5th Grade

PATTERNS OF THE COORDINATE PLANE

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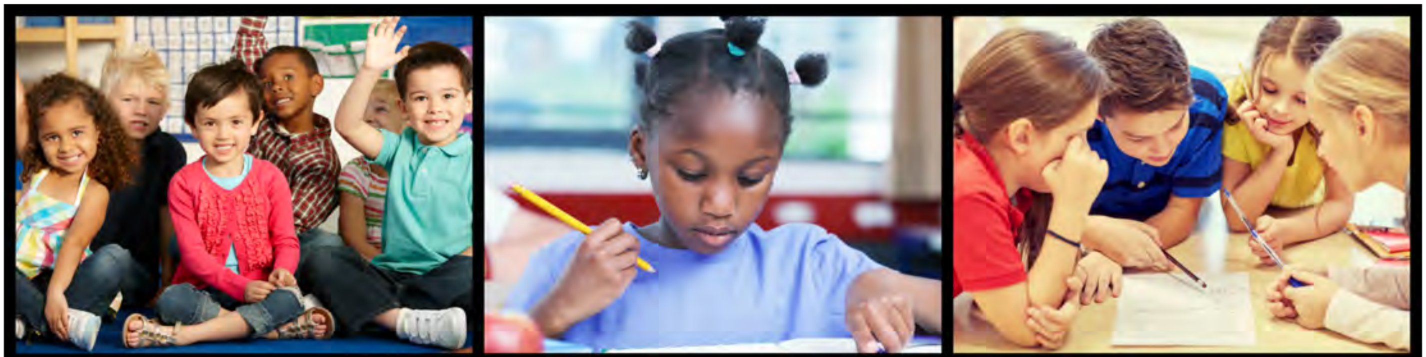

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Patterns On The Coordinate Plane

Name	1	2	3	4	5	6

Name ________________________ Patterns On The Coordinate Plane

LT	Statement	1	2	3	4	Evidence
1	I can generate a numerical pattern when given a rule in the form y = ax or y = x + a.					
2	I can graph a numerical pattern when given a rule in the form y = ax or y = x + a.					
3	I can recognize the difference between additive and multiplicative numerical patterns given in a table or graph.					
4	I can describe the key attributes of the coordinate plane.					
5	I can describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.					
6	I can graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.					

1	2	3	4
I have no idea how to do this.	I can do this with some help.	I can do this by myself	I can teach someone to do this.

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
1 5.4C	Generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$.	Whole numbers Fractions Decimals ☐ Mathematical and real-world numerical relationships ☐ Input-output ☐ Relationship between input-output tables and numerical patterns Numerical patterns from rules ☐ Replace the input (x) with a set of numbers to generate a related output (y). ☐ Input values must be sequential. ☐ List of output values creates numerical pattern ☐ Multiplicative rule in the form $y = ax$ ☐ Additive rule in the form $y = x + a$	☐ Understand the relationship between an equation and ordered pairs in a table ☐ Identify ordered pairs presented in a table that follow a numerical rule given in an equation ☐ Identify related number pairs presented in a diagram that follow a numerical rule given in an equation ☐ Understand how to graph ordered pairs in Quadrant I of the coordinate grid	☐ Compare the two rules verbally, numerically, graphically, symbolically in the form $y = ax$ or $y = a + x$ in order to differentiate between additive and multiplicative relationships.
2 5.4C	Graph a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$.	☐ Graph numerical patterns		

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
3 5.4D	Recognize the difference between additive and multiplicative numerical patterns given in a table or graph.	☐ Additive numerical pattern- straight line that does not go through the origin. ☐ Multiplicative numerical pattern- a straight line that passes through the origin.	☐ Understand that an additive numerical pattern occurs when a constant non-zero value is added to an input value to determine the output value (y = x + a) ☐ Understand that a multiplicative numerical pattern occurs when a constant non-zero value is multiplied by an input value to determine the output value (y = ax) ☐ Identify and explain an additive pattern presented in a table	☐ Compare two rules verbally, numerically, graphically, and symbolically in the form of y = ax or y = x + a in order to differentiate between additive and multiplicative relationships.
4 5.8A	Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin.	☐ Two number lines intersect perpendicularly to form the axes, which are used to locate points on the plane. ☐ The x-axis and the y-axis cross at 0 on both number lines and that intersection is called the origin. ☐ Four quadrants are formed by the intersection of the x- and y-axes and are labeled counterclockwise with Roman numerals beginning with Quadrant I that includes the positive x- and y-values. ☐ The first quadrant plots positive rational numbers. ☐ Iterated units are labeled and shown on both axes to show scale. ☐ A pair of ordered numbers names the location of a point on a coordinate plane. ☐ Ordered pairs of numbers are indicated within parentheses and separated by a comma (x, y).	☐ Understand the attributes of a coordinate plane, including the perpendicular lines representing the x-axis and y-axis ☐ Recall the intersection of the axes form a point called the origin and is represented by the ordered pair (0, 0)	☐ Graph points in all four quadrants using ordered pairs of rational numbers.

