

Threshold Achievement Level Descriptors Grade 6 Mathematics

The student who just enters Level 2 should be able to:	
<p>CONCEPTS AND PROCEDURES Target A: Ratios and Proportional Relationships</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Find unit rates given two whole number quantities where one evenly divides the other.
<p>CONCEPTS AND PROCEDURES Targets B and C: The Number System</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Divide a whole number by a fraction between 0 and 1 and be able to connect to a visual model. <input type="checkbox"/> Add and subtract multi-digit decimals. <input type="checkbox"/> Find common factors of two numbers less than or equal to 40. <input type="checkbox"/> Find multiples of two numbers less than or equal to 12.
<p>CONCEPTS AND PROCEDURES Target D: The Number System</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Order fractions and integers. <input type="checkbox"/> Place integer pairs on a coordinate plane with axis increments of 2, 5, or 10.
<p>CONCEPTS AND PROCEDURES Targets E, F, and G: Expressions and Equations</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluate expressions with and without variables and without exponents. <input type="checkbox"/> Write one- and two-step algebraic expressions introducing a variable. <input type="checkbox"/> Solve one-variable equations and inequalities of the form $x + p = /<\/> q$ or $px = /<\/> q$, where p and q are nonnegative rational numbers. <input type="checkbox"/> Given a table of values for a linear relationship ($y = kx$ or $y = x \pm c$), create the equation.
<p>CONCEPTS AND PROCEDURES Target H: Geometry</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Find areas of special quadrilaterals and triangles. <input type="checkbox"/> Draw polygons in the four-quadrant plane.
<p>CONCEPTS AND PROCEDURES Targets I and J: Statistics and Probability</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Understand that questions that lead to variable responses are statistical questions and vice versa. <input type="checkbox"/> Identify a reasonable measure of central tendency for a given set of numerical data. <input type="checkbox"/> Find mean and median.
<p>PROBLEM SOLVING & MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Select tools to solve a familiar and moderately scaffolded problem and apply them with partial accuracy. <input type="checkbox"/> Use the necessary elements given in a problem situation to solve a problem. <input type="checkbox"/> Apply mathematics to propose solutions by identifying important quantities and by locating missing information from relevant external resources.
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Find and identify the flaw in an argument.

The student who just enters Level 3 should be able to:	
CONCEPTS AND PROCEDURES Target A: Ratios and Proportional Relationships	<ul style="list-style-type: none"> <input type="checkbox"/> Solve unit rate problems. <input type="checkbox"/> Solve percent problems by finding the whole, given a part and the percent. <input type="checkbox"/> Describe a ratio relationship between any two number quantities and understand the concept of unit rate in problems (denominators less than or equal to 12).
CONCEPTS AND PROCEDURES Targets B and C: The Number System	<ul style="list-style-type: none"> <input type="checkbox"/> Apply and extend previous understandings of multiplication and division to divide a mixed number by a fraction and be able to connect to a visual model. <input type="checkbox"/> Multiply and divide multi-digit decimal numbers. <input type="checkbox"/> Find the greatest common factor of two numbers less than or equal to 100 and the least common multiple of two numbers less than or equal to 12.
CONCEPTS AND PROCEDURES Target D: The Number System	<ul style="list-style-type: none"> <input type="checkbox"/> Place points with rational coordinates on a coordinate plane and combine absolute value and ordering, with or without models ($-3 < -5$).
CONCEPTS AND PROCEDURES Targets E, F, and G: Expressions and Equations	<ul style="list-style-type: none"> <input type="checkbox"/> Write and evaluate numerical expressions without exponents and expressions from formulas in real-world problems. <input type="checkbox"/> Identify equivalent expressions. <input type="checkbox"/> Write one-variable equations and inequalities of the form $x + p = / \leq / \geq / < / > q$ or $px = / \leq / \geq / < / > q$, where p and q are nonnegative rational numbers. <input type="checkbox"/> Graph solutions to equations and inequalities on the number line. <input type="checkbox"/> Create the graph, table, and equation for a linear relationship ($y = kx$ or $y = x \pm c$) and make connections between the representations.
CONCEPTS AND PROCEDURES Target H: Geometry	<ul style="list-style-type: none"> <input type="checkbox"/> Find areas of quadrilaterals and other polygons that can be decomposed into three or fewer triangles. <input type="checkbox"/> Find the volume of right rectangular prisms with fractional or mixed number side lengths.
CONCEPTS AND PROCEDURES Targets I and J: Statistics and Probability	<ul style="list-style-type: none"> <input type="checkbox"/> Identify a reasonable center and spread for a given context and understand how this relates to the overall shape of the data distribution. <input type="checkbox"/> Understand that a measure of center summarizes all of its values with a single number. <input type="checkbox"/> Summarize or display data in box plots. <input type="checkbox"/> Find the interquartile range. <input type="checkbox"/> Use range and measures of center to describe the shape of the data distribution as it relates to a familiar context. <input type="checkbox"/> Pose statistical questions.
PROBLEM SOLVING & MODELING AND DATA ANALYSIS	<ul style="list-style-type: none"> <input type="checkbox"/> Use appropriate tools to accurately solve problems arising in everyday life, society, and the workplace. <input type="checkbox"/> Apply mathematics to solve problems by identifying important quantities and mapping their relationship and by stating and using logical assumptions.
COMMUNICATING REASONING	<ul style="list-style-type: none"> <input type="checkbox"/> Use stated assumptions, definitions, and previously established results and examples to identify and repair a flawed argument. <input type="checkbox"/> Use previous information to support his or her own reasoning on a routine problem.

The student who just enters Level 4 should be able to:	
<p>CONCEPTS AND PROCEDURES Target A: Ratios and Proportional Relationships</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Solve unfamiliar or multi-step problems by finding the whole, given a part and the percent. <input type="checkbox"/> Understand and explain ratio relationships between any two number quantities. <input type="checkbox"/> Identify relationships between models or representations.
<p>CONCEPTS AND PROCEDURES Targets B and C: The Number System</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Use visual models in settings where smaller fractions are divided by larger fractions. <input type="checkbox"/> Understand and apply the fact that a fraction multiplied or divided by 1 in the form of $\frac{a}{a}$ is equivalent to the original fraction.
<p>CONCEPTS AND PROCEDURES Target D: The Number System</p>	N/A
<p>CONCEPTS AND PROCEDURES Targets E, F, and G: Expressions and Equations</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Using the properties of operations, show why two expressions are equivalent. <input type="checkbox"/> Solve equations and inequalities of the form $x + p = / \leq / \geq / < / > q$ or $px = / \leq / \geq / < / > q$, where p and q are rational numbers. <input type="checkbox"/> Create the graph, table, and equation for nonlinear polynomial relationships, making connections between the representations.
<p>CONCEPTS AND PROCEDURES Target H: Geometry</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Solve problems by finding surface areas of triangular or rectangular prisms and triangular or rectangular pyramids.
<p>CONCEPTS AND PROCEDURES Targets I and J: Statistics and Probability</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Predict effects on mean and median given a change in data points. <input type="checkbox"/> Complete a data set with given measures (e.g., mean, median, mode, interquartile range).
<p>PROBLEM SOLVING & MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Analyze and interpret the context of an unfamiliar situation for problems of increasing complexity. <input type="checkbox"/> Begin to solve problems optimally. <input type="checkbox"/> Construct multiple plausible solutions and approaches.
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Begin to construct chains of logic about abstract concepts autonomously.