

Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	Standard: 5.OA.3 - Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
<p><u>Operations and Algebraic Thinking</u> Analyze patterns and relationships.</p>	<p><u>Questions to Focus Learning</u></p> <p>How are coordinate pairs formed from number sequences? What is the relationship between the corresponding terms in a series of ordered pairs?</p> <p>Relationships between corresponding terms can be seen on a coordinate graph. We can make generalizations these relationships.</p> <p><u>Student Friendly Objectives</u></p> <p><i>Knowledge Targets</i></p> <p>I know that a number pattern is a sequence of numbers that increase, decrease, or stay the same according to a rule. I know that the first number in an ordered pair corresponds to the x-coordinate, and the second number in an ordered pair corresponds to the y-coordinate. I know how to graph on the coordinate plane.</p> <p><i>Reasoning Targets</i></p> <p>I can determine the rule used in a numerical pattern. I can interpret a graph on a coordinate plane. I know the graph on a coordinate plane represents the number pattern I extended. I can tell about the relationship between the two patterns and the resulting graph on a coordinate plane.</p> <p><i>Product Targets</i></p> <p>I can create and extend number patterns. I can form ordered pairs from corresponding terms in two numerical patterns. I can graph the ordered pairs on a coordinate plane.</p>

Vocabulary

coordinate plane
corresponding terms
horizontal axis/x-axis
numerical/number pattern
ordered pair
relationship
rule
sequence
vertical axis/y-axis
x-coordinate
y-coordinate

Teacher Tips

Provided with permission from the Public Schools of North Carolina (May 2012)

<http://www.dpi.state.nc.us/acre/standards/common-core-tools/#unmath>

This standard extends the work from Fourth Grade, where students generate numerical patterns when they are given one rule. In Fifth Grade, students are given two rules and generate two numerical patterns. The graphs that are created should be line graphs to represent the pattern. This is a linear function which is why we get the straight lines

From the Progressions Documents for the Math Common Core

<http://ime.math.arizona.edu/progressions/>

Students extend their Grade 4 pattern work by working briefly with two numerical patterns that can be related and examining these relationships within sequences of ordered pairs and in the graphs in the first quadrant of the coordinate plane. This work prepares students for studying proportional relationships and functions in middle school.

Vertical Progression

- 6.NS.8-1 - Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.
- 6.NS.8-2 - Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
- 6.EE.9-1 - Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.
- 6.EE.9-2 - Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.
Direct link for this standard: [5.OA.3](#)