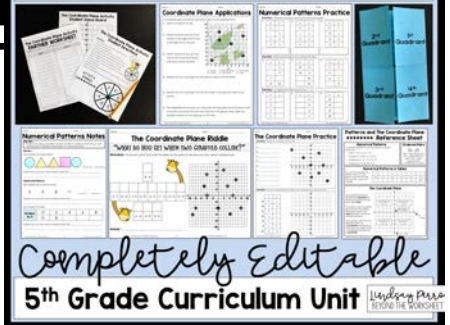


ABOUT THIS RESOURCE

Patterns and The Coordinate Plane



Details :

This 10 day quick unit covers 5th Grade Geometry and Operations and Algebraic Thinking Standards. If the skills don't completely align to your state standards, that's OK because this resource is 100% editable! All content can be modified to make this unit perfect for your classroom!

Included Resources :

- Weekly warm up recording sheets
- Weekly exit ticket sheets
- Blank lesson plans
- Unit tracking pages
- Unit vocabulary sheet
- Unit pre-assessment
- Warm ups
- End of Unit Performance Task
- Partner Activity
- Traditional notes
- Fold and Flip Notes
- Practice assignments (for homework or classwork)
- A complete PDF of the unit
- An editable PPT version of the unit.
- A binder cover and spine labels

Lessons :

- Lesson 1 : Numerical Patterns
- Lesson 2 : The Coordinate Plane
- Lesson 3 : Coordinate Plane Applications

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Click here for Exclusive FREE Resources, News, Giveaways and More!

 **STAY IN TOUCH!**



Meet the Author :

My name is Lindsay Perro and I have been an educational writer and content developer since 2009. After spending 8 years as a Middle School Math Teacher and Interventionist, I am now following my passion and focusing on creating quality educational resources to make your job easier and keep students engaged and excited about math!



Lindsay Perro



Patterns & The Coordinate Plane

▶▶▶ Unit Plan for 5th Grade Math

Lesson	Resources
Unit Prep (pgs. 6 – 12)	<ul style="list-style-type: none"> • Weekly Warm Up Sheet • Exit Tickets • Lesson Plan Template • Vocabulary • Pre-Assessment
1) Numerical Patterns (pgs. 13 – 19)	<ul style="list-style-type: none"> • Two Warm Ups • Numerical Patterns Notes (2 pages) • Numerical Patterns Practice Worksheets (2)
2) The Coordinate Plane (pgs. 20 – 34)	<ul style="list-style-type: none"> • Three Warm Ups • The Coordinate Plane Notes • The Coordinate Plane Printable • The Coordinate Plane Fold and Flip Notes • The Coordinate Plane Practice Worksheet • The Coordinate Plane Riddle • Patterns and The Coordinate Plane Practice Worksheet • The Coordinate Plane Partner Activity
3) Coordinate Plane Applications (pgs. 35 – 41)	<ul style="list-style-type: none"> • Two Warm Ups • Coordinate Plane Applications Practice Worksheets (2) • Coordinate Plane Quiz (2 pages)
End of Unit (pgs. 42 – 47)	<ul style="list-style-type: none"> • Unit 7 Reference Sheet • Unit 7 Task • Unit 7 Assessment

**10 DAY
UNIT**

Name _____ Date _____

two

Numerical Patterns

Skill : Numerical patterns

1) Complete the pattern using the rule "add six".

3, _____, _____, _____, _____

2) Complete the pattern using the rule "subtract four".

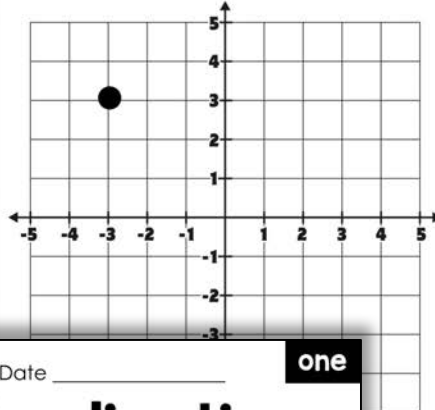
60, _____, _____, _____, _____

Name _____ Date _____

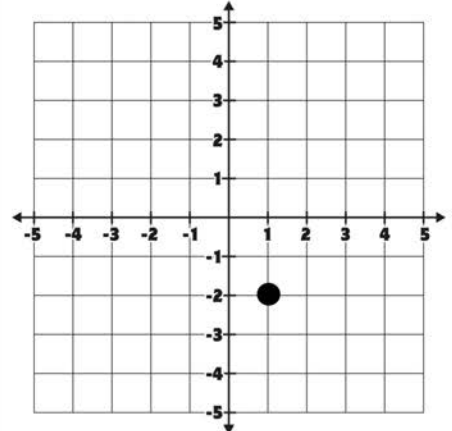
The Coordinate Plane

Skill : Identifying points in a coordinate plane

1. Identify the coordinates of the point.



2. Identify the coordinates of the point.



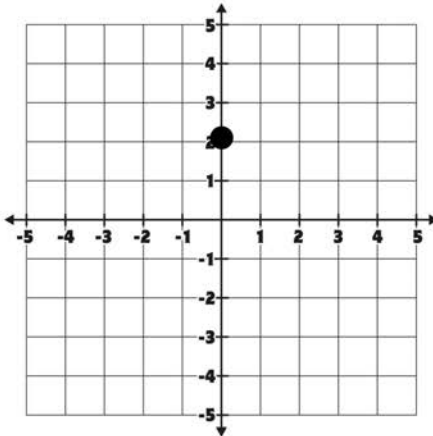
Name _____ Date _____

one

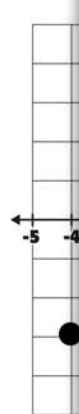
Coordinate Plane Applications

Skill : Identifying and plotting points in a coordinate plane

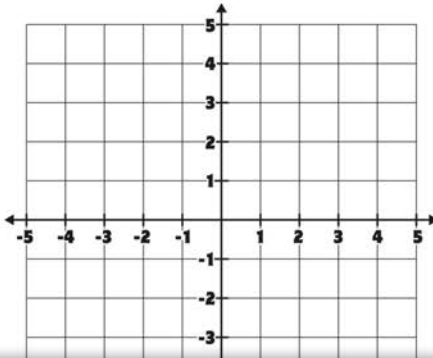
1. Identify the coordinates of the point.



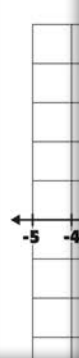
2. Identify the coordinates of the point.



3. Plot W(5, 2), X(0, -3) and Y(-2, -2).



4. Plot R(4, -2).



Name _____ Date _____

two

Coordinate Plane Applications

Skill : Coordinate plane applications

Both Kelsie and Roland are saving money to buy a cell phone. They each check their account balance at the beginning of the month. The chart below shows the balance in each account over 8 months.

	1	2	3	4	5	6	7	8
Kelsie	20	40	60	80	100	120	140	160
Roland	30	60	90	120	150	180	210	240

1) Graph the data for each person on the coordinate plane. Be sure to label the y-axis.



2) At the rate they are saving now, will Kelsie ever have a higher balance than Roland? Explain.

BEYOND THE WORKSHEET

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Warm Ups

3) Write a rule for each person to show how much they are saving each month.

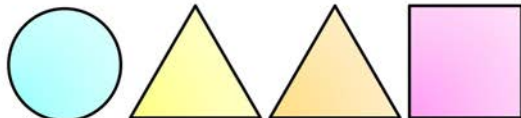
Numerical Patterns

Big Idea :

- Patterns can help you predict a certain number in a sequence.
- Ordered pairs to represent relationships on coordinate plane.

Review :

- Complete the shape pattern.



Explain how you knew which shapes came next.

Numerical Patterns :

- Complete the numerical pattern.

