

Core Content	Supporting Books
<p>MA-04-1.1.1 Students will:</p> <ul style="list-style-type: none"> • apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to represent whole numbers (0 to 99,999): • apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, symbols) to describe commonly used fractions through tenths and decimals through hundredths; • apply these numbers to represent real-world problems and • explain how the base 10 number system relates to place value. 	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Gifford, S. (2003). <i>Piece=part=portion</i>. Berkeley, CA: Tricycle Press.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Schwartz, D. (1985). <i>How much is a million?</i> New York: Lothrop, Lee & Shepard Books.</p> <p>Schwartz, D. (1999). <i>On beyond a million</i>. New York: Random House.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Walsh, K. (2006). <i>Sports math</i>. Vero Beach, FL: Rourke Publishing.</p> <p>Wells, R. (2000). <i>Can you count to a googol?</i> Morton Grove, IL: Albert Whitman & Company.</p>
<p><i>MA-04-1.1.2</i> <i>Students will read, write and rename whole numbers, fractions and decimals, and apply to real-world and mathematical problems.</i></p>	<p>Adler, D. (1996). <i>Fraction fun</i>. New York: Holiday House.</p> <p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Long, L. (2001). <i>Fabulous fractions</i>. New York: John Wiley & Sons, Inc.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Schwartz, D. (1985). <i>How much is a million?</i> New York: Lothrop, Lee & Shepard Books.</p> <p>Smith, D. (2002). <i>If the world were a village</i>. Tonawanda, NY: Kids</p>

	<p>Can Press, Ltd.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Walsh, K. (2006). <i>Space math</i>. Vero Beach, FL: Rourke Publishing.</p> <p>Walsh, K. (2006). <i>Sports math</i>. Vero Beach, FL: Rourke Publishing.</p>
<p>MA-04-1.1.3 Students will compare (<, >, =) and order whole numbers, commonly used fractions and decimals, and explain the relationships (equivalence, order) between and among them.</p>	<p>Clement, R. (1991). <i>Counting on Frank</i>. Milwaukee, WI: Gareth Stevens, Inc.</p> <p>Gifford, S. (2003). <i>Piece=part=portion</i>. Berkeley, CA: Tricycle Press.</p> <p>Long, L. (2001). <i>Fabulous fractions</i>. New York: John Wiley & Sons, Inc.</p> <p>Schwartz, D. (1985). <i>How much is a million?</i> New York: Lothrop, Lee & Shepard Books.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-1.2.1 Students will apply and describe appropriate strategies for estimating quantities of objects and computational results.</p>	<p>Clement, R. (1991). <i>Counting on Frank</i>. Milwaukee, WI: Gareth Stevens, Inc.</p> <p>Murphy, S. (1997). <i>Betcha!</i> New York: HarperCollins Publishers.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Wingard-Nelson, R. (2005). <i>Word problems made easy</i>. Berkeley Heights, NJ: 07922.</p>
	<p>Adler, D. (1996). <i>Faction fun</i>. New York: Holiday House.</p>

MA-04-1.3.1

Students will analyze real-world problems to identify appropriate representations using mathematical operations, and will apply operations to solve real-world problems with the following constraints:

- **add and subtract whole numbers with four digits or less;**
- **multiply whole numbers with two digits or less;**
- **divide whole numbers with three digits or less by single-digit divisors (with or without remainders);**
- **add and subtract fractions with like denominators less than or equal to 10 and**
- **add and subtract decimals through hundredths.**

Anno, M. (1995). *Anno's magic seeds*. New York: Scholastic, Inc.

Anno, M. (1983). *Anno's mysterious multiplying jar*. New York: Scholastic, Inc.

Bickel, C. & Nagda, A. (2004). *Polar bear math*. New York: Henry Holt & Co., LLC.

Birch, D. (1998). *The king's chessboard*. New York: Puffin Books.

Lewis, J. (2002). *Arithmetickle*. New York: Scholastic, Inc.

Long, L. (2001). *Fabulous fractions*. New York: John Wiley & Sons, Inc.

Long, L. (2000). *Marvelous multiplication*. New York: John Wiley & Sons, Inc.

Maganzini, C. (1997). *Cool math*. New York: Price Stern Sloan, Inc.

Murphy, S. (1997). *Betcha!* New York: HarperCollins Publishers.

Murphy, S. (1997). *Divide and ride*. New York: HarperCollins Publishers.

Scieszka, J. & Smith, L. (1995). *The math curse*. New York: Viking.

Tang, G. (2001). *The grapes of math*. New York: Scholastic, Inc.

Vorderman, C. (1996). *How math works*. Pleasantville, NY: The Reader's Digest Association, Inc.

Walsh, K. (2006). *Music math*. Vero Beach, FL: Rourke Publishing.

Walsh, K. (2006). *Space math*. Vero Beach, FL: Rourke Publishing.

	<p>Walsh, K. (2006). <i>Sports math</i>. Vero Beach, FL: Rourke Publishing.</p> <p>Wingard-Nelson, R. (2005). <i>Division made easy</i>. Berkeley Heights, NJ: Enslow Publishers, Inc.</p> <p>Wingard-Nelson, R. (2005). <i>Fractions and decimals made easy</i>. Berkeley Heights, NJ.</p> <p>Wingard-Nelson, R. (2005). <i>Word problems made easy</i>. Berkeley Heights, NJ: 07922.</p> <p>Wise, B. (2001). <i>Whodunit math puzzles</i>. New York: Sterling Publishing Co., Inc.</p>
<p><i>MA-04-1.3.2</i> <i>Students will skip-count forward and backward by 2s, 3s, 4s, 5s, 10s, 20s, 25s, 50s, 100s, 1,000, and 10,000s.</i></p>	<p>Long, L. (2000). <i>Marvelous multiplication</i>. New York: John Wiley & Sons, Inc.</p>
<p>MA-04-1.5.1 Students will identify and determine odd numbers, even numbers, multiples of a number and factors of a number, and will apply these numbers to solve real-world problems.</p>	<p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p><i>MA-04-1.5.2</i> <i>Students will use the commutative properties of addition and multiplication, the associative properties of addition and multiplication, the identity properties of addition and multiplication and the zero property of multiplication in written and mental computation.</i></p>	<p>Long, L. (2000). <i>Marvelous multiplication</i>. New York: John Wiley & Sons, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-2.1.1 Students will apply standard units to measure length (to the nearest quarter-inch or the nearest centimeter) and to determine:</p>	<p>Birch, D. (1998). <i>The king's chessboard</i>. New York: Puffin Books.</p> <p>Myller, R. (1991). <i>How big is a foot?</i> New York: Random House.</p> <p>Schwartz, D. (2003). <i>Millions to measure</i>. New York: Scholastic, Inc.</p>

<ul style="list-style-type: none"> • weight (ounce, pound; gram, kilogram); • perimeter; • area (figures that can be divided into rectangular shapes); • time (nearest five minutes) and • temperature (Fahrenheit and Celsius). 	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-2.1.2 <i>Students will choose and use appropriate tools (e.g., thermometer, scales, balances, clock, meter stick, yardstick, ruler) for specific measurement tasks.</i></p>	<p>Adler, D. (1999). <i>How tall, how short, how faraway</i>. New York: Holiday House, Inc.</p> <p>Cato, S. (1999). <i>Measuring</i>. Minneapolis: Carolrhoda Books.</p>
<p>MA-04-2.1.3 <i>Students will use nonstandard and standard units of measurement to identify measurable attributes of an object (length and width) using appropriate units of measurement.</i></p>	<p>Adler, D. (1999). <i>How tall, how short, how faraway</i>. New York: Holiday House, Inc.</p> <p>Cato, S. (1999). <i>Measuring</i>. Minneapolis: Carolrhoda Books.</p> <p>Clement, R. (1991). <i>Counting on Frank</i>. Milwaukee, WI: Gareth Stevens, Inc.</p>
<p>MA-04-2.1.4 <i>Students will use measurements to describe and compare attributes of objects to include length (in, ft, yd, mile; cm, m, km), width, height, money (cost), temperature and weight (oz, lb, ton; g, kg); sort objects and compare attributes of objects.</i></p>	<p>Adler, D. (1999). <i>How tall, how short, how faraway</i>. New York: Holiday House, Inc.</p> <p>Cato, S. (1999). <i>Measuring</i>. Minneapolis: Carolrhoda Books.</p> <p>Harris, N. (2004). <i>How tall?</i> Farmington Hills, MI: Blackbirch Press.</p>
<p>MA-04-2.1.5 <i>Students will use nonstandard and standard units to measure angles (as compared to 90°).</i></p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-2.1.6 <i>Students will estimate weight, length, perimeter, area, angle measures and</i></p>	<p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p>

