

Correlation to South Carolina Academic Standards Mathematics – 2007

First Grade Developing Number Concepts: Families and Facts, Module A

In this module, one-, two-, and three-digit numbers are compared and described. Addition and subtraction problems are represented with manipulatives and in number sentences. Basic addition and subtraction facts are modeled, and fact families are analyzed for patterns. Counters, connecting cubes, and hundreds charts are included in the kit.

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

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



Correlation Information

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: Number quantities to twenty can be analyzed using a variety of representations.

Lessons 1, 2, 3, 4

Focus Question: What strategies can be used to compare whole numbers?

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 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> <ul style="list-style-type: none"> 1-2.1 Translate between numeral and quantity through 100. 1-2.3 Represent quantities in word form through ten. 1-2.4 Recognize whole-number words that correspond to numerals through twenty. 1-2.5 Compare whole-number quantities through 100 by using the terms is greater than, is less than, and is equal to. 	<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"> 1-3.2 Translate patterns into rules for simple addition and subtraction. 1-3.4 Analyze numeric relationships to complete and extend simple patterns.

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Number 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 2-2.2 Represent quantities in word form through twenty. 2-2.3 Represent multiples of ten in word form through ninety. 2-2.4 Compare whole-number quantities through 999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$.</p> <p>Grade 3 Standard 3-2 (Number 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 3-2.1 Compare whole-number quantities through 999,999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$. 3-2.2 Represent in word form whole numbers through nine hundred ninety-nine thousand. 3-2.3 Apply an algorithm to add and subtract whole numbers fluently.</p> <p>Grade 4 Standard 4-2 (Number 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 4-2.3 Apply an algorithm to multiply whole numbers fluently. 4-2.5 Generate strategies to divide whole numbers by single-digit divisors.</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 1-1.1 Use pictures and words to make and revise predictions about a given literary text. 1-1.4 Generate a retelling that identifies the characters and the setting in a story and relates the important events in sequential order. 1-1.6 Use relevant details in summarizing stories read aloud. 1-1.7 Create responses to literary texts through a variety of methods such as writing, creative dramatics, and the visual and performing arts.</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. 1-4.3 Use pictures, letters, or words to tell a story from beginning to end. 1-4.7 Use appropriate spacing between words. 1-4.8 Use appropriate work 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 1-5.3 Create written pieces that describe personal experiences, people, places, or things that use words that appeal to the senses.</p> <p>Social Studies Standard 1-3 (Government): The student will demonstrate an understanding of how government functions and how government affects families. Indicators 1-3.4 Summarize possible consequences of an absence of laws and rules, including the potential for disorderliness and violence.</p>

Notes:

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

Subconcept: Addition facts can be analyzed for patterns using a variety of representations.

Lessons 5, 6, 7, 8, 9, 10, 11, 12

Focus Question: What strategies can be used to recall addition facts?

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 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> <ul style="list-style-type: none"> 1-2.1 Translate between numeral and quantity through 100. 1-2.3 Represent quantities in word form through ten. 1-2.5 Compare whole-number quantities through 100 by using the terms is greater than, is less than, and is equal to. 1-2.6 Recall basic addition facts through $9 + 9$ and corresponding subtraction facts. 1-2.8 Generate strategies to add and subtract without regrouping through two-digit numbers. 	<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 in addition and subtraction to develop strategies for acquiring basic facts. 1-3.2 Translate patterns into rules for simple addition and subtraction. 1-3.4 Analyze numeric relationships to complete and extend simple patterns. 1-3.5 Classify a number as odd or even.

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Number 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 2-2.2 Represent quantities in word form through twenty. 2-2.4 Compare whole-number quantities through 999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$. 2-2.5 Interpret models of equal grouping (multiplication) as repeated addition and arrays. 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 (Number 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 is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$. 3-2.2 Represent in word form whole numbers through nine hundred ninety-nine thousand. 3-2.3 Apply an algorithm to add and subtract whole numbers fluently.</p> <p>Grade 4 Standard 4-2: 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. 4-2.12 Generate strategies to add and subtract decimals through hundredths.</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 1-1.1 Use pictures and words to make and revise predictions about a given literary text. 1-1.4 Generate a retelling that identifies the characters and the setting in a story and relates the important events in sequential order. 1-1.6 Use relevant details in summarizing stories read aloud. 1-1.7 Create responses to literary texts through a variety of methods such as writing, creative dramatics, and the visual and performing arts.</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. 1-4.5 Use proofreading skills to edit for the correct use of written Standard American English. 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>



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

Subconcept: Subtraction facts can be analyzed for patterns using a variety of representations.