2 5 8 11

Numerical Patterns

Patterns Given Two Rules :

- Completing a table :

Nona and Marcellus are running a marathon. Nona is running 10 minutes per mile and Marcellus is running 8 minutes per mile. Complete the table showing how long it takes both Nona and Marcellus to complete the marathon.

	1 mile	2 miles	3 miles	4 miles
Nona				
Marcellus				

- Interpreting a table :

The table shows the amount of money earned by two teenagers working a given number of hours at their job.

	4 hours	8 hours	12 hours	16 hours	20 hours	24 hours
Rafael	\$40	\$80	\$120	\$160	\$200	\$240
Brooke	\$36	\$72	\$108	\$144	\$180	\$216

COMPLETELY EDITABLE

Name _____ Date _____

The Coordinate Plane Notes

Big Idea :

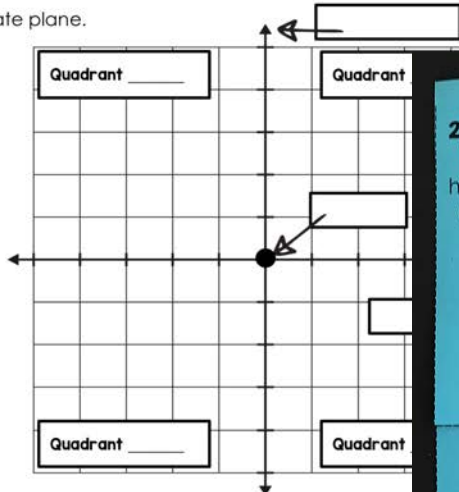
- The coordinate plane is created by two perpendicular axes, the x -axis and y -axis.

Key Words :

- Ordered pair
- Origin
- x -axis
- y -axis

Explore : Label each part of the coordinate plane.

- The points in Quadrant 1 have a _____ x -value and a _____ y -value.
- The points in Quadrant 2 have a _____ x -value and a _____ y -value.
- The points in Quadrant 3 have a _____ x -value and a _____ y -value.
- The points in Quadrant 4 have a _____ x -value and a _____ y -value.
- The point where the x -axis and y -axis intersect, or _____ is called the _____.
- An _____ identifies the location of a point on the coordinate plane. The first number represents the _____ coordinate and the second number represents the _____ coordinate.



Plotting Points: Moving along the coordinate plane is like moving through a city. You follow the "streets" and cannot cut through diagonally.

- To plot a point you start at the _____.
- Move _____ or _____ from the origin based on the first number in the ordered pair. If the number is positive, move right from the origin. If the number is negative, move left from the origin.

How much money does Rafael make each hour compared to the money Brooke makes each hour?

How much money does Brooke make after working 40 hours? Explain how you know.

2nd Quadrant

The points in Quadrant 2 have negative x -coordinates and positive y -coordinates.

$(-x, y)$

1st Quadrant

The points in Quadrant 1 have positive x -coordinates and positive y -coordinates.

(x, y)

$(-x, -y)$

$(x, -y)$

The points in Quadrant 3 have negative x -coordinates and negative y -coordinates.

3rd Quadrant

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Notes

Name _____

Numerical Pattern

Directions : Determine the pattern and write the rule for the pattern.

1)

x	y
0	1
1	2
2	3
3	4

2)

x	y
0	0
1	2
2	4
3	6

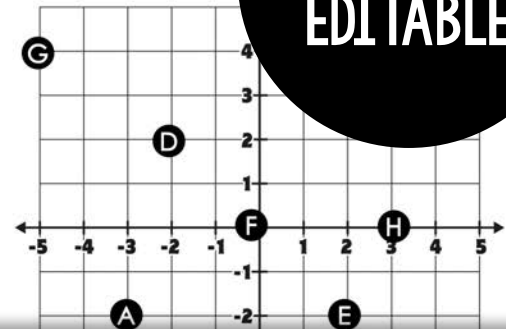
Name _____

Date _____

The Coordinate Plane

Directions : Identify the coordinates of each point.

