

## Threshold Achievement Level Descriptors Grade 5 Mathematics –

The student who just enters Level 2 should be able to:	
<p>CONCEPTS AND PROCEDURES Targets A and B: Operations and Algebraic Thinking</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Write numerical expressions having one set of parentheses, brackets, or braces.</li> <li><input type="checkbox"/> Graph whole number ordered pairs from two whole number numerical patterns on a coordinate plane.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets C and D: Number and Operations – Base Ten</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Understand that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right.</li> <li><input type="checkbox"/> Demonstrate accuracy in multiplying multi-digit whole numbers and in finding whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets E and F: Number and Operations – Fractions</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Add two fractions and/or mixed numbers with unlike denominators (denominators less than or equal to 6) in mathematical problems.</li> <li><input type="checkbox"/> Use benchmark fractions to estimate and assess the reasonableness of answers (denominators less than or equal to 6).</li> <li><input type="checkbox"/> Multiply a whole number by a mixed number.</li> <li><input type="checkbox"/> Know the effect that a fraction greater than or less than 1 has on a whole number when multiplied.</li> <li><input type="checkbox"/> Use visual models when multiplying two fractions between 0 and 1.</li> <li><input type="checkbox"/> Perform division of a whole number by any unit fraction.</li> <li><input type="checkbox"/> Understand that division of whole numbers can result in fractions.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets G and H: Measurement and Data</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Convert a whole number measurement to a decimal or fractional valued measurement within the same system (e.g., 30 in = ___ ft).</li> <li><input type="checkbox"/> Make a line plot and display data sets in whole and half units.</li> </ul>
<p>CONCEPTS AND PROCEDURES Target I: Measurement and Data</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Understand the concept that the volume of a rectangular prism packed with unit cubes is related to the edge lengths.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets J and K: Geometry</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Graph whole number coordinate pairs on a coordinate plane with whole number increments of 2, 5, and 10.</li> <li><input type="checkbox"/> Classify two-dimensional figures into categories by their attributes or properties.</li> </ul>
<p>PROBLEM SOLVING &amp; MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Select tools to solve a familiar and moderately scaffolded problem and apply them with partial accuracy.</li> <li><input type="checkbox"/> Use the necessary elements given in a problem situation to solve a problem.</li> <li><input type="checkbox"/> Apply mathematics to propose solutions by identifying important quantities and by locating missing information from relevant external resources.</li> </ul>
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Find and identify the flaw in an argument.</li> </ul>

The student who just enters Level 3 should be able to:	
<p>CONCEPTS AND PROCEDURES Targets A and B: Operations and Algebraic Thinking</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Write and interpret expressions with two different operations.</li> <li><input type="checkbox"/> Compare two related numerical patterns within sequences and tables.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets C and D: Number and Operations – Base Ten</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use whole number exponents to denote powers of 10; round decimals to the thousandths; and read, write, and compare decimals to the thousandths using base-ten numerals, number names, and expanded form, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> to record the results of the comparison.</li> <li><input type="checkbox"/> Fluently multiply multi-digit whole numbers and find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors.</li> <li><input type="checkbox"/> Perform the four operations on decimals to the hundredths.</li> <li><input type="checkbox"/> Relate a strategy to a written method and explain the reasoning used.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets E and F: Number and Operations – Fractions</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Subtract fractions and mixed numbers with unlike denominators in word problems.</li> <li><input type="checkbox"/> Use benchmark fractions and number sense of fractions to estimate and assess the reasonableness of answers.</li> <li><input type="checkbox"/> Multiply a mixed number by a mixed number.</li> <li><input type="checkbox"/> Use visual models when multiplying two fractions, including when one fraction is larger than 1.</li> <li><input type="checkbox"/> Interpret division of a whole number by any unit fraction.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets G and H: Measurement and Data</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Convert from a smaller unit of measurement to a larger one, resulting in one decimal place (metric system) or a small denominator fraction (standard system).</li> <li><input type="checkbox"/> Make a line plot to display data sets in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>).</li> <li><input type="checkbox"/> Solve one-step problems using information from line plots that require addition, subtraction, and multiplication of fractions.</li> </ul>
<p>CONCEPTS AND PROCEDURES Target I: Measurement and Data</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use <math>V = lwh</math> and <math>V = Bh</math> to find the volume of rectangular prisms.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets J and K: Geometry</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Graph coordinate pairs where one term is a whole number and one is a fraction with a denominator of 2 or 4 on a coordinate plane with whole number axis increments.</li> <li><input type="checkbox"/> Classify two-dimensional figures into subcategories by their attributes or properties.</li> </ul>
<p>PROBLEM SOLVING &amp; MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use appropriate tools to accurately solve problems arising in everyday life, society, and the workplace.</li> <li><input type="checkbox"/> Apply mathematics to solve problems by identifying important quantities and mapping their relationship and by stating and using logical assumptions.</li> </ul>
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use stated assumptions, definitions, and previously established results and examples to identify and repair a flawed argument.</li> <li><input type="checkbox"/> Use previous information to support his or her own reasoning on a routine problem.</li> </ul>

The student who just enters Level 4 should be able to:	
<p>CONCEPTS AND PROCEDURES Targets A and B: Operations and Algebraic Thinking</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Compare two related numerical patterns and explain the relationship within sequences of ordered pairs that are rational numbers.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets C and D: Number and Operations – Base Ten</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Combine multiplying by powers of 10, comparing, and rounding to highlight essential understandings</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets E and F: Number and Operations – Fractions</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Use or create visual models when multiplying two fractions that are larger than 1.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets G and H: Measurement and Data</p>	<p>N/A</p>
<p>CONCEPTS AND PROCEDURES Target I: Measurement and Data</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Find the volume of a right rectangular prism after doubling the edge length of a side with a whole number measurement and compare it to the original.</li> </ul>
<p>CONCEPTS AND PROCEDURES Targets J and K: Geometry</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Graph coordinate pairs where one term is a whole number and one is a fraction on a coordinate plane with fractional axis increments of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, or <math>\frac{1}{10}</math>.</li> </ul>
<p>PROBLEM SOLVING &amp; MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Analyze and interpret the context of an unfamiliar situation for problems of increasing complexity.</li> <li><input type="checkbox"/> Begin to solve problems optimally.</li> <li><input type="checkbox"/> Construct multiple plausible solutions and approaches.</li> </ul>
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Begin to construct chains of logic about abstract concepts autonomously.</li> </ul>