page 9)

★ Marker

★ Choose an option for your gameboard:
  o Make a tabletop grid - To print: 4-page gameboard (pages 10-13)
  o Make a giant floor grid:
    ▪ Pair of scissors
    ▪ String or ribbon (at least 20 feet)
   ▪ Another color marker
    ▪ Masking tape
    ▪ Measuring tape

The Math Behind the Scenes:

In this geometry activity, kids use an ordered pair of numbers to describe points on a plane.

★ **coordinates**: an ordered pair of numbers, e.g. (1, 2)

★ **point**: a location on the grid where lines intersect

Gameboard Option I: Tabletop

1. Print pages 10-13 and lay out on the floor so it looks like this.
   PLEASE NOTE: Make sure your printer settings are set to actual size. Numbers run across the bottom and up the left. Don't worry – the printed lines don't run to the edge!
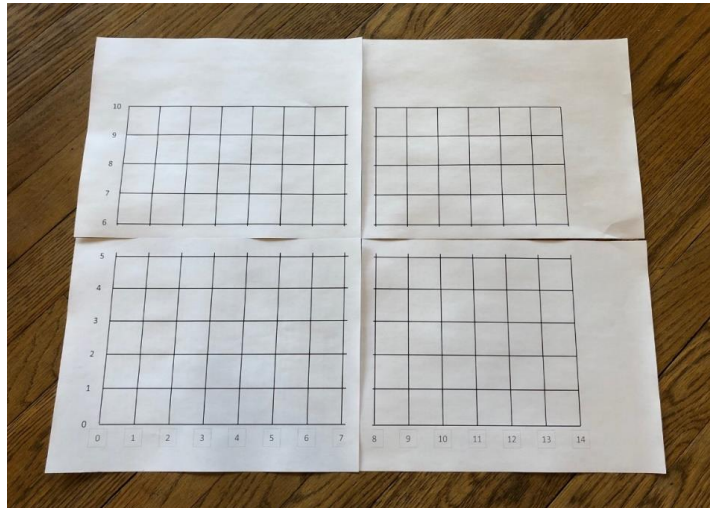

2. With a pen, draw the missing lines inside the center of the grid to complete the squares. Then tape together the pages with clear tape! Or you can flip the whole thing over as a unit and tape the back.
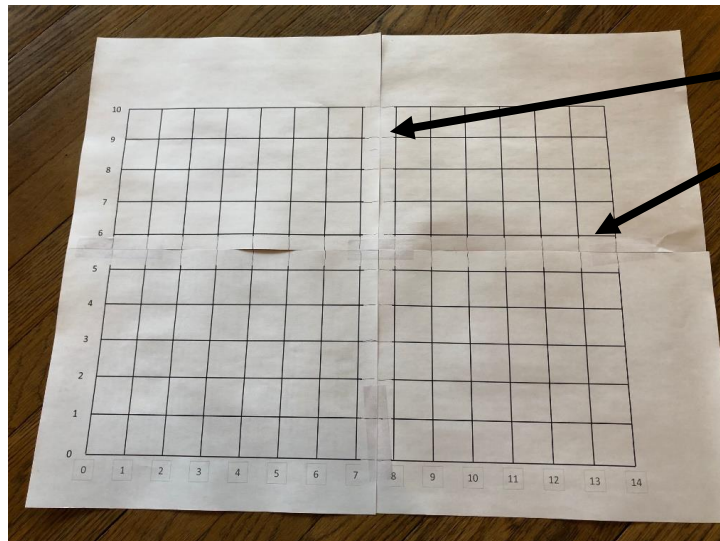
Gameboard Option 2: Giant Floor Grid

1. Using a tape measure and masking tape, create a square on the floor that's 55 inches tall and 77 inches wide.

2. Make a tic mark every 5.5 inches along all 4 masking tape strips.

3. Stretch strips of tape across to connect the tick marks, forming a grid pattern.

4. Starting at the bottom left corner, use one marker to number the grid points along the baseline (X axis) from 0 to 14.

5. Use a different colored marker to label the Y axis from 0 to 10.
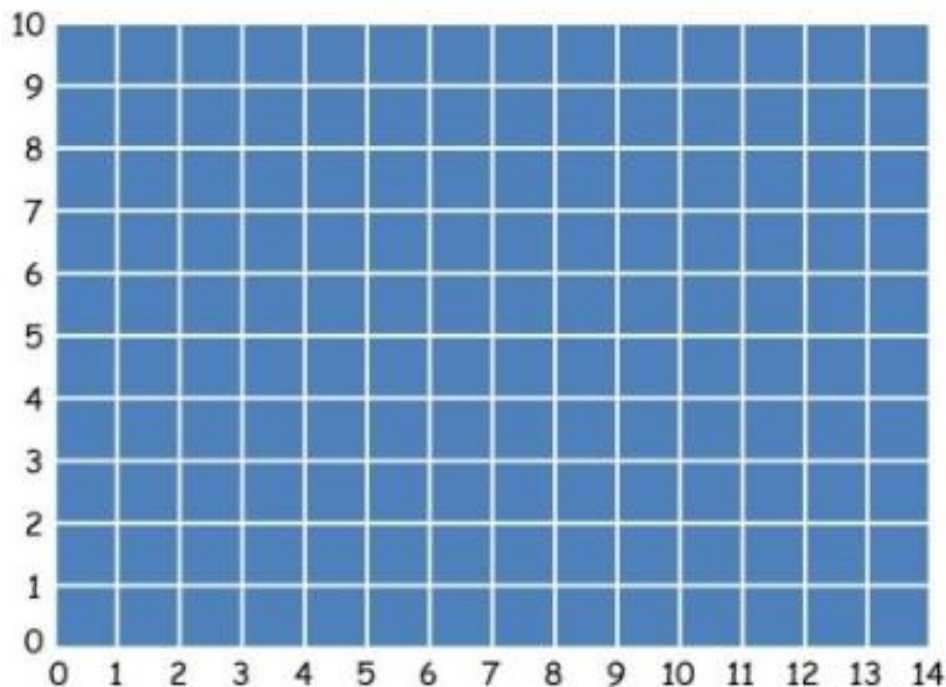
Getting to the Point

Face the grid. Explain that they will find (3, 1). The first number is the x-coordinate and is found by starting at 0 and counting across the x-axis. The second number is the y-coordinate and can be found by counting up from 0 on the y-axis. If they get mixed up, remind them that x comes before y in the alphabet!


