

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

**First Grade
Developing Number Concepts: Families and Facts
Module B**

Students compare and order whole numbers using place value. Manipulatives such as game pieces, number charts, and dominoes are used to explore number patterns, fractions, and probability, which lay the foundations of proportional reasoning and equality.

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: Estimation strategies can be used to analyze sets.

Lessons 1, 2, 3

Focus Question: What strategies can be used to make estimations?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 1-1 (Process): The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.</p> <p>Indicators</p> <ul style="list-style-type: none"> 1-1.1 Apply substantive mathematical problem-solving strategies. 1-1.2 Generate conjectures and exchange mathematical ideas. 1-1.3 Explain and justify answers to simple problems. 1-1.4 Analyze patterns by reasoning systematically. 1-1.5 Generalize mathematical concepts. 1-1.6 Use a variety of forms of mathematical communication. 1-1.7 Generalize connections among mathematics, the environment, and other subjects. 1-1.8 Use multiple informal representations to convey mathematical ideas. 	<p>Mathematics Standard 1-2 (Number and Operations): The student will demonstrate through the mathematical processes an emerging sense of quantity and numeral relationships; the relationship among addition, subtraction, and related basic facts; and the connections among numeric, oral and written-word forms of whole numbers.</p> <p>Indicators</p> <ul style="list-style-type: none"> 1-2.1 Translate between numeral and quantity through 100. 1-2.2 Use estimation to determine the approximate number of objects in a set of 20 to 100 objects. 1-2.5 Compare whole-number quantities through 100 by using the terms <i>is greater than</i>, <i>is less than</i>, and <i>is equal to</i>. 	<p>Mathematics Standard 1-3 (Algebra): The student will demonstrate through the mathematical processes a sense of numeric patterns, the relationship between addition and subtraction, and change over time.</p> <p>Indicators</p> <ul style="list-style-type: none"> 1-3.1 Analyze numeric patterns and subtraction to develop strategies for acquiring basic facts. 1-3.4 Analyze numeric relationships to complete and extend simple patterns.

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the base-ten numeration system; place values; and accurate, efficient, and generalizable methods of adding and subtracting whole numbers.</p> <p>Indicators 2-2.1 Generate estimation strategies to determine the approximate number of objects in a set of no more than 1,000 objects. 2-2.4 Compare whole-number quantities through 999 by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$.</p> <p>Grade 3 Standard 3-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of whole numbers and fractional parts; the addition and subtraction of whole numbers; accurate, efficient, and generalizable methods of multiplying whole numbers; and the relationships among multiplication, division, and related basic facts.</p> <p>Indicators 3-2.1 Compare whole-number quantities through 999,999 by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$.</p> <p>Grade 4 Standard 4-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place-value system; the relationships between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals.</p> <p>Indicators 4-2.7 Compare decimals through hundredths by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$.</p>	<p>Language Arts Standard 1-1 (Reading): The student will read and comprehend a variety of literary texts in print and nonprint formats.</p> <p>Indicators 1-1.6 Use relevant details in summarizing stories read aloud.</p> <p>Standard 1-4 (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 1-4.1 Generate ideas for writing by using techniques such as participating in conversations and looking at pictures. 1-4.2 Use simple sentences in writing. 1-4.6 Use revision strategies to improve word choice in written work. 1-4.7 Use appropriate spacing between words. 1-4.8 Use appropriate word formation by writing from left to right the letters that spell a word.</p> <p>Standard 1-6 (Researching): The student will access and use information from a variety of sources.</p> <p>Indicators 1-6.5 Use complete sentences when orally presenting information. 1-6.6 Generate one- and two-step oral directions.</p> <p>Science Standard 1-1 (Scientific Inquiry): The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.</p> <p>Indicators 1-1.1 Compare, classify, and sequence objects by number, shape, texture, size, color, and motion, using standard English units of measurement where appropriate.</p> <p>Social Studies Standard 1-3 (Government): The student will demonstrate an understanding of how government functions and how government affects families.</p> <p>Indicators 1-3.4 Summarize possible consequences of an absence of laws and rules, including the potential for disorderliness and violence.</p>