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
5 5.8B	Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.	Process for graphing ordered pairs of numbers in the first quadrant ☐ To locate the x-coordinate, begin at the origin and move to the right along the x-axis the appropriate number of units according to the x-coordinate in the ordered pair. ☐ To locate the y-coordinate, begin at the origin and move up along the y-axis the appropriate number of units according to the y-coordinate in the ordered pair. ☐ The point of intersection of both the parallel movements on the x-axis and the y-axis is the location of the ordered pair. Multiple ordered pairs may be graphed on the same coordinate plane.	☐ Understand how to graph an ordered pair in the first quadrant of a coordinate grid ☐ Describe the process for graphing an ordered pair on a coordinate grid	☐ Graph points in all four quadrants using ordered pairs of rational numbers.
6 5.8C	Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.	☐ Ordered pairs in mathematical and real-world problem situations ☐ Ordered pairs generated from number patterns or those found in an input-output table	☐ Understand how to graph ordered pairs of numbers in the first quadrant of a coordinate grid ☐ Understand the increments on a coordinate grid ☐ Understand how to represent data points that fall between marked increments on a coordinate grid (coordinate plane) ☐ Graph ordered pairs of numbers in the first quadrant of a coordinate grid	☐ Graph points in all four quadrants using ordered pairs of rational numbers.

Day 1	Day 2	Day 3	Day 4	Day 5
Mini Lesson LT 4 Coordinate Plane	Mini Lesson LT 5 Describe the process of graphing.	Mini Lesson LT 6 Graph coordinates Real World	Mini Lesson LT 6 Graph Coordinates Input-Output	Concept Attainment LT 3 Additive Multiplicative
Guided Math	Guided Math	Guided Math	Guided Math	Guided Math
Review Unit 8	Coordinate Plane	Describe the process of graphing.	Graph coordinates	Additive Multiplicative
Day 6	Day 7	Day 8	Day 9	Day 10
Mini Lesson LT 1, 2 Rule to Table	Mini Lesson LT 1, 2 Rule to Graph	Mini Lesson LT 1, 2 Graph to Table	Mini Lesson LT 1, 2 Table to Graph	Independent Practice LT 1, 2
Guided Math	Guided Math	Guided Math	Guided Math	Guided Math
Additive Multiplicative	Rule to Table	Rule to Graph	Graph to Table	Table to Graph

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I hope this helps your students!

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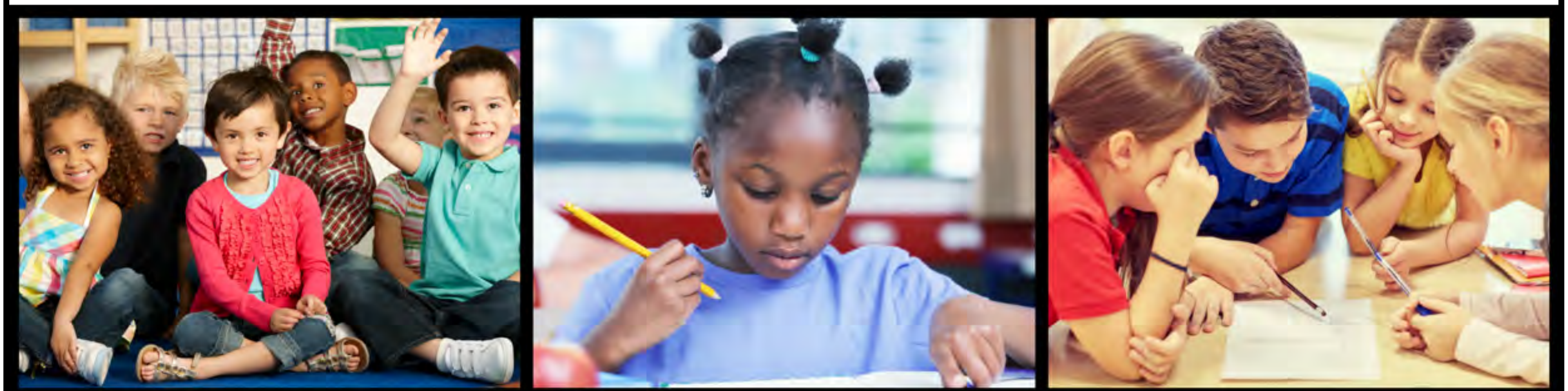

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