Grade 7 Math:	Mastery Check
1Benchmark #: 7.2.1.K1a-b (Patterns)	#5

State Language:	Student Friendly Language:
Identifies, states, and continues a pattern presented in various formats including numeric (list or table), algebraic (symbolic notation), visual (pictures, table, or graph) verbal (oral description), kinesthetic (action), and written using these attributes: a) **Counting numbers including perfect squares, cubes, and factors and multiples (number theory);** b) **Positive rational numbers including arithmetic and geometric sequences (arithmetic; sequence of numbers in which the difference of two consecutive numbers is the same, geometric: a sequence of numbers in which each succeeding term is obtained by multiplying the preceding term by the same number**	• **Students will learn the definitions of <u>arithmetic</u> and <u>geometric</u> sequences.** • **Students will find the rule used for finding the next term** • **Students will find the next term in any given sequence (by using addition, subtraction, multiplication of integers, decimals, or fractions including numbers that are squared,)**

Concept (Students will know):	Skills (Students will do):	DOK Level:
• The definition of: arithmetic sequence • The definition of geometric sequence • That a pattern must increase by the same amount each time • To find the rule for a fraction pattern problem, you must find common denominators and rewrite each as an equivalent fraction	• The process for finding the next term in a fraction pattern • The process for finding the rule and next term in a decimal pattern • Distinguish between arithmetic and geometric sequences • Identify a given pattern as arithmetic or geometric	**3**

Big Ideas:
Know what to look for in patterns to determine what the rule is and how to find the next term of the sequence.

Essential Questions:
1. What is an arithmetic sequence?
2. What is a geometric sequence?
3. What is the process for finding the next term in a fraction pattern? Decimal pattern?
4. Which kind of pattern is the following, arithmetic or geometric: 2, 7, 12, 17……?
5. Which kind of pattern is the following, arithmetic or geometric: 5, 25, 125, 625….?

Core Materials **Text Book**	Supplemental Materials: **Resource workbook** **Teacher generated** **Technology (Study Island/BAIP)**

Teaching Strategies:
Guided Practice
Foldable

Mastery Check Items: