

# Pre-Kindergarten: Patterns and Number Operations

## Stage 1 Desired Results

<p>ESTABLISHED GOALS:</p> <p><u>Competencies:</u></p> <ul style="list-style-type: none"> <li>• <i>Students will demonstrate the ability to count and compare quantities in order to represent number sense and concepts.</i></li> <li>• <i>Students will demonstrate the ability to recognize and create simple patterns in order to represent number sense and concepts.</i></li> </ul> <p><u>Framework Descriptors:</u></p> <p>Patterns and Relationships</p> <ul style="list-style-type: none"> <li>○ Order or sequence several objects based on one characteristics</li> <li>○ Begin creating simple patterns with familiar objects (E.g. Max places the blocks in rows of long, short, long, short, etc.)</li> </ul> <p>Number Operations</p> <ul style="list-style-type: none"> <li>○ Change small collections of objects by combining or removing objects and then counting to determine how many they have (E.g. Avery counts out three blocks, then adds two more, and counts all of the blocks and says, "I have five blocks.")</li> </ul> <p>Time and Sequence</p> <ul style="list-style-type: none"> <li>○ Begin to differentiate between yesterday, today, and tomorrow</li> </ul>	<b>Transfer</b>	
	<p><i>Students will be able to independently use their learning to <b>answer everyday questions about numbers and patterns.</b></i></p>	
	<b>Meaning</b>	
	<p>ENDURING UNDERSTANDINGS <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• mathematical operations are used in solving problems in which a new value is produced from one or more values.</li> <li>• algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions.</li> </ul>	<p>ESSENTIAL QUESTIONS</p> <ul style="list-style-type: none"> <li>• Is it easier to take something apart or put something together?</li> <li>• Where can you find patterns?</li> </ul>
<b>Acquisition</b>		
<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• that addition is putting together and subtraction is taking away.</li> <li>• that patterns can be found in their environment.</li> <li>• that patterns repeat.</li> <li>• that when counting a set of objects, the last counting word tells "how many".</li> <li>• that objects can be ordered or grouped based on characteristics.</li> </ul> <p><u>vocabulary:</u> add, addition, subtract, subtraction, plus, minus, equals, total, all together, pattern, repeat, more, less, greater than, fewer, how many, before, after, same, different, yesterday, today, tomorrow</p>	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> <li>• ordering or sequencing objects based on one characteristic.</li> <li>• manipulating objects to demonstrate the beginning principles of addition and subtraction.</li> <li>• creating non numeric patterns using objects, pictures, sounds, or movement.</li> <li>• extending a non-numeric pattern from left to right.</li> <li>• recognizing and verbalizing a non-numeric pattern in their environment.</li> <li>• beginning to differentiate between yesterday, today and tomorrow.</li> </ul>	

<b>Content Area Literacy Standards</b>	<b>21<sup>st</sup> Century Skills</b>
<i>not applicable</i>	<ul style="list-style-type: none"><li>• <i>be self-directed learners</i></li><li>• <i>reason effectively</i></li><li>• <i>solve problems</i></li><li>• <i>think creatively</i></li></ul>