

**Math Out of the Box Correlation
to
South Carolina Academic Standards
for
Mathematics – 2007**

**Grade Five
Developing Number Concepts: Values and Variables
Module A**

Whole numbers and decimals are ordered and compared. Problems are solved using addition, subtraction, multiplication, and division. Patterns of factoring, divisibility, and prime numbers are analyzed and described. Manipulatives that aid in the exploration of whole numbers and decimals are included in the kit. A Student Record Book supports the lessons.

This correlation was developed by the Math Out of the Box Staff.

Send email to mootb@clemson.edu with questions and comments.



Correlation Information

The purpose of this document is to provide a correlation of Math Out of the Box lessons to the South Carolina Academic Standards for Mathematics, 2007. These correlations are intended to aid classroom teachers with lesson planning, schools with vertical planning, and districts with curriculum planning.

The correlation document is arranged in the following order:

Process Standards

Process standards that are used in the lessons of the subconcept to develop conceptual understanding of mathematics are listed in this column. It is recommended that one process standard be selected for formative assessment in each subconcept.

Content Standards

The content standards listed in this column are those that are addressed in one or more of the phases of the learning cycle in the listed lessons. Standards are connected by subconcept because conceptual knowledge is built in sets of lessons in the Math Out of the Box curriculum. These subconcepts are connected to a big idea of mathematics. The first lesson of a subconcept is an embedded pre-assessment, connecting to prior learning. The final lesson in a subconcept is designed to be formative and summative.

Horizontal Connections

Connections to mathematics standards in other strands are listed here to show the horizontal weave of the Math Out of the Box curriculum. These connections provide opportunities for the development of connections between mathematical concepts, maintenance of skills, and additional practice.

Vertical Connections

Foundation standards show the vertical articulation of the lessons. At times, an investigation is planned in a lesson to specifically build a foundation for the standards in the next grade or grades. These lessons, or parts of lessons, are essential so that concepts are connected from grade to grade.

Cross Curricular Connections

Connections to standards from other subject areas are listed to aid in cross curricular integration and the development of curriculum maps.



Big Idea: Representations of numbers can be used to describe and learn about the world around us.

Subconcept: Properties of numbers can be analyzed for patterns using a variety of representations.