Find (3, 1)
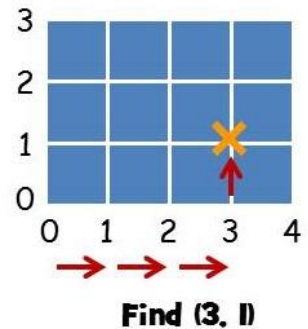
Make Your Map

Now grab your marker to make a treasure map! If you made the giant floor grid, you'll use the string or ribbon to make your treasure map.

⭐ Read off the first pair of coordinates in the 1st Ocean Object column: (3, 1).

⭐ That player finds the intersection that's 3 spaces to the right of (0, 0) and 1 space up. Mark a large dot with your marker on the spot. If using string/ribbon, the player tapes the string to that intersection then leaves the spool of string on the grid for the next player or continues on.

⭐ The next player gets the next pair of coordinates (8, 1). S/he finds the location on the grid and marks a dot at the intersection. Connect the 2 dots by drawing a straight line from the second dot to the first dot. If using string, wind the string to that spot, gently pulling it straight and tape it there.

⭐ Continue rotating players through plotting the coordinates in the 1st Ocean Object column and drawing the lines or winding string between each point.

⭐ If using string, cut the string when the 1st Ocean Object is complete.

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★ Repeat steps 2 – 7 for the 2nd and 3rd Ocean Object coordinates.

★ Encourage the kids to guess what the pictures might be.

★ Your final map will look like this. DON'T REVEAL THIS PICTURE to keep the surprise!
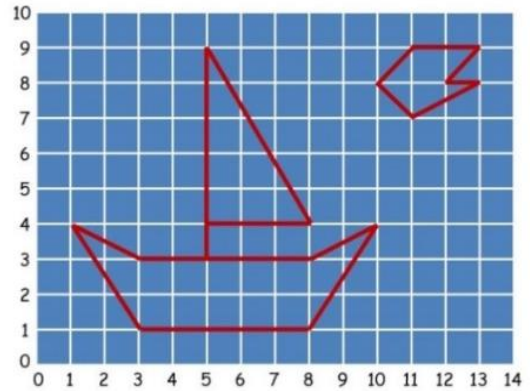
Hunt for Treasure

Pretend to be pirates racing to capture the treasure on your island!

★ Make 2 teams of kids or play against a parent!

★ Each player picks an Ocean Coordinate Pair and finds it on the game board using the skills they learned while making the map – remember x then y!

★ If your coordinates land you on any part of the ship or sail, either inside the line/ribbon or on it, you're stuck on board the ship.

★ If you land in the ocean, you skip a turn while your pirate swims back to the ship.

★ After every turn, put your coordinate pair in a discard pile.

★ The first team to reach the island twice captures the treasure!

Picture This! (Grades 3-5)

Now that you've made a map by plotting given coordinates, try reversing the process. Draw a picture with straight lines, determine the coordinates for each new line, and see if others can recreate your picture!

★ Print a new tabletop grid or clear the string from the Giant Grid.

★ Take a piece of Pirate Graph paper and a pen or pencil.

★ Create your own picture with no more than 12 connected lines and write down the coordinates in the order they need to be connected.

★ Call out the coordinates to a parent or friend and have them plot out the picture on a clear grid using the marker or string and tape.

★ Have them try to guess what the picture is as it's being made.

★ DO NOT cut the ribbon at the end of each picture. Otherwise you might not have long enough pieces for another turn!

Riddles and Questions

Kindergartners: If you start at 2 and hop 6 numbers across, where will you land?

1st-graders: If you start at 2, hop 7 numbers across, then keep hopping across 3 more numbers, where will you land?

2nd-graders: Choose 2 points on the grid. What is the difference between their y-coordinates?

3rd-graders: Find the area of your picture by counting its square units. How many square units in all?

4th-graders: Does your picture have symmetry? If so, find the line of symmetry. If not, how do you know?

5th-graders: How would your picture change if you multiplied every x-coordinate by 2, and every y-coordinate by 3?

Ocean Object Coordinates

1st Ocean Object:	2nd Ocean Object:	3rd Ocean Object:
(3, 1)	(5, 3)	(11, 7)
(8, 1)	(5, 9)	(10, 8)
(10, 4)	(8, 4)	(11, 9)
(8, 3)	(5, 4)	(13, 9)
(3, 3)		(12, 8)
(1, 4)		(13, 8)
(3, 1)		(11, 7)

Ocean Coordinate Pairs

9, 10	2, 8	3, 4	9, 3	12, 3
1, 5	11, 9	8, 7	8, 4	4, 2
9, 5	6, 7	12, 8	7, 2	5, 10
10, 4	10, 8	14, 3	1, 1	8, 9
5, 7	7, 5	5, 0	0, 8	3, 3
11, 8	13, 7	12, 6	10, 7	12, 9

Graph Paper for *Picture This!* Activity