

Summary of 2010 Mathematics Standards Changes

GRADE 5			
Removed	Moved to a Different Grade Level	Moved from another Grade Level	New Standards
M05-S2C1-01 (2008) Collect, record, organize, and display data using multi-bar graphs or double line graphs.	M05-S1C1-01 (2008) Determine equivalence by converting between benchmark fractions, decimals, and percents. MOVED TO 4.NF.6 (2010)	M03-S3C2-01 (2008) & M04-S3C1-01 (2008) MOVED TO 5.OA.3 (2010) Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>	5.OA.2 (2010) Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8+7)$. Recognize that $3 \times (18932+921)$ is three times as large as $18932+921$, without having to calculate the indicated sum or product.</i>

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M05-S2C1-02 (2008) Formulate and answer questions by interpreting and analyzing displays of data, including multi-bar graphs or double line graphs.	M05-S1C1-02 (2008) Differentiate between prime and composite numbers; differentiate between factors and multiples for whole numbers. MOVED TO 4.OA.4 (2010)	M04-S4C3-01 (2008) MOVED TO 5.G.1 (2010) Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	5.NBT.1 (2010) Recognize 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 and $\frac{1}{10}$ of what it represents in the place to its left.
M05-S2C4-01 (2008) Investigate properties of vertex-edge graphs <ul style="list-style-type: none"> • Euler paths, • Euler circuits, and • degree of a vertex. 	M05-S1C1-03 (2008) Locate integers on a number line. MOVED TO 6.NS.6 (2010)	M04-S4C3-01 (2008), M04-S4C3-02 (2008), & M04-S4C3-03 (2008) MOVED TO 5.G.2 (2010) Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	5.NBT.2 (2010) Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

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M05-S2C4-02 (2008) Solve problems related to Euler paths and circuits.	M05-S1C1-05 (2008) Use ratios and unit rates to model, describe and extend problems in context. REDISTRIBUTED TO 6.RP.1 (2010), 6.RP.2 (2010), 6.RP.3 (2010), 7.RP.1 (2010), & 7.RP.2 (2010)	M06-S1C2-05 (2008) MOVED TO 5.NF.4b (2010) Interpret multiplication as scaling (resizing), by: b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1.	5.NF.5a (2010) Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
M05-S5C2-09 (2008) Identify simple valid arguments using <i>if...then</i> statements based on graphic organizers.	M05-S1C1-06 (2008) Express or interpret positive and negative numbers in context. MOVED TO 6.NS.5 (2010), 6.NS.6 (2010), & 6.NS.7b (2010)	M06-S3C4-01 (2008) MOVED TO 5.G.2 (2010) Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	5.MD.2 (2010) Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i>

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	M05-S2C1-03 (2008) Use mean, median, mode, and range to analyze and describe the distribution of a given data set. MOVED TO 6.SP.5c (2010)	M08-S1C2-02 (2008) MOVED TO 5.NF.5b (2010) Interpret multiplication as scaling (resizing), by: b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	5.MD.5c (2010) Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.
	M05-S2C2-01 (2008) Describe the theoretical probability of events and represent the probability as a fraction, decimal, or percent. MOVED TO 7.SP.5 (2010)	NOTE: There is an increased expectation at fifth grade to multiply and divide decimals to hundredths, interpret a fraction as division of the numerator by the denominator, understand multiplication as scaling, divide unit fractions by whole numbers, divide whole numbers by unit fractions, and understand concepts of volume and how volume relates to multiplication and addition. Please see crosswalk for detailed information.	

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	<p>M05-S2C2-02 (2008) MOVED TO 7.SP.6 (2010) & 7.SP.7b (2010)</p> <p>Explore probability when performing experiments by</p> <ul style="list-style-type: none"> • predicting the outcome, • recording the data, • comparing outcomes of the experiment to predictions, and • comparing the results of multiple repetitions of the experiment. 		
	<p>M05-S2C3-01 (2008) Analyze relationships among representations and make connections to the multiplication principle of counting. MOVED TO AZ.4.OA.3.1b (2010)</p>		
	<p>M05-S2C3-02 (2008) Solve a variety of counting problems and explain the multiplication principle of counting. MOVED TO AZ.4.OA.3.1 (2010)</p>		
	<p>M05-S3C1-01 (2008) Recognize, describe, create, and analyze a numerical sequence involving fractions and decimals using addition and subtraction. MOVED TO 4.OA.5 (2010)</p>		
	<p>M05-S3C3-01 (2008) Create and solve two-step equations that can be solved using inverse operations with whole numbers. REDISTRIBUTED TO 3.OA.B (2010), 4.OA.3 (2010), & 6.EE.5 (2010)</p>		

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	M05-S3C4-01 (2008) Describe patterns of change including constant rate and increasing or decreasing rate. MOVED TO 6.RP.3b (2010)		
	M05-S4C1-01 (2008) Draw and label 2-dimensional figures given specific attributes including angle measure and side length. MOVED TO 7.G.2 (2010)		
	M05-S4C1-01 (2008) Solve problems by understanding and applying the property that the sum of the interior angles of a triangle is 180° . MOVED TO 8.G.5		
	M05-S4C1-04 (2008) Compare attributes of 2-dimensional figures with 3-dimensional figures by drawing and constructing nets and models. MOVED TO 6.G.4 (2010)		
	M05-S4C4-01 (2008) Solve problems using elapsed time. REDISTRIBUTED TO 3.MD.1 (2010) & 4.MD.2 (2010)		
	M05-S4C4-03 (2008) Measure angles between 0 and 360 degrees. MOVED TO 4.MD.5a (2010), 4.MD.5b (2010), & 4.MD.6 (2010)		
	M05-S4C4-04 (2008) Solve problems involving the area of 2-dimensional figures by using the properties of parallelograms and triangles. MOVED TO 6.G.1		

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	M05-S4C4-05 (2008) Solve problems involving area and perimeter of regular and irregular polygons using reallocation of square units. MOVED TO 3.MD.5a (2010), 3.MD.5b (2010), & 3.MD.6 (2010)		