Lessons 1, 2, 3, 4, 5, 6, 7, 8

Focus Question: In what ways do properties of numbers aid in solving problems?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 5-1 (Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <p>5-1.1 Analyze information to solve increasingly more sophisticated problems.</p> <p>5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.</p> <p>5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.</p> <p>5-1.4 Generate descriptions and mathematical statements about relationships between and among classes of objects.</p> <p>5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.</p> <p>5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.</p> <p>5-1.7 Use flexibility in mathematical representations.</p> <p>5-1.8 Recognize the limitations of various forms of mathematical representations.</p>	<p>Mathematics Standard 5-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of the use of patterns, relations, functions models, structures, and algebraic symbols to represent quantitative relationships and will analyze change in various contexts.</p> <p>Indicators</p> <p>5-3.1 Represent numeric, algebraic, and geometric patterns in words, symbols, algebraic expressions, and algebraic equations.</p> <p>5-3.4 Identify applications of commutative, associative, and distributive properties with whole numbers.</p>	<p>Mathematics Standard 5-2 (Number and Operations): The student will demonstrate through the mathematical processes an understanding of the place value system; the division of whole numbers; the addition and subtraction of decimals; the relationships among whole numbers, fractions, and decimals; and accurate, efficient, and generalizable methods of adding and subtracting fractions.</p> <p>Indicators</p> <p>5-2.3 Understand the relationship among the divisor, dividend, and quotient.</p> <p>5-2.7 Generate strategies to find the greatest common factor and the least common multiple of two whole numbers.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 6 Standard 6-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of writing, interpreting, and using mathematical expressions, equations, and inequalities.</p> <p>Indicators</p> <p>6-3.2 Apply order of operations to simplify whole-number expressions.</p> <p>6-3.3 Represent algebraic relationships with variables in expressions, simple equations, and simple inequalities.</p> <p>6-3.4 Use the commutative, associative, and distributive properties to show that two expressions are equivalent.</p> <p>6-3.5 Use inverse operations to solve one-step equations that have whole-number solutions and variables with whole-number coefficients.</p> <p>Grade 7 Standard 7-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of proportional relationships.</p> <p>Indicators</p> <p>7-3.4 Use inverse operations to solve two-step equations and two-step inequalities.</p> <p>7-3.5 Represent on a number line the solution of a two-step inequality.</p> <p>Grade 8 Standard 8-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of equations, inequalities, and linear functions.</p> <p>Indicators</p> <p>8-3.2 Represent algebraic relationships with equations and inequalities.</p> <p>8-3.3 Use commutative, associative, and distributive properties to examine the equivalence of a variety of algebraic expressions.</p> <p>8-3.4 Apply procedures to solve multistep equations.</p>	<p>Language Arts Standard 5-4 (Writing): The student will create written work that has a clear focus, sufficient detail, coherent organization, effective use of voice, and correct use of the conventions of written Standard American English.</p> <p>Indicators</p> <p>5-4.6 Use revision strategies to improve word choice and the organization and development of ideas in written works.</p> <p>Standard 5-5 (Writing): The student will write for a variety of purposes and audiences.</p> <p>Indicators</p> <p>5-5.3 Create written descriptions using precise language and vivid details.</p> <p>Standard 5-6 (Researching): The student will access and use information from a variety of sources.</p> <p>Indicators</p> <p>5-6.1 Clarify and refine a research topic.</p> <p>5-6.2 Use print sources such as books, magazines, charts, graphs, diagrams, dictionaries, encyclopedias, atlases, thesauri, newspapers, and almanacs and nonprint media to access information.</p> <p>5-6.3 Select information appropriate for the research topic.</p> <p>5-6.4 Paraphrase research information accurately and meaningfully.</p> <p>5-6.5 Create a list of sources that contains information (including author, title, and full publication details) necessary to properly credit and document the work of others.</p> <p>5-6.6 Use vocabulary (including Standard American English) that is appropriate for the particular audience or purpose.</p> <p>5-6.7 Use appropriate organizational strategies to prepare written works and oral and visual presentations.</p> <p>5-6.8 Select appropriate graphics, in print or electronic form, to support written works and oral and visual presentations.</p>

Notes:



Big Idea: Representations of numbers can be used to describe and learn about the world around us.

Subconcept: The base-10 number system and its place-value structure can be analyzed for patterns using a variety of representations.

Lessons 9, 10, 11, 12, 13, 14

Focus Question: What patterns can be described in the base-10 number system?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 5-1 (Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <p>5-1.1 Analyze information to solve increasingly more sophisticated problems.</p> <p>5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.</p> <p>5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.</p> <p>5-1.4 Generate descriptions and mathematical statements about relationships between and among classes of objects.</p> <p>5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.</p> <p>5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.</p> <p>5-1.7 Use flexibility in mathematical representations.</p> <p>5-1.8 Recognize the limitations of various forms of mathematical representations.</p>	<p>Mathematics Standard 5-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the place value system; the division of whole numbers; the addition and subtraction of decimals; the relationships among whole numbers, fractions, and decimals; and accurate, efficient, and generalizable methods of adding and subtracting fractions.</p> <p>Indicators</p> <p>5-2.1 Analyze the magnitude of a digit on the basis of its place value, using whole numbers and decimal numbers through thousandths.</p> <p>5-2.4 Compare whole numbers, decimals, and fractions by using the symbols $<$, $>$, and $=$.</p>	<p>Mathematics Standard 5-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of the use of patterns, relations, functions models, structures, and algebraic symbols to represent quantitative relationships and will analyze change in various contexts.</p> <p>Indicators</p> <p>5-3.1 Represent numeric, algebraic, and geometric patterns in words, symbols, algebraic expressions, and algebraic equations.</p> <p>5-3.2 Analyze patterns and functions with words, tables, and graphs.</p> <p>Standard 5-5 (Measurement): The student will demonstrate through the mathematical processes an understanding of the units and systems of measurement and the application of tools and formulas to determine measurement.</p> <p>Indicators</p> <p>5-5.3 Use equivalencies to convert units of measure within the metric system: converting length in millimeters, centimeters, meters, and kilometers; converting liquid volume in milliliters, centiliters, liters, and kiloliters; and converting mass in milligrams, centigrams, grams, and kilograms.</p> <p>5-5.8 Recall equivalencies associated with length, liquid volume, and mass: 10 millimeters = 1 centimeter, 100 centimeters = 1 meter, 1000 meters = 1 kilometer; 10 milliliters = 1 centiliter, 100 centiliters = 1 liter, 1000 liters = 1 kiloliter; and 10 milligrams = 1 centigram, 100 centigrams = 1 gram, 1000 grams = 1 kilogram.</p>

Vertical Connections	Cross Curricular Connections
<p>Grade 6 Standard 6-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the concept of whole-number percentages, integers, and ratio and rate; the addition and subtraction of fractions; accurate, efficient, and generalizable methods of multiplying and dividing fractions and decimals; and the use of exponential notation to represent whole numbers.</p> <p>Indicators 6-2.2 Understand integers. 6-2.3 Compare rational numbers and whole-number percentages through 100 by using the symbols \leq, \geq, $<$, $>$, and $=$. 6-2.7 Apply strategies and procedures to determine values of powers of 10, up to 10^6. 6-2.8 Represent the prime factorization of numbers by using exponents. 6-2.9 Represent whole numbers in exponential form.</p> <p>Grade 7 Standard 7-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of rational numbers, percentages, and square roots of perfect squares; the application of ratios, rates, and proportions to solve problems; accurate, efficient, and generalizable methods for operations with integers; the multiplication and division of fractions and decimals; and the inverse relationship between squaring and finding the square roots of perfect squares.</p> <p>Indicators 7-2.3 Compare rational numbers, percentages, and square roots of perfect squares by using the symbols \leq, \geq, $<$, $>$, and $=$. 7-2.6 Translate between standard form and exponential form. 7-2.7 Translate between standard form and scientific notation.</p> <p>Grade 8 Standard 8-2 (Number and Operations): The student will demonstrate through the mathematical processes an understanding of operations with integers, the effects of multiplying and dividing with rational numbers, the comparative magnitude of rational and irrational numbers, the approximation of cube and square roots, and the application of proportional reasoning.</p> <p>Indicators 8-2.4 Compare rational and irrational numbers by using the symbols \leq, \geq, $<$, $>$, and $=$.</p>	<p>Language Arts Standard 5-2 (Reading): The student will read and comprehend a variety of informational texts in print and nonprint formats.</p> <p>Indicators 5-2.1 Summarize the central idea and supporting evidence of a given informational text. 5-2.2 Analyze informational texts to draw conclusions and make inferences. 5-2.4 Create responses to informational texts through a variety of methods such as drawings, written works, and oral presentations. 5-2.5 Carry out independent reading for extended periods of time to gain information. 5-2.6 Understand that titles, print styles, chapter headings, captions, subheadings, and white space provide information to the reader. 5-2.7 Use graphic features such as illustrations, graphs, charts, maps, diagrams, and graphic organizers as sources of information.</p> <p>Standard 5-4 (Writing): The student will create written work that has a clear focus, sufficient detail, coherent organization, effective use of voice, and correct use of the conventions of written Standard American English.</p> <p>Indicators 5-4.6 Use revision strategies to improve word choice and the organization and development of ideas in written works.</p> <p>Standard 5-5 (Writing): The student will write for a variety of purposes and audiences.</p> <p>Indicators 5-5.3 Create written descriptions using precise language and vivid details.</p>



Big Idea: Representations of numbers can be used to describe and learn about the world around us.

Subconcept: Meaning for addition and subtraction can be developed by constructing a variety of models and strategies.