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 4, 5, 6, 7

Focus Question: Focus Question: What patterns can be described in the base-10, place-value system?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 1-1 (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>1-1.1 Apply substantive mathematical problem-solving strategies. 1-1.2 Generate conjectures and exchange mathematical ideas. 1-1.3 Explain and justify answers to simple problems. 1-1.4 Analyze patterns by reasoning systematically. 1-1.5 Generalize mathematical concepts. 1-1.6 Use a variety of forms of mathematical communication. 1-1.7 Generalize connections among mathematics, the environment, and other subjects. 1-1.8 Use multiple informal representations to convey mathematical ideas.</p>	<p>Mathematics Standard 1-2 (Number and Operations): The student will demonstrate through the mathematical processes an emerging sense of quantity and numeral relationships; the relationship among addition, subtraction, and related basic facts; and the connections among numeric, oral and written-word forms of whole numbers.</p> <p>Indicators</p> <p>1-2.1 Translate between numeral and quantity through 100. 1-2.2 Use estimation to determine the approximate number of objects in a set of 20 to 100 objects. 1-2.5 Compare whole-number quantities through 100 by using the terms <i>is greater than</i>, <i>is less than</i>, and <i>is equal to</i>. 1-2.9 Analyze the magnitude of digits through 999 on the basis of their place values.</p>	<p>Mathematics Standard 1-3 (Algebra): The student will demonstrate through the mathematical processes a sense of numeric patterns, the relationship between addition and subtraction, and change over time.</p> <p>Indicators</p> <p>1-3.1 Analyze numeric patterns in addition and subtraction to develop strategies for acquiring basic facts. 1-3.2 Translate patterns into rules for simple addition and subtraction.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the base-ten numeration system; place values; and accurate, efficient, and generalizable methods of adding and subtracting whole numbers.</p> <p>Indicators 2-2.1 Generate estimation strategies to determine the approximate number of objects in a set of no more than 1,000 objects. 2-2.4 Compare whole-number quantities through 999 by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$. 2-2.10 Analyze the magnitude of digits through 9,999 on the basis of their place values.</p> <p>Grade 3 Standard 3-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of whole numbers and fractional parts; the addition and subtraction of whole numbers; accurate, efficient, and generalizable methods of multiplying whole numbers; and the relationships among multiplication, division, and related basic facts.</p> <p>Indicators 3-2.1 Compare whole-number quantities through 999,999 by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$. 3-2.12 Analyze the magnitude of digits through 999,999 on the basis of their place value.</p> <p>Grade 4 Standard 4-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place-value system; the relationships between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals.</p> <p>Indicators 4-2.1 Recognize the period in the place-value structure of whole numbers: units, thousands, millions, and billions. 4-2.6 Analyze the magnitude of digits through hundredths on the basis of their place value. 4-2.7 Compare decimals through hundredths by using the terms <i>is less than</i>, <i>is greater than</i>, and <i>is equal to</i> and the symbols $<$, $>$, and $=$.</p>	<p>Language Arts Standard 1-4 (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 1-4.1 Generate ideas for writing by using techniques such as participating in conversations and looking at pictures. 1-4.2 Use simple sentences in writing. 1-4.7 Use appropriate spacing between words. 1-4.8 Use appropriate word formation by writing from left to right the letters that spell a word.</p> <p>Standard 1-6 (Researching): The student will access and use information from a variety of sources.</p> <p>Indicators 1-6.2 Use print sources of information such as books, newspapers, pictures, charts, and graphs and nonprint media to access information. 1-6.3 Create categories such as plants and animals to classify information. 1-6.5 Use complete sentences when orally presenting information.</p> <p>Science Standard 1-1 (Scientific Inquiry): The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.</p> <p>Indicators 1-1.1 Compare, classify, and sequence objects by number, shape, texture, size, color, and motion, using standard English units of measurement where appropriate.</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 8, 9, 10, 11, 12, 13, 14

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

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 1-1 (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>1-1.1 Apply substantive mathematical problem-solving strategies.</p> <p>1-1.2 Generate conjectures and exchange mathematical ideas.</p> <p>1-1.3 Explain and justify answers to simple problems.</p> <p>1-1.4 Analyze patterns by reasoning systematically.</p> <p>1-1.5 Generalize mathematical concepts.</p> <p>1-1.6 Use a variety of forms of mathematical communication.</p> <p>1-1.7 Generalize connections among mathematics, the environment, and other subjects.</p> <p>1-1.8 Use multiple informal representations to convey mathematical ideas.</p>	<p>Mathematics Standard 1-2 (Number and Operations): The student will demonstrate through the mathematical processes an emerging sense of quantity and numeral relationships; the relationship among addition, subtraction, and related basic facts; and the connections among numeric, oral and written-word forms of whole numbers.</p> <p>Indicators</p> <p>1-2.6 Recall basic addition facts through $9 + 9$ and corresponding subtraction facts.</p> <p>1-2.7 Summarize the inverse relationship between addition and subtraction.</p> <p>1-2.8 Generate strategies to add and subtract without regrouping through two-digit numbers.</p>	<p>Mathematics Standard 1-3 (Algebra): The student will demonstrate through the mathematical processes a sense of numeric patterns, the relationship between addition and subtraction, and change over time.</p> <p>Indicators</p> <p>1-3.1 Analyze numeric patterns and subtraction to develop strategies for acquiring basic facts.</p> <p>1-3.2 Translate patterns into rules for simple addition and subtraction.</p> <p>1-3.3 Illustrate the commutative property based on basic facts.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the base-ten numeration system; place values; and accurate, efficient, and generalizable methods of adding and subtracting whole numbers. Indicators 2-2.7 Generate strategies to add and subtract pairs of two-digit whole numbers with regrouping. 2-2.8 Generate addition and subtraction strategies to find missing addends and subtrahends in number combinations through 20.</p> <p>Grade 3 Standard 3-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of the representation of whole numbers and fractional parts; the addition and subtraction of whole numbers; accurate, efficient, and generalizable methods of multiplying whole numbers; and the relationships among multiplication, division, and related basic facts. Indicators 3-2.3 Apply an algorithm to add and subtract whole numbers fluently. 3-2.9 Analyze the effect that adding, subtracting, or multiplying odd and/or even numbers has on the outcome.</p> <p>Grade 4 Standard 4-2 (Numbers and Operations): The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place-value system; the relationships between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals. Indicators 4-2.12 Generate strategies to add and subtract decimals through hundredths.</p>	<p>Language Arts Standard 1-4 (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. Indicators 1-4.1 Generate ideas for writing by using techniques such as participating in conversations and looking at pictures. 1-4.2 Use simple sentences in writing. 1-4.7 Use appropriate spacing between words. 1-4.8 Use appropriate word formation by writing from left to right the letters that spell a word.</p> <p>Standard 1-6 (Researching): The student will access and use information from a variety of sources. Indicators 1-6.2 Use print sources of information such as books, newspapers, pictures, charts, and graphs and nonprint media to access information. 1-6.6 Generate one- and two-step oral directions.</p>

Notes:

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

Subconcept: Basic concepts of probability can be applied to everyday experiences.

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

Focus Questions: In what ways can data be organized?

Process Standards	Content Standards	Horizontal Connections
<p>Mathematics Standard 1-1 (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>1-1.1 Apply substantive mathematical problem-solving strategies.</p> <p>1-1.2 Generate conjectures and exchange mathematical ideas.</p> <p>1-1.3 Explain and justify answers to simple problems.</p> <p>1-1.4 Analyze patterns by reasoning systematically.</p> <p>1-1.5 Generalize mathematical concepts.</p> <p>1-1.6 Use a variety of forms of mathematical communication.</p> <p>1-1.7 Generalize connections among mathematics, the environment, and other subjects.</p> <p>1-1.8 Use multiple informal representations to convey mathematical ideas.</p>	<p>Mathematics Standard 1-6 (Data Analysis and Probability): The student will demonstrate through the mathematical processes a sense of collecting, organizing and interpreting data and of making predictions on the basis of data.</p> <p>Indicators</p> <p>1-6.1 Use survey questions to collect data.</p> <p>1-6.2 Organize data in picture graphs, object graphs, bar graphs, and tables.</p> <p>1-6.3 Interpret data in picture graphs, object graphs, bar graphs, and tables by using the comparative terms <i>more</i>, <i>less</i>, <i>greater</i>, <i>fewer</i>, <i>greater than</i>, and <i>less than</i>.</p> <p>1-6.4 Predict on the basis of data whether events are <i>likely</i> or <i>unlikely</i> to occur.</p>	<p>Mathematics Standard 1-2 (Numbers and Operations): The student will demonstrate through the mathematical processes a sense of quantity and numeral relationships; the relationship among addition, subtraction, and related basic facts; and the connections among numeric, oral and written-word forms of whole numbers.</p> <p>Indicators</p> <p>1-2.5 Compare whole-number quantities through 100 by using the terms <i>is greater than</i>, <i>is less than</i>, and <i>is equal to</i>.</p>