Lessons 13, 14, 15, 16, 17

Focus Question: What strategies can be used to recall subtraction facts?

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 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> <ul style="list-style-type: none"> 1-2.1 Translate between numeral and quantity through 100. 1-2.3 Represent quantities in word form through ten. 1-2.5 Compare whole-number quantities through 100 by using the terms is greater than, is less than, and is equal to. 1-2.6 Recall basic addition facts through $9 + 9$ and corresponding subtraction facts. 1-2.7 Summarize the inverse relationship between addition and subtraction. 	<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 in addition and subtraction to develop strategies for acquiring basic facts. 1-3.2 Translate patterns into rules for simple addition and subtraction. 1-3.3 Illustrate the commutative property based on 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 (Number 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 2-2.2 Represent quantities in word form through twenty. 2-2.3 Represent multiples of ten in word form through ninety. 2-2.4 Compare whole-number quantities through 999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$. 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 (Number 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 3-2.1 Compare whole-number quantities through 999,999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$. 3-2.2 Represent in word form whole numbers through nine hundred ninety-nine thousand. 3-2.3 Apply an algorithm to add and subtract whole numbers fluently.</p> <p>Grade 4 Standard 4-2 (Number 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 4-2.1 Recognize the period in the place-value structure of whole numbers: units, thousands, millions, and billions. 4-2.12 Generate strategies to add and subtract decimals through hundredths.</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 1-1.1 Use pictures and words to make and revise predictions about a given literary text. 1-1.4 Generate a retelling that identifies the characters and the setting in a story and relates the important events in sequential order. 1-1.6 Use relevant details in summarizing stories read aloud. 1-1.7 Create responses to literary texts through a variety of methods such as writing, creative dramatics, and the visual and performing arts.</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. 1-4.3 Use pictures, letters, or words to tell a story from beginning to end. 1-4.5 Use proofreading skills to edit for the correct use of written Standard American English. 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>



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

Subconcept: Number quantities to one hundred can be analyzed using a variety of representations.

Lessons 18, 19, 20, 21, 22

Focus Question: What strategies can be used to count to 100?

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 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> <ul style="list-style-type: none"> 1-2.1 Translate between numeral and quantity through 100. 1-2.5 Compare whole-number quantities through 100 by using the terms is greater than, is less than, and is equal to. 	<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 in addition and subtraction to develop strategies for acquiring basic facts. 1-3.2 Translate patterns into rules for simple addition and subtraction. 1-3.4 Analyze numeric relationships to complete and extend simple patterns. 1-3.5 Classify a number as odd or even.

Notes:

Vertical Connections	Cross Curricular Connections
<p>Grade 2 Standard 2-2 (Number 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 2-2.4 Compare whole-number quantities through 999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$.</p> <p>Grade 3 Standard 3-2 (Number 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 3-2.1 Compare whole-number quantities through 999,999 by using the terms is less than, is greater than, and is equal to and the symbols $<$, $>$, and $=$.</p> <p>Grade 4 Standard 4-2 (Number 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 4-2.1 Recognize the period in the place-value structure of whole numbers: units, thousands, millions, and billions. 4-2.2 Apply divisibility rules for 2, 5, and 10.</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 1-1.1 Use pictures and words to make and revise predictions about a given literary text. 1-1.4 Generate a retelling that identifies the characters and the setting in a story and relates the important events in sequential order. 1-1.6 Use relevant details in summarizing stories read aloud. 1-1.7 Create responses to literary texts through a variety of methods such as writing, creative dramatics, and the visual and performing arts.</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. 1-4.5 Use proofreading skills to edit for the correct use of written Standard American English. 1-4.6 Use revision strategies to improve word choice in written work. 1-4.7 Use appropriate spacing between words.</p>

Notes: