## 4th Grade Math Lesson

Learning Targets: I can determine the rules for a given number pattern. I can generate a number pattern based on a given rule.				State Standard: • 4.OA.C.5
How will I know if the students have mastered the standard?				
<ul> <li>Success Criteria:</li> <li>Did I ask myself is it increasing or decreasing?</li> <li>Did I ask myself how much is it increasing or decreasing?</li> </ul>	Warm 1. 2. 3. Review Vocabu • • • • • • • • • • • • •	<ul> <li>m Up Activity: What is a pattern?</li> <li>Students respond to the prompt</li> <li>Share out</li> <li>Check with definition</li> <li>cw Learning Targets with students</li> <li>Check for understanding</li> <li>bulary: <ul> <li>Determine</li> <li>Generate</li> <li>Term(s)</li> <li>Sequence</li> </ul> </li> <li>Share sequence and have students predict next number in pattern</li> <li>Work with students to determine the "rule" for given patterns (whole group) <ul> <li>Look for's within patterns</li> <li>Rule = at least one operation and a number</li> <li>First step in finding the rule for a pattern is to determine how terms are related to each other</li> </ul> </li> <li>Student Notes</li> <li>Students work in pairs and small groups to solve various teacher generated problems. Teacher models multiple types of test questions and ways to solve problems using math algorithms.</li> <li>Students work independently to finish evit ticket</li> </ul>		Materials: • Markers • Boards • Notes
How will I respond when students experience initial difficulty in learning?			How will I enrich and extend the learning of students who have mastered the learning?	
<ul> <li>I will use multiple student engagement strategies so that I may monitor student independent responses.</li> <li>Students are seated in heterogeneous groupings to ensure students may learn from each other.</li> <li>Consistent monitoring of student responses</li> <li>Check in on key students</li> </ul>			<ul> <li>Groups that are ready will be invited to explore additional problems as they are ready while the teacher engages students that need support</li> </ul>	

**State Standard(s): 4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.