- A. _____
 B. _____
 C. _____
 D. _____
 E. _____
 F. _____



**COMPLETELY
EDITABLE**

Directions : Determine the pattern and complete the table.

4)

x	y
1	3
	9
5	
10	30

5)

x	y
20	10
30	15
	20
	30

Directions : Complete each table using the rule $y = x^2$.

Name _____

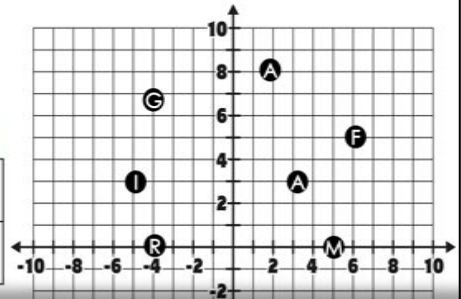
Date _____

The Coordinate Plane Riddle

"WHAT DO YOU GET WHEN TWO GIRAFFES COLLIDE?"

Directions : Find each point and write the letter for the point on the line over the correct ordered pair.

(8, -4)



The Coordinate Plane Activity Student Directions

Directions :

- You and a partner will take turns plotting points on the coordinate plane.
- Your goal is to plot FIVE points in a straight line. You only get to pick one coordinate for each point.
- You will take turns spinning the spinner below and using a pencil and paperclip. The number you land on will be the FIRST number in the ordered pair. Your partner will be the SECOND number in the ordered pair. You get to pick the second number in the ordered pair.
- You will record the coordinates of the ordered pair on your partner worksheet.
- When one player gets five points in a straight line, they win!

ACTIVITY
SPINNER

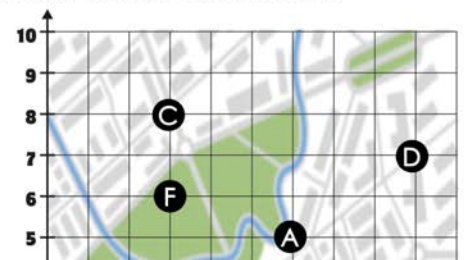
Name _____

Date _____

Coordinate Plane Applications

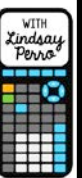
A coordinate grid is placed on top of the map of a city neighborhood.

- What is located at (9, 2)?
- Where would you end up if you started at the origin and moved 6 units right and 5 units up?
- Where would you end up if you start at the school and move 6 units down and 8 units left?



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Worksheets

- Explain how you would get from the art center, to the park and then to the school.

Name _____ Date _____

Patterns and The Coordinate Plane Pre-Ass

1) Determine the pattern and complete the table.

x	y
0	0
4	2
6	
	4
18	

2) Determine the pattern and write the rule for the

x	y
0	6
1	7
2	8
3	9

4) Identify the coordinates of the point.



5) Plot

Name _____ Date _____

The Coordinate Plane

COMPLETELY EDITABLE

1) Select all points that are located in the first quadrant.

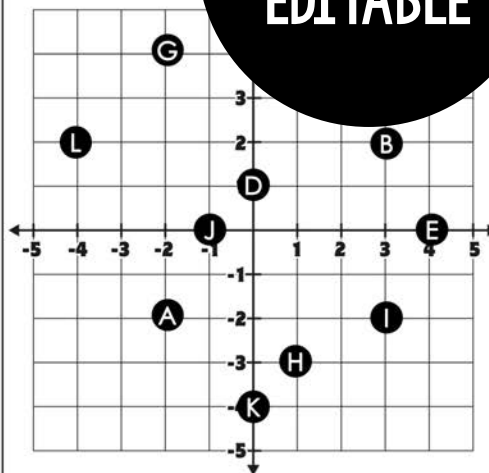
- ☐ A Point A ☐ D Point F
☐ B Point B ☐ E Point H
☐ C Point D ☐ F Point L

2) Which point is located an equal distance from each axis?

