

THE COORDINATE PLANE



a 7 day CCSS-aligned unit
CCSS: 5.G.1, 5.G.2, 5.OA.3

**ready-to-go, scaffolded
student materials**

COORDINATE PLANE UNIT

Table of Contents

PAGE	TOPIC	RESOURCE
5-6	Ideas for Implementation & Helpful Hints	
7	Intro to the Coordinate Plane	Student Handout
9	Intro to the Coordinate Plane	Independent Practice
11	Graphing Points on the Coordinate Plane	Student Handout
13	Graphing Points on the Coordinate Plane	Independent Practice
15	Application of Graphing on the Coordinate Plane	Student Handout
17	Application of Graphing on the Coordinate Plane	Independent Practice
19	Graphing on the Coordinate Plane Quiz	Quiz
21	Generating Number Patterns	Student Handout
23	Generating Number Patterns	Independent Practice
25	Graphing Number Patterns	Student Handout
27	Graphing Number Patterns	Independent Practice
29	Coordinate Plane Unit Review	Review
33	Coordinate Plane Unit Test	Test
37	Coordinate Plane Unit Answer Key	Answer Key

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student friendly + real-world application

scaffolded concepts

INTRO TO THE COORDINATE PLANE

STUDENT HANDOUT

Name _____
Date _____ Pd _____

A non-profit organization hosts a mud run as a fundraising event. The number line shows the details of the course.

a. Describe the location of the hay bale and mud pit in relation to the starting line.

b. The finish line will be 6 km from the starting line. Plot the point of the finish line on the number line.

A number line is a one-dimensional representation of points on a straight line. The _____ is a two-dimensional plane formed by a pair of perpendicular number lines, called _____. Use the definitions below to label the parts of the coordinate plane.

X-AXIS	The _____ number line in the coordinate plane.
Y-AXIS	The _____ number line in the coordinate plane.
ORIGIN	The point where the x-axis and y-axis _____.

To give the location of a point on the coordinate plane, find the distance on both the x- and the y-axis using an ordered pair as described below.

ORDERED PAIRS

- A pair of numbers that describes a _____ on the coordinate is made up of an x-coordinate and y-coordinate in the form _____.
- x-coordinate: the _____ number in an ordered pair and indicates the _____ distance of the point from the origin.
- y-coordinate: the _____ number in an ordered pair and indicates the _____ distance of the point from the origin.

1. Use the coordinate plane to answer a-d.

- What is the x-coordinate of point A? _____
- What is the y-coordinate of point C? _____
- Which point has a y-coordinate of 5? _____
- Which point is located at the origin? What ordered pair represents the location of the origin?

APPLICATION OF GRAPHING ON THE COORDINATE PLANE

STUDENT HANDOUT

Name _____
Date _____ Pd _____

A scientist studied a flock of migratory birds and recorded the total distance the birds traveled based on the number of days of migration. The data is represented on the graph.

- Describe what the x-axis represents.
- Describe what the y-axis represents.
- After 6 days, the flock had traveled a total of 210 miles. Plot this point on the graph and label the ordered pair.

The coordinate plane can be used to represent real-world situations. In #1-2, use the graph to answer the questions that follow.

1. The graph shows y , the total number of chapters Amelia read the first x hours reading a new book.

- How many hours did it take Amelia to read the first 3 chapters?
- What does the coordinate (4, 8) represent?

2. The graph shows y , the total distance in miles Zak walked in the first x hours spent sightseeing on vacation.

- What ordered pair represents how many miles Zak walked after 2 hours?
- What does the coordinate (7, 12) represent?

If information from a real-world situation is given in a table, we can use the table to create a graph as outlined below. For the example at the right, list the ordered pairs shown in the table.

GRAPHING WITH TABLES

- Identify the column (or row) of _____ and the column (or row) of _____ in the table.
- List the corresponding x-values and y-values as _____.
- Use the values in the ordered pairs to _____ each point.

