

# ISLP Lesson 5

**Author:** Breanna Seagle

**Date created:** 10/04/2013 4:22 PM EST ; **Date modified:** 10/11/2013 3:31 PM EST

## PLANNING

<b>Essential Question</b>	How do I recognize patterns in numbers? How do I graph coordinates?
<b>Topic or Unit of Study</b>	Number Patterns and graphing
<b>Grade/Level</b>	Grade 5
<b>Subject(s)</b>	Mathematics
<b>CT Approval/ Date</b>	

## 21ST CENTURY SKILLS AND TECHNOLOGY TOOLS

<b>Standards</b>	<b>USA- Common Core State Standards (June 2010)</b> <b>Subject:</b> Mathematics <b>Grade:</b> Grade 5 <b>Domain:</b> Operations and Algebraic Thinking 5.OA <b>Entire Cluster:</b> Analyze patterns and relationships. 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. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.
<b>Learning Targets/Objectives</b>	I can generate patterns using two rules and graph those patterns on a coordinate plane. I will describe the pattern and extend the pattern to formulate the rules.
<b>Technology Tools</b>	
<b>Assessment/Rubrics</b>	The teacher will assess the "Who's There" graph and will formatively assess the work in students notebooks on creating an input output chart following the stated rules.

## IMPLEMENTATION

<b>Introduction to Lesson</b>	The teacher will tell students that they have been working very hard this week on algebraic expressions and that now we are going to continue moving into algebra and work with graphing and rules of numbers.
<b>Teacher Input</b>	<p>The teacher will pull up a coordinate plane on the smart board and talk about a coordinate plane with students and share with them that you will use coordinates to graph on this plane.</p> <p>The teacher will show students where the X and Y axis are. The teacher will tell students to always graph the X coordinate first (the first one in the ordered pair) and the Y coordinate second (the second one in the ordered pair.)</p> <p>The teacher will graph a few asking students where to graph the points.</p> <p>Where should I go on the X-axis?</p> <p>Where should I go on the Y-axis?</p> <p>Why should I not do it the other way?</p> <p>(5,6)</p> <p>(4,4)</p> <p>(1,7)</p> <p>(4,9)</p> <p>(9,3)</p> <p>Students will come to the board to help graph the coordinates.</p> <p>The teacher will also show students an input/output chart and explain that what ever number they put in, they must follow the rules to find the out put. The teacher will also tell students that if they are given the output then they must do the rule in reverse order to find the input.</p>

	<p>The teacher will show some examples on the board and have students fill them in.</p> <p>Rule: divide by 2, then multiply by 4</p> <table> <tr> <td>Input</td><td>Output</td></tr> <tr> <td>8</td><td></td></tr> <tr> <td></td><td>24</td></tr> <tr> <td>6</td><td></td></tr> </table> <p>The teacher will also talk to students about numbers in a pattern.</p> <p>The teacher will tell students that if there is multiple choice then they had better try all the options for every number to be sure that it works.</p>	Input	Output	8			24	6	
Input	Output								
8									
	24								
6									
<b>Guided Practice</b>	Students will come to the board to practice graphing and input/output charts.								
<b>Independent Practice</b>	Students will complete practice graphing and pattern rules.								
<b>Differentiated Instruction</b>	<p>Students who are EC will have fewer problems to do with the input/output charts. They will be pulled to work together on the graphing exercise.</p> <p>Students who are ELL will have the rules for the input/output chart read aloud to them.</p> <p>Students who are AIG will be asked what a graph of the input/output chart might look like.</p>								
<b>Closure</b>	<p>The teacher will ask students to share what they learned in math today.</p> <p>The teacher will then ask students, "Why do you think I am teaching you about number patterns and graphing?"</p> <p>What job could you have where you may need to know this information?</p>								
<b>Time Allotment</b>	1 class periods. 1 Hr. per class.								

## MATERIALS AND RESOURCES

<b>Instructional Materials</b>	<p>Who's There graph</p> <p><b>Attachments:</b></p> <ol style="list-style-type: none"> <li>1. ISLP Lesson 5 practice.docx</li> </ol>
<b>Resources</b>	

## REFLECTION

<b>Author's comments and reflection</b>	
---	--