

CURRICULUM MAP MATH GRADE 4

Chapters 1, 2, 4, 6, 7 1st Nine Weeks	Chapters 3, 5, 8, 9 2nd Nine Weeks
<p>Number, Number Sense and Operations</p> <p>2. <i>Use place value structure of the base-ten number system to read, write, represent and compare whole numbers through millions and decimals through thousandths.</i> Chapter 1, 14.5</p> <p>3. <i>Round whole numbers to a given place value.</i> Chapter 1</p> <p>**4. Identify and represent factors and multiples of whole numbers through 100, and classify numbers as prime or composite.</p> <p>6. Use associative and distributive properties to simplify and perform computations; e.g., use left to right multiplication and the distributive property to find an exact answer without paper and pencil, such as $5 \times 47 = 5 \times 40 + 5 \times 7 = 200 + 35 = 235$. Chapter 2. Ch. 4.2, 4.6, 6.4, 6.5, 6.6, 6.7</p> <p>**8. <i>Solve problems involving counting money and making change, using both coins and paper bills.</i></p> <p>12. <i>Analyze and solve multi-step problems involving addition, subtraction, multiplication and division using an organized approach, and verify and interpret results with respect to the original problem.</i> Ch. 1, 2, 5.3, 7.6, 5.7, 6.2, 7.3</p> <p>13. Use a variety of methods and appropriate tools for computing with whole numbers; e.g., mental math, paper and pencil, and calculator. Ch. 4.1</p> <p>14. <i>Demonstrate fluency in adding and subtracting whole numbers and in multiplying and dividing whole numbers by 1- and 2-digit numbers and multiples of ten.</i> Ch. 2, Ch. 4.5, 4.6, 4.8, 4.7, 6.1, 6.2, 6.7, 7.1, 7.4, 7.5, 7.7, 8.1, 8.2, 8.3, 8.5, 8.6, 8.7, 8.8, 8.9</p> <p>11. Develop and explain strategies for performing computations mentally.</p>	<p>Data Analysis & Probability</p> <p>1. Create a plan for collecting data for a specific purpose. Ch. 3.1, 3.3</p> <p>2. <i>Represent and interpret data using tables, bar graphs, line plots and line graphs.</i> Ch. 3.1, 3.4, 3.5</p> <p>6. Describe the characteristics of a set of data based on a graphical representation, such as range of the data, clumps of data, and holes in data.</p> <p>7. Identify the median of a set of data and describe what it indicates about the data. Ch. 3.2</p> <p>8. <i>Use range, median and mode to make comparisons among related sets of data.</i> Ch. 3.2, 3.4</p> <p>**9. <i>Conduct simple probability experiments and draw conclusions from the results; e.g., rolling number cubes or drawing marbles from a bag.</i></p> <p>**4. Compare different representations of the same data to evaluate how well each representation shows important aspects of the data, and identify appropriate ways to display the data.</p> <p>**5. Propose and explain interpretations and predictions based on data displayed in tables, charts and graphs.</p> <p>**10. Represent the likelihood of possible outcomes for chance situations; e.g., probability of selecting a red marble from a bag containing 3 red and 5 white marbles. Ch. 3.8</p> <p>**11. Relate the concepts of impossible and certain-to-happen events to the numerical values of 0 (impossible) and 1 (certain).</p> <p>12. Place events in order of likelihood and use a diagram or appropriate language to compare the chance of each event occurring; e.g., impossible, unlikely, equal, likely, certain. Ch. 3.9</p> <p>**3. Interpret and construct Venn diagrams to sort and describe data.</p> <p>Number, Number Sense and Operations</p> <p>9. Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies. Ch. 6.3, 7.2, 8.4</p> <p>Patterns, Functions & Algebra</p> <p>**2. Represent and analyze patterns and functions using words, tables and graphs.</p> <p>3. Construct a table of values to solve problems associated with a mathematical relationship. Ch. 3.7</p>

9/18/09

Power Indicators are in italics.