<p><i>time using appropriate units of measurement.</i></p>	<p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-2.2.1 <i>Students will describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (U.S. Customary, metric) units of measurement (e.g., weight - oz., lbs., tons, g, kg; length – in., ft., yd., mile, cm, m, km; area in square units) and money.</i></p>	<p>Adler, D. (1999). <i>How tall, how short, how faraway</i>. New York: Holiday House, Inc.</p>
<p>MA-04-2.2.2 <i>Students will determine elapsed time to the nearest quarter hour.</i></p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-2.2.3 Students will convert units within the same measurement system, including money, time (seconds, minutes, hours, days, weeks, months, years), weight (ounces, pounds) and length (inches, feet, yards).</p>	<p>Adler, D. (1999). <i>How tall, how short, how faraway</i>. New York: Holiday House, Inc.</p> <p>Murphy, S. (2000). <i>Game time</i>. New York: HarperCollins Publishers.</p> <p>Schwartz, D. (1989). <i>If you made a million</i>. New York: HarperCollins Publishers.</p> <p>Walsh, K. (2006). <i>Time math</i>. Vero Beach, FL: Rourke Publishing LLC.</p>
<p>MA-04-3.1.1 Students will describe and provide examples of basic geometric elements and terms [points, segments, lines (perpendicular, parallel, intersecting), rays, angles (acute, right, obtuse), sides, edges, faces, bases, vertices] and will apply these elements to solve real-world and mathematical problems.</p>	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>Neuschwander, C. (2001). <i>Sir Cumference and the great knight of Angleland</i>. New York: Scholastic, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>

<p>MA-04-3.1.2 Students will describe and provide examples of basic two-dimensional shapes [circles, triangles (right, equilateral), squares, rectangles, trapezoids, rhombuses, pentagons, hexagons, octagons] and will apply these shapes to solve real-world and mathematical problems.</p>	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-3.1.3 Students will describe and provide examples of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms) and will apply the attributes to solve real-world and mathematical problems.</p>	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p><i>MA-04-3.1.4</i> <i>Students will explore two-dimensional representations of three-dimensional objects (nets).</i></p>	<p>Neuschwander, C. (2001). <i>Sir Cumference and the sword in the cone</i>. New York: Scholastic, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p><i>MA-04-3.1.5</i> <i>Students will identify and describe congruent and similar figures in real-world and mathematical problems.</i></p>	<p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p>
<p>MA-04-3.2.1 Students will describe and provide examples of line symmetry in real-world and mathematical problems or will apply one or two lines of</p>	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p>

<p>symmetry to construct a simple geometric design.</p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p><i>MA-04-3.2.2</i> <i>Students will identify basic two-dimensional shapes in different orientations using 90° rotations (turns) around a point of rotation, reflections (flips) and translations (slides) within a plane.</i></p>	<p>Tompert, A. (1990). <i>Grandfather Tang's story: a tale told with tangrams</i>. New York: Crown Publisher, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-3.3.1 Students will identify and graph ordered pairs on a positive coordinate system scaled by ones or locate points on a grid.</p>	<p>Long, L. (2003). <i>Groovy geometry</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>Markle, S. (1997). <i>Discovering graph secrets</i>. New York: Atheneum Books for Young Readers.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-4.1.1 Students will analyze and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams).</p>	<p>Bickel, C. & Nagda, A. (2000). <i>Tiger math</i>. New York: Henry Holt & Co.</p> <p>Markle, S. (1997). <i>Discovering graph secrets</i>. New York: Atheneum Books for Young Readers.</p> <p>Murphy, S. (2003). <i>Less than zero</i>. New York: Scholastic, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Wingard-Nelson, R. (2005). <i>Word problems made easy</i>. Berkeley Heights, NJ: 07922.</p>