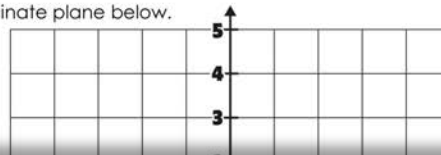
- ☐ A Point A
☐ B Point B
☐ C Point I
☐ D Point L

3) Name the coordinates of each point.

- Point B _____
 Point G _____
 Point K _____
 Point L _____



Plot and label the following points on the coordinate plane below.

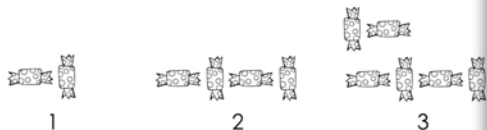


Patterns and The Coordinate Plane

END OF UNIT TASK

Objective : Extend a pattern and come up with a rule for the pattern of ordered pairs and graph the ordered pairs.

About : Monet is arranging candies in a pattern. Here is the pattern shown below.



- Draw what the next two arrangements would look like.
- How many candies are needed for arrangement 6? Explain your answer.

Arrangement 6 _____ Arrangement 7 _____

Explanation : _____

- Write a rule that could be used to find the number of candies in any arrangement. Explain how you found your answer.

Rule: _____

Explanation : _____

Name _____ Date _____

Score : _____

Patterns and the Coordinate Plane Assessment

Numerical Patterns: Determine the pattern and write the rule for each table.

1)

x	1	2	3	4	5
y	0	1	2	3	4

2)

x	2	4	6	8	10
y	5	7	9	11	13

Numerical Patterns: Determine the pattern and complete each table.

3)

x	2	4		8	10
y	6	12	18		

4)

x	4		12	16	
y	1	2		4	5

Numerical Patterns: Complete each table using the given rule.

5) "add three"

x	1	2	3	4	5
y					

6) "subtract four"

7) "times two"

x	3	4	5	6	7
y					

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Assessments

10) At the current snowfall rate, how much snow will each city have after 8 hours? 12 hours?

2	4	4
3	6	5

Yert
SEVEN

EDITABLE BINDER COVER

Unit
SEVEN

- $\frac{2}{9} + \frac{5}{9} = \frac{7}{9}$
- $1\frac{1}{8} + \frac{3}{8} = 1\frac{4}{8} = 1\frac{1}{2}$
- $\frac{3}{4} + \frac{1}{6} = \frac{9}{12} + \frac{2}{12} = \frac{11}{12}$
- $1\frac{1}{4} + 3\frac{5}{6} = 1\frac{3}{12} + 3\frac{10}{12}$
 $= 4\frac{13}{12}$
 $= 5\frac{1}{12}$

Yert
SEVEN

Patterns and Trends Coordinate Plane

Yenta
SEVEN

Patterns and the Coordinate Plane

Herit
SEVEN

Patterns and The Coordinate Plane

STUDENT TRACKING

[illegible]

STUDENT TRACKING

Name	Coordinate Plane Practice	Riddle	Patterns & Coordinate Plane Practice	Partner Activity

The graphic features large bold black text "BEYOND THE WORKSHEET". To its left is a small logo for "Lindsay Perro" next to a grid icon. Below the main title, it says "QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!". The entire graphic has a thick black border.

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Tracking Sheets & Binder Labels

▶▶▶▶ Weekly Warm Up Sheet

Date:

- Generate from two
- Identify a graph the grid.
- Understand system a purpose
- Solve rec using the coordin

Date _____

Lesson TWO

Suggested Time Frame : Two Days

Resources Included:

- Three Warm Ups
- The Coordinate Plane Notes
- The Coordinate Plane Printable
 - Students label each quadrant, each axis and each point
- The Coordinate Plane Fold and Flip Notes
- The Coordinate Plane Practice Worksheet
 - Can be used for classwork or homework
- The Coordinate Plane Riddle
- Patterns and The Coordinate Plane Practice

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Planning Pages

- Understand the coordinate system and explain the purpose of each axis