Mathematical Process embedded all year long. Use problem strategies to explain or illustrate why a solution is correct or incorrect.

Identify needed information in a problem.

***Items are not covered in textbook.*

2nd Nine Weeks Continued

1. Using models and words to describe, extend and make generalizations of patterns and relationships occurring in computation, numerical patterns, geometry, graphs and other applications. Ch. 5.4, 9.3
4. *Use rules and variables to describe patterns and other relationships.* Ch. 5.5, 5.8
5. Represent mathematical relationships with equations or inequalities. Ch. 5.1, 5.2
- **6. Describe how a change in one variable affects the value of a related variable; e.g., as one increase the other increases or as one increase the other decreases.

Geometry

2. Describe, classify, compare and model two- and three-dimensional objects using their attributes. Ch. 9.1, 9.2
3. Identify similarities and differences of quadrilaterals; e.g., squares, rectangles, parallelograms and trapezoids. Ch. 9.6
4. Identify and define triangles based on angle measures (equiangular, right, acute and obtuse triangles) and side lengths (isosceles, equilateral and scalene triangles). Ch. 9.4, 9.5
- **8. Use geometric models to solve problems in other areas of mathematics, such as number (multiplication/division) and measurement (area, perimeter and border).

9/18/09

Power Indicators are in italics.

Mathematical Process embedded all year long. Use problem strategies to explain or illustrate why a solution is correct or incorrect.

Identify needed information in a problem.

***Items are not covered in textbook.*

CURRICULUM MAP MATH GRADE 4

Chapter 10, 11, 12, 13 3 rd Nine Weeks	Chapter 14, 15, indicators not covered and test preparation 4 th Nine Weeks
<p>Number, Number Sense and Operations</p> <p>5. Use models and points of reference to compare commonly used fractions. Ch. 13.1, 13.2, 13.5, 14.4</p> <p>10. Use physical models, visual representations, and paper and pencil to add and subtract decimals and commonly used fractions with like denominators.</p> <p>Geometry</p> <p>1. <i>Identify, describe and model intersecting, parallel and perpendicular lines and line segments; e.g., use straws or other material to model lines.</i> Ch. 10.2</p> <p>5. Describe points, lines and planes, and identify models in the environment. Ch. 10.1</p> <p>6. Specify locations and plot ordered pairs on a coordinate plane, using first quadrant points. Ch. 10.4</p> <p>7. Identify, describe and use reflections (flips), rotations (turns), and translations (slides) in solving geometric problems; e.g., use transformations to determine if 2 shapes are congruent. Ch. 10.5, 10.7</p> <p>Measurement</p> <p>1. Relate the number of units to the size of the units used to measure an object; e.g., compare the number of cups to fill a pitcher to the number of quarts to fill the same pitcher. Ch. 12.1, 12.3, 12.4, 12.7</p> <p>**2. Demonstrate and describe perimeter as surrounding and area as covering a two-dimensional shape, and volume as filling a three-dimensional object.</p> <p>3. <i>Identify and select appropriate units to measure:</i></p> <p>a. <i>Perimeter – string or links (inches or centimeters).</i> Ch. 11.5</p> <p>b. <i>Area – tiles (square inches or square centimeters).</i> Ch. 11.6</p> <p>c. <i>Volume – use cubes (cubic inches or cubic centimeters).</i></p> <p>4. Develop and use strategies to find perimeter using string or links, area using tiles or a grid, and volume using cubes; e.g., count squares to find area of regular or irregular shapes on a grid, layer cubes in a box to find its volume. Ch. 12.8, LA 18-19, 20, 21</p> <p>5. Make simple unit conversions within a measurement system; e.g., inches to feet, kilograms to grams, quarts to gallons. Ch. 11.2, 12.2, 12.6</p> <p>6. Write, solve, and verify solutions to meaningful, multi-step problems involving measurement.</p>	<p>Number, Number Sense and Operations</p> <p>1. <i>Identify and generate equivalent forms of fractions and decimals.</i> Ch. 14.8 <i>For example:</i></p> <p>a. <i>Connect physical, verbal and symbolic representations of fractions, decimals and whole numbers; e.g., $\frac{1}{2}$, $\frac{5}{10}$ “five tenths,” 0.5, shaded rectangles with half, and five tenths.</i> Ch. 13.4</p> <p>b. <i>Understand and explain that ten tenths is the same as one whole in both fraction and decimal form.</i> Ch. 14.7</p> <p>5. Use models and points of reference to compare commonly used fractions.</p> <p>7. Recognize that division may be used to solve different types of problem situations and interpret the meaning of remainders; e.g., situations involving measurement, money.</p> <p>Data Analysis & Probability</p> <p>**13. List and count all possible combinations using one member from each of several sets, each containing 2 or 3 members; e.g., the number of possible outfits from 3 shirts, 2 shorts, and 2 pairs of shoes.</p>

9/18/09

Power Indicators are in italics.

Mathematical Process embedded all year long. Use problem strategies to explain or illustrate why a solution is correct or incorrect.

Identify needed information in a problem.

***Items are not covered in textbook.*

**CURRICULUM MAP
MATH GRADE 4**

Indicators not covered math connects textbook.

Number, Number Sense and Operations

- **4. Identify and represent factors and multiples of whole numbers through 100, and classify numbers as prime or composite.
- **7. Recognize that division may be used to solve different types of problem situations and interpret the meaning of remainders; e.g., situations involving measurement, money.
- **8. Solve problems involving counting money and making change, using both coins and paper bills.
- **11. Develop and explain strategies for performing computations mentally.

Data Analysis & Probability

- **3. Interpret and construct Venn diagrams to sort and describe data.
- **4. Compare different representations of the same data to evaluate how well each representation shows important aspects of the data, and identify appropriate ways to display the data
- **9. Conduct simple probability experiments and draw conclusions from the results; e.g., rolling number cubes or drawing marbles from a bag.
- **10. . Represent the likelihood of possible outcomes for chance situations; e.g., probability of selecting a red marble from a bag with 3 red and 5 white marbles.
- **11. Relate the concepts of impossible and certain-to-happen events to the numerical values of 0 (impossible) and 1 (certain).
- **13. List and count all possible combinations using one member from each of several sets, each containing 2 or 3 members; e.g., the number of possible outfits from 3 shirts, 2 shorts, and 2 pairs of shoes.

Patterns, Functions and Algebra

- **2. Represent and analyze patterns and functions, using words, tables and graphs.
- **6. Describe how a change in one variable affects the value of a related variable; e.g., as one increase the other increases or as one increase the other decreases.

Geometry

- **8. Use geometric models to solve problems in other areas of mathematics, such as number (multiplication/division) and measurement (area, perimeter, border).

Measurement

- 2. Demonstrate and describe perimeter as surrounding and area as covering a two-dimensional shape, and volume as filling a three-dimensional object.
- 3. *Identify and select appropriate units to measure:*
 - a. *Perimeter - string or links (inches or centimeters).*
 - b. *Area - tiles (square inches or square centimeters).*
 - c. *Volume - use cubes (cubic inches or cubic centimeters).*
- 4. Develop and use strategies to find perimeter using string or links, area using tiles or a grid, and volume using cubes; e.g., count squares to find area of regular or irregular shape on a grid, layer cubes in a box to find its volume.
- 6. Write, solve, and verify solutions to meaningful, multi-step problems involving measurement.

9/18/09

Power Indicators are in italics.

Mathematical Process embedded all year long. Use problem strategies to explain or illustrate why a solution is correct or incorrect.

Identify needed information in a problem.

***Items are not covered in textbook.*