Lessons 15, 16, 17, 18, 19, 20

Focus Question: What strategies can be used to solve addition and subtraction problems with decimal numbers?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 5-1 Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <p>5-1.1 Analyze information to solve increasingly more sophisticated problems.</p> <p>5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.</p> <p>5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.</p> <p>5-1.4 Generate descriptions and mathematical statements about relationships between and among classes of objects.</p> <p>5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.</p> <p>5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.</p> <p>5-1.7 Use flexibility in mathematical representations.</p> <p>5-1.8 Recognize the limitations of various forms of mathematical representations.</p>	<p>Mathematics Standard 5-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the place value system; the division of whole numbers; the addition and subtraction of decimals; the relationships among whole numbers, fractions, and decimals; and accurate, efficient, and generalizable methods of adding and subtracting fractions.</p> <p>Indicators</p> <p>5-2.1 Analyze the magnitude of a digit on the basis of its place value, using whole numbers and decimal numbers through thousandths.</p> <p>5-2.5 Apply an algorithm to add and subtract decimals through thousandths.</p>	<p>Mathematics Standard 5-5 (Measurement): The student will demonstrate through the mathematical processes an understanding of the units and systems of measurement and the application of tools and formulas to determine measurement.</p> <p>Indicators</p> <p>5-5.3 Use equivalencies to convert units of measure within the metric system: converting length in millimeters, centimeters, meters, and kilometers; converting liquid volume in milliliters, centiliters, liters, and kiloliters; and converting mass in milligrams, centigrams, grams, and kilograms.</p> <p>Apply procedures to determine the amount of elapsed time in hours, minutes, and seconds within a 24-hour period.</p> <p>5-5.8 Recall equivalencies associated with length, liquid volume, and mass: 10 millimeters = 1 centimeter, 100 centimeters = 1 meter, 1000 meters = 1 kilometer; 10 milliliters = 1 centiliter, 100 centiliters = 1 liter, 1000 liters = 1 kiloliter; and 10 milligrams = 1 centigram, 100 centigrams = 1 gram, 1000 grams = 1 kilogram.</p>

Notes:



Vertical Connections	Cross Curricular Connections
<p>Grade 6 Standard 6-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the concept of whole-number percentages, integers, and ratio and rate; the addition and subtraction of fractions; accurate, efficient, and generalizable methods of multiplying and dividing fractions and decimals; and the use of exponential notation to represent whole numbers.</p> <p>Indicators 6-2.2 Understand integers. 6-2.4 Apply an algorithm to add and subtract fractions. 6-2.5 Generate strategies to multiply and divide fractions and decimals.</p> <p>Grade 7 Standard 7-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of rational numbers, percentages, and square roots of perfect squares; the application of ratios, rates, and proportions to solve problems; accurate, efficient, and generalizable methods for operations with integers; the multiplication and division of fractions and decimals; and the inverse relationship between squaring and finding the square roots of perfect squares.</p> <p>Indicators 7-2.1 Understand fractional percentages and percentages greater than one hundred. 7-2.2 Represent the location of rational numbers and square roots of perfect squares on a number line. 7-2.3 Compare rational numbers, percentages, and square roots of perfect squares by using the symbols \leq, \geq, $<$, $>$, and $=$. 7-2.8 Generate strategies to add, subtract, multiply, and divide integers. 7-2.9 Apply an algorithm to multiply and divide fractions and decimals.</p> <p>Grade 8 Standard 8-2 (Number and Operations): The student will demonstrate through the mathematical processes an understanding of operations with integers, the effects of multiplying and dividing with rational numbers, the comparative magnitude of rational and irrational numbers, the approximation of cube and square roots, and the application of proportional reasoning.</p> <p>Indicators 8-2.1 Apply an algorithm to add, subtract, multiply, and divide integers.</p>	<p>Standard 5-4 (Writing): The student will create written work that has a clear focus, sufficient detail, coherent organization, effective use of voice, and correct use of the conventions of written Standard American English.</p> <p>Indicators 5-4.6 Use revision strategies to improve word choice and the organization and development of ideas in written works.</p> <p>Standard 5-5 (Writing): The student will write for a variety of purposes and audiences.</p> <p>Indicators 5-5.3 Create written descriptions using precise language and vivid details.</p>



Big Idea: Representations of numbers can be used to describe and learn about the world around us.

Subconcept: Meaning for multiplication and division can be developed by constructing a variety of models and strategies.

Lessons 21, 22, 23, 24, 25, 26, 27

Focus Question: In what ways can divisibility rules aid in solving division problems?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 5-1 (Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <p>5-1.1 Analyze information to solve increasingly more sophisticated problems.</p> <p>5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.</p> <p>5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.</p> <p>5-1.4 Generate descriptions and mathematical statements about relationships between and among classes of objects.</p> <p>5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.</p> <p>5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.</p> <p>5-1.7 Use flexibility in mathematical representations.</p> <p>5-1.8 Recognize the limitations of various forms of mathematical representations.</p>	<p>Mathematics Standard 5-2 Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the place value system; the division of whole numbers; the addition and subtraction of decimals; the relationships among whole numbers, fractions, and decimals; and accurate, efficient, and generalizable methods of adding and subtracting fractions.</p> <p>Indicators</p> <p>5-2.2 Apply an algorithm to divide whole numbers fluently.</p> <p>5-2.3 Understand the relationship among the divisor, dividend, and quotient.</p> <p>5-2.9 Apply divisibility rules for 3, 6, and 9.</p>	<p>Mathematics Standard 5-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of the use of patterns, relations, functions models, structures, and algebraic symbols to represent quantitative relationships and will analyze change in various contexts.</p> <p>Indicators</p> <p>5-3.1 Represent numeric, algebraic, and geometric patterns in words, symbols, algebraic expressions, and algebraic equations.</p> <p>5-3.2 Analyze patterns and functions with words, tables, and graphs.</p> <p>5-3.3 Match tables, graphs, expressions, equations, and verbal descriptions of the same problem situation.</p> <p>5-3.4 Identify applications of commutative, associative, and distributive properties with whole numbers.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 6 Standard 6-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the concept of whole-number percentages, integers, and ratio and rate; the addition and subtraction of fractions; accurate, efficient, and generalizable methods of multiplying and dividing fractions and decimals; and the use of exponential notation to represent whole numbers.</p> <p>Indicators</p> <ul style="list-style-type: none"> 6-2.2 Understand integers. 6-2.5 Generate strategies to multiply and divide fractions and decimals. 6-2.6 Understand the relationship between ratio/rate and multiplication/division. 6-2.8 Represent the prime factorization of numbers by using exponents. <p>Grade 7 Standard 7-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of rational numbers, percentages, and square roots of perfect squares; the application of ratios, rates, and proportions to solve problems; accurate, efficient, and generalizable methods for operations with integers; the multiplication and division of fractions and decimals; and the inverse relationship between squaring and finding the square roots of perfect squares.</p> <p>Indicators</p> <ul style="list-style-type: none"> 7-2.1 Understand fractional percentages and percentages greater than one hundred. 7-2.3 Compare rational numbers, percentages, and square roots of perfect squares by using the symbols \leq, \geq, $<$, $>$, and $=$. 7-2.8 Generate strategies to add, subtract, multiply, and divide integers. 7-2.9 Apply an algorithm to multiply and divide fractions and decimals. <p>Grade 8 Standard 8-2 (Number and Operations): The student will demonstrate through the mathematical processes an understanding of operations with integers, the effects of multiplying and dividing with rational numbers, the comparative magnitude of rational and irrational numbers, the approximation of cube and square roots, and the application of proportional reasoning.</p> <p>Indicators</p> <ul style="list-style-type: none"> 8-2.1 Apply an algorithm to add, subtract, multiply, and divide integers. 	<p>Language Arts Standard 5-1 (Reading) The student will read and comprehend a variety of literary texts in print and nonprint formats.</p> <p>Indicators</p> <ul style="list-style-type: none"> 5-1.1 Analyze literary texts to draw conclusions and make inferences. 5-1.7 Create responses to literary texts through a variety of methods such as writing, creative dramatics, and the visual and performing arts. 5-1.8 Carry out independent reading for extended periods of time to derive pleasure. <p>Standard 5-4 (Writing) The student will create written work that has a clear focus, sufficient detail, coherent organization, effective use of voice, and correct use of the conventions of written Standard American English.</p> <p>Indicators</p> <ul style="list-style-type: none"> 5-4.6 Use revision strategies to improve word choice and the organization and development of ideas in written works. <p>Standard 5-5 (Writing) The student will write for a variety of purposes and audiences.</p> <p>Indicators</p> <ul style="list-style-type: none"> 5-5.3 Create written descriptions using precise language and vivid details.