Example:

FEET (x)	INCHES (y)
1	12
3	36
4	48

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application opportunities

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unit study guide + assessments

- ✓ quizzes
- ✓ editable unit test

GRAPHING ON THE COORDINATE PLANE QUIZ

Name _____
Date _____ Pd _____

Use the coordinate grid below to answer questions 1-2.

1. Mrs. Brooks plotted four points on the coordinate grid. Which student wrote the correct ordered pair for Point D?

ROSALIE	BRAD
(4, 0)	(4, 4)
JUNO	ALFIE
(4, 3)	(3, 4)

2. Which of the following statements about the grid are true?

I. Point B is located at (4, 3).
II. Point C is located at (3, 4).
III. Point A is located the same distance from the origin as Point D.

a. I only b. III only c. I and II

Answer the questions below. Be sure to label your answers.

3. Points J, K, and L represent three vertices of a rectangle. What is the ordered pair of point M, the fourth vertex in the rectangle?

5. Which best describes the y-coordinate of the point shown on the coordinate grid?

a. The intersection of two grid lines on the y-axis.
b. The first number in an ordered pair that is plotted on a coordinate grid.
c. The vertical line that contains the set of points.
d. The second number in an ordered pair that is plotted on a coordinate grid.

SAMARA (7, 3)

COORDINATE PLANE UNIT REVIEW

Name _____
Date _____ Pd _____

Solve each of the problems below. Be sure to ask questions if you need more help with a topic.

I CAN IDENTIFY PARTS OF THE COORDINATE PLANE.

1. Match each term to the correct definition.

_____ coordinate plane	a. the second number in an ordered pair
_____ x-axis	b. the horizontal line that passes through the origin
_____ y-axis	c. the vertical line that passes through the origin
_____ origin	d. the point where the x-axis and y-axis intersect
_____ x-coordinate	e. the first number in an ordered pair
_____ y-coordinate	f. the second number in an ordered pair

Use the coordinate grid to answer #2-4.

2. Which point represents the ordered pair (4, 3)?

3. Write the ordered pair that represents the point shown on the coordinate grid.

4. Write the ordered pair that represents the point shown on the coordinate grid.

5. Mr. Foster plotted a point on the coordinate grid. The point is less than the x-coordinate. Circle the point that could be Mr. Foster's point.

SAMARA (7, 3)

I CAN GRAPH ORDERED PAIRS ON THE COORDINATE PLANE.

6. Addie plotted the ordered pair (5, 3) on the coordinate grid. Did Addie plot both points correctly? Explain.

GRAPHING POINTS ON THE COORDINATE PLANE STUDENT HANDOUT

Name **Answer Key** _____
Date _____ Pd _____

An ordered pair represents an exact location on the coordinate plane. Use the steps outlined below to graph the coordinate point shown at the right.

GRAPHING ORDERED PAIRS

- Label the x and y-coordinates in your ordered pair.
- Start at the origin, (0, 0).
- Move to the right according to the value of the x-coordinate.
- Move up according to the value of the y-coordinate.

Ex: Graph the point (5, 3).

For each coordinate point given in the table, write a description of how to graph the ordered pair. Then graph and label the point on the coordinate plane shown at the right.

POINT	DESCRIPTION	GRAPH AND LABEL
A (4, 7)	Begin at the origin; Move 4 units to the right and 7 units up	
B (0, 4)	Begin at the origin; Move 4 units up	
C (1, 7)	Begin at the origin; Move 1 unit to the right and 7 units up	
D (7, 1)	Begin at the origin; Move 7 units to the right and 1 unit up	
E (9, 0)	Begin at the origin; Move 9 units to the right	
F (5, 9)	Begin at the origin; Move 5 units to the right and 9 units up	

Use your knowledge of graphing points on the coordinate grid to answer the question below.

1. Mrs. Park asks her students to graph point A (2, 4) and Point B (6, 8). Tamiko graphed the points as shown but makes an error with each point.

a. Describe Tamiko's error with point A and then correctly plot point A.
Tamiko plotted the point at a y-value of 8 instead of 4.

b. Describe Tamiko's error with point B and then correctly plot point B.
Tamiko switched the x and y-coordinates.

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answer keys included