<p><i>MA-04-4.1.2</i> <i>Students will collect data.</i></p>	<p>Markle, S. (1997). <i>Discovering graph secrets</i>. New York: Atheneum Books for Young Readers.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-4.1.3 Students will construct data displays (pictographs, bar graphs, line plots, Venn diagrams, tables).</p>	<p>Bader, B. (2003). <i>Graphs</i>. New York: Grosset & Dunlap.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Markle, S. (1997). <i>Discovering graph secrets</i>. New York: Atheneum Books for Young Readers.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Wingard-Nelson, R. (2005). <i>Word problems made easy</i>. Berkeley Heights, NJ: 07922.</p>
<p><i>MA-04-4.2.1</i> <i>Students will determine the median, mode (for a data set with no more than one mode) and range of a set of data.</i></p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p><i>MA-04-4.3.1</i> <i>Students will pose questions that can be answered by collecting data.</i></p>	<p>Allen, N.K. (1999). <i>Once upon a dime</i>. Watertown, MA: Charlesbridge.</p> <p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Markle, S. (1997). <i>Discovering graph secrets</i>. New York: Atheneum Books for Young Readers.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>

	<p>Wise, B. (2001). <i>Whodunit math puzzles</i>. New York: Sterling Publishing Co., Inc.</p>
<p>MA-04-4.4.1 Students will determine all possible outcomes of an activity/event with up to six possible outcomes.</p>	<p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-4.4.2 Students will determine the likelihood of an event and the probability of an event (expressed as a fraction).</p>	<p>VanAllsburg, C. (1981). <i>Jumanji</i>. Boston: Houghton Mifflin.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Weston, M. (1991). <i>Do you wanna bet?</i> New York: Clarion Books.</p>
<p><i>MA-04-4.4.3</i> <i>Students will describe and give examples of the probability of an unlikely event (near zero) and a likely event (near one).</i></p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Weston, M. (1991). <i>Do you wanna bet?</i> New York: Clarion Books.</p>
<p>MA-04-5.1.1 Students will extend patterns (e.g., 108, 208, 308, 408, ...; □○○△□○○△ ...) from real-world and mathematical problems; compare simple patterns (numbers, pictures, words; e.g., △□△□△□; △○○△○○); and describe rules for simple number patterns (e.g., 1, 3, 5, 7, ...; 5, 10, 15, 20, ...; 30, 27, 24, 21, ...).</p>	<p>Anno, M. (1995). <i>Anno's magic seeds</i>. New York: Philomel Books.</p> <p>Ball, J. (2005). <i>Go figure!</i> New York: DK Publishing, Inc.</p> <p>Birch, D. (1988). <i>The king's chessboard</i>. New York: Puffin Books.</p> <p>Demi (1997). <i>One grain of rice</i>. New York: Scholastic, Inc</p> <p>Maganzini, C. (1997). <i>Cool math</i>. New York: Price Stern Sloan, Inc.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-5.1.2</p>	<p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>

<p>Students will describe functions (input-output) through pictures, tables, and words; and will analyze functions from a table based on real-world and mathematical problems.</p>	
<p>MA-04-5.1.3 Students will determine the value of an output given a function rule and an input value.</p>	<p>Allen, N.K. (1999). <i>Once upon a dime</i>. Watertown, MA: Charlesbridge.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p>
<p>MA-04-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or a missing value (e.g., $4 = 7 - \underline{\quad}$, $N + 5 > 14$, $\frac{1}{2} + N = 1$) and apply simple number sentences to solve mathematical and real-world problems.</p>	<p>Schwartz, D. (1999). <i>On beyond a million</i>. New York: Random House.</p> <p>Vorderman, C. (1996). <i>How math works</i>. Pleasantville, NY: The Reader's Digest Association, Inc.</p> <p>Wingard-Nelson, R. (2005). <i>Word problems made easy</i>. Berkeley Heights, NJ: 07922.</p>