Big Idea: Representations of numbers can be used to describe and learn about the world around us.

Subconcept: Number relationships can be analyzed for patterns using a variety of representations. Lessons 28, 29, 30

Focus Question: What strategies can be used for identifying prime numbers?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 5-1 (Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <p>5-1.1 Analyze information to solve increasingly more sophisticated problems.</p> <p>5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.</p> <p>5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.</p> <p>5-1.4 Generate descriptions and mathematical statements about relationships between and among classes of objects.</p> <p>5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.</p> <p>5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.</p> <p>5-1.7 Use flexibility in mathematical representations.</p> <p>5-1.8 Recognize the limitations of various forms of mathematical representations.</p>	<p>Mathematics Standard 5-6 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the place value system; the division of whole numbers; the addition and subtraction of decimals; the relationships among whole numbers, fractions, and decimals; and accurate, efficient, and generalizable methods of adding and subtracting fractions.</p> <p>Indicators</p> <p>5-2.6 Classify numbers as prime, composite, or neither.</p> <p>5-2.9 Apply divisibility rules for 3, 6, and 9.</p>	<p>Mathematics Standard 5-3 (Algebra): The student will demonstrate through the mathematical processes an understanding of the use of patterns, relations, functions models, structures, and algebraic symbols to represent quantitative relationships and will analyze change in various contexts.</p> <p>Indicators</p> <p>5-3.1 Represent numeric, algebraic, and geometric patterns in words, symbols, algebraic expressions, and algebraic equations.</p> <p>5-3.2 Analyze patterns and functions with words, tables, and graphs.</p> <p>5-3.3 Match tables, graphs, expressions, equations, and verbal descriptions of the same problem situation.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 6 Standard 6-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the concept of whole-number percentages, integers, and ratio and rate; the addition and subtraction of fractions; accurate, efficient, and generalizable methods of multiplying and dividing fractions and decimals; and the use of exponential notation to represent whole numbers.</p> <p>Indicators 6-2.8 Represent the prime factorization of numbers by using exponents. 6-2.9 Represent whole numbers in exponential form.</p> <p>Grade 7 Standard 7-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of rational numbers, percentages, and square roots of perfect squares; the application of ratios, rates, and proportions to solve problems; accurate, efficient, and generalizable methods for operations with integers; the multiplication and division of fractions and decimals; and the inverse relationship between squaring and finding the square roots of perfect squares.</p> <p>Indicators 7-2.2 Represent the location of rational numbers and square roots of perfect squares on a number line. 7-2.3 Compare rational numbers, percentages, and square roots of perfect squares by using the symbols \leq, \geq, $<$, $>$, and $=$. 7-2.10 Understand the inverse relationship between squaring and finding the square roots of perfect squares.</p> <p>Grade 8 Standard 8-2 (Numbers and Operations): 8-2: The student will demonstrate through the mathematical processes an understanding of operations with integers, the effects of multiplying and dividing with rational numbers, the comparative magnitude of rational and irrational numbers, the approximation of cube and square roots, and the application of proportional reasoning.</p> <p>Indicators 8-2.6 Apply strategies and procedures to approximate between two whole numbers the square roots or cube roots of numbers less than 1,000.</p>	<p>Language Arts Standard 5-2 (Reading) The student will read and comprehend a variety of informational texts in print and nonprint formats.</p> <p>Indicators 5-2.4 Create responses to informational texts through a variety of methods such as drawings, written works, and oral presentations. 5-2.7 Use graphic features such as illustrations, graphs, charts, maps, diagrams, and graphic organizers as sources of information.</p> <p>Standard 5-4 (Writing) The student will create written work that has a clear focus, sufficient detail, coherent organization, effective use of voice, and correct use of the conventions of written Standard American English.</p> <p>Indicators 5-4.6 Use revision strategies to improve word choice and the organization and development of ideas in written works.</p> <p>Standard 5-5 (Writing) The student will write for a variety of purposes and audiences.</p> <p>Indicators 5-5.3 Create written descriptions using precise language and vivid details.</p>