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-6 (Data Analysis and Probability): The student will demonstrate through the mathematical processes an understanding of creating questions to collect data, organizing data, describing trends of a data set, and making predictions based on data. Indicators 2-6.1 Create survey questions to collect data. 2-6.2 Organize data in charts, pictographs, and tables. 2-6.4 Predict on the basis of data whether events are <i>more likely</i> or <i>less likely</i> to occur.</p> <p>Grade 3 Standard 3-6 (Data Analysis and Probability): The student will demonstrate through the mathematical processes an understanding of organizing, interpreting, analyzing and making predictions about data, the benefits of multiple representations of a data set, and the basic concepts of probability. Indicators 3-6.2 Organize data in tables, bar graphs, and dot plots. 3-6.3 Interpret data in tables, bar graphs, pictographs, and dot plots. 3-6.4 Analyze dot plots and bar graphs to make predictions about populations. 3-6.5 Compare the benefits of using tables, bar graphs, and dot plots as representations of a given data set. 3-6.6 Predict on the basis of data whether events are <i>likely</i>, <i>unlikely</i>, <i>certain</i>, or <i>impossible</i> to occur.</p> <p>Grade 4 Standard 4-6 (Data Analysis and Probability): The student will demonstrate through the mathematical processes an understanding of the impact of data-collection methods, the appropriate graph for categorical or numerical data, and the analysis of possible outcomes for a simple event. Indicators 4-6.1 Compare how data-collection methods impact survey results. 4-6.2 Interpret data in tables, line graphs, bar graphs, and double bar graphs whose scale increments are greater than or equal to 1. 4-6.3 Organize data in tables, line graphs, and bar graphs whose scale increments are greater than or equal to 1. 4-6.6 Predict on the basis of data whether events are <i>likely</i>, <i>unlikely</i>, <i>certain</i>, <i>impossible</i>, or <i>equally likely</i> to occur.</p>	<p>Language Arts Standard 1-1 (Reading): The student will read and comprehend a variety of literary texts in print and nonprint formats. Indicators 1-1.6 Use relevant details in summarizing stories read aloud.</p> <p>Standard 1-3 (Reading): The student will learn to read by applying appropriate skills and strategies. Indicators 1-3.16 Use pictures and words to construct meaning.</p> <p>Standard 1-4 (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. Indicators 1-4.1 Generate ideas for writing by using techniques such as participating in conversations and looking at pictures. 1-4.2 Use simple sentences in writing. 1-4.6 Use revision strategies to improve word choice in written work. 1-4.7 Use appropriate spacing between words. 1-4.8 Use appropriate word formation by writing from left to right the letters that spell a word.</p> <p>Standard 1-5 (Writing): The student will write for a variety of purposes and audiences. Indicators 1-5.2 Create narratives such as stories and journal entries about people, places, actions, or things. 1-5.3 Create written pieces that describe personal experiences, people, places, or things and that use words that appeal to the senses.</p> <p>Standard 1-6 (Researching): The student will access and use information from a variety of sources. Indicators 1-6.1 Generate how and why questions about a topic of interest. 1-6.2 Use print sources of information such as books, newspapers, pictures, charts, and graphs and nonprint media to access information. 1-6.3 Create categories such as plants and animals to classify information. 1-6.5 Use complete sentences when orally presenting information.</p>



	<p>Science</p> <p>Standard 1-1 (Scientific Inquiry): The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.</p> <p>Indicators</p> <p>1-1.1 Compare, classify, and sequence objects by number, shape, texture, size, color, and motion, using standard English units of measurement where appropriate.</p> <p>Social Studies</p> <p>Standard 1-1 (Communities): The student will demonstrate an understanding of how individuals, families, and communities live and work together here and across the world.</p>
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Notes:

