

Second Grade Math Scope and Sequence

The following is a recommended sequence in which to teach the standards within the clusters.

Grade 2 Math District Snapshot #1 Blueprint

Cluster 1: Relationships within Numbers Cluster 1 PreAssessment **[SPAN]**

Description of Cluster:

In this cluster, students will begin modeling numbers up to 99 and work their way to 1,200 using base ten blocks, students' understanding should also be connected to writing numbers in standard form (e.g., 827), word form (e.g., eight hundred twenty-seven), and expanded form (e.g., $827 = 800 + 20 + 7$). Concrete representation such as base ten block representation helps students to focus on the value of each digit and support the understanding of the place value system. Students will demonstrate their understanding of effectively comparing numbers. Students may first compare numbers by creating models with base-ten blocks. As they build and compare their models, they develop reasoning as to how the actual digits can make the task more simple. It is equally important for students to recognize the inverse comparison statement (e.g., 226 is less than 342). Using comparative language is critical before moving to the symbolic representation.

Process Standards should be taught throughout all lessons.

2.1 The student uses mathematical processes to acquire and demonstrate mathematical understanding.

2.1(A) Apply mathematics to problems arising in everyday life, society, and the workplace

2.1(B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution

2.1(C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

2.1(D) Communicate mathematical ideas, reasoning, and their implications using multiple representations

2.1(E) Create and use representations to organize, record, and communicate ideas

2.1(F) Analyze mathematical relationships to connect and communicate math ideas

2.1(G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

Daily Numeracy

A number sense routine is an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics discussion and thinking. Number Sense standards are **addressed and spiraled throughout the year during daily number sense routines**. The numeracy activities should be rotated and varied in the mode delivered. Number sense routines do not necessarily have to align to the content that is currently being taught during mini lessons.

Some number sense activities include, but not limited to, are noted here.

The following supporting standards are not included directly in the scope and sequence. They should be spiraled through daily number sense routines and learning




STEM Activity



Coding Activity

stations throughout the school year.

- 1.2(C) use objects, pictures, and expanded and standard forms to represent numbers up to 120 (R).
- 2.4(A) recall basic facts to add and subtract within 20 with automaticity
- 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number
- 2.2(E) locate the position of a given whole number on an open number line

| | | |
|---|--|---|
| <p>Cluster 1: Relationships within Numbers</p> <p>Suggested Pacing: August 12 - October 1</p> | Knowledge and Skills | 2.2 Number and operations. The student applies mathematical process standards to understand how to represent and compare whole numbers, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value. The student is expected to: |
| | Readiness  Essential | 2.2(B) use standard, word, and expanded forms to represent numbers up to 1,200 2.2(B) Resources to Support Blended Learning |
| | Supporting | 2.2(A) use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones |
| | Knowledge and Skills | 2.7 Algebraic reasoning. The student applies mathematical process standards to identify and apply number patterns within properties of numbers and operations in order to describe relationships. The student is expected to: |
| | Supporting | 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number |
| | Knowledge and Skills | 2.9 Geometry and measurement. The student applies mathematical process standards to select and use units to describe length, area, and time. |
| | Supporting | 2.2(F) name the whole number that corresponds to a specific point on a number line |
| | Supporting | 2.9(C) represent whole numbers as distances from any given location on a number line |
| | Supporting | 2.2(C) generate a number that is greater than or less than a given whole number up to 1,200 |
| | Readiness Essential | 2.2(D) use place value to compare and order whole numbers up to 1,200 using language, numbers, and symbols 2.2(D) Resources to Support Blended Learning |
| | Supporting | 2.7(B) use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200 |



STEM Activity



Coding Activity

Grade 2 Math District Snapshot #1 Blueprint

Cluster 2: Fractions and Time Cluster 2 Pre Assessment [SPAN]

Description of Cluster:

In this cluster, students will partition whole objects into 2, 4, and 8 equal parts. They will recognize and explain that the more parts an object is partitioned into, the smaller the parts become; the fewer the parts an object is partitioned into, the larger the parts become. Instruction should provide real-world examples which build conceptual understanding. Students will read and write time to the nearest one-minute increment using analog and digital clocks as well as be able to distinguish between a.m. and p.m.

Daily Numeracy

A number sense routine is an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics discussion and thinking. Number Sense standards are **addressed and spiraled throughout the year during daily number sense routines**. The numeracy activities should be rotated and varied in the mode delivered. Number sense routines do not necessarily have to align to the content that is currently being taught during mini lessons. Some number sense activities include, but not limited to, are noted here.

The following supporting standards are not included directly in the scope and sequence. They should be spiraled through daily number sense routines and learning stations throughout the school year.

- 2.4(A) recall basic facts to add and subtract within 20 with automaticity
- 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number
- 2.2(E) locate the position of a given whole number on an open number line
- 2.2(F) name the whole number that corresponds to a specific point on a number line
- 2.9(C) represent whole numbers as distances from any given location on a number line

Spiral Essentials

The following essential standard from the previous cluster should be spiraled throughout this cluster during **number sense routines, learning stations, and small group instruction** based on formative assessments. *Process Standards should be taught throughout all components of the workshop (see page 1).*

2.2(B) use standard, word, and expanded forms to represent numbers up to 1,200

2.2(B) Resources to Support Blended Learning

2.2(D) use place value to compare and order whole numbers up to 1,200 using language, numbers, and symbols

2.2(D) Resources to Support Blended Learning

Knowledge
and Skills



2.3 Number and operations. The student applies mathematical process standards to recognize and represent fractional units and communicates how they are used to name parts of a whole. The student is expected to:



STEM Activity



Coding Activity

| | | |
|--|---|---|
| Cluster 2: Fractions and Time | Supporting | 2.3(A) partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words |
| | Supporting  | 2.3(D) identify examples and non-examples of halves, fourths, and eighths |
| Suggested Pacing: October 4 - October 29 | Readiness Essential | 2.3(B) explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part 2.3(B) Resources to Support Blended Learning |
| | Supporting | 2.3(C) use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole |
| Snapshot Window: October 25 - October 29 | Knowledge and Skills | 2.9 Geometry and measurement. The student applies mathematical process standards to select and use units to describe length, area, and time. |
| | Readiness  | 2.9(G) read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m. 2.9(G) Resources to Support Blended Learning |



STEM Activity



Coding Activity

Grade 2 Math District Snapshot #2 Blueprint

Cluster 3: Place Value and Operations Cluster 3 Pre Assessment **[SPAN]**

Description of Cluster:

In this cluster, students may be directly taught addition and subtraction operations either in conjunction or in isolation. At the end of the cluster student's should be able to identify and solve addition and subtraction one-step and multi-step word problems interchangeably. Students need to continue the use of concrete representation such as strip diagrams (part-part-whole) prior to moving into pictorial representation until they display a deep understanding of the operations.

Daily Numeracy

A number sense routine is an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics discussion and thinking. Number Sense standards are **addressed and spiraled throughout the year during daily number sense routines**. The numeracy activities should be rotated and varied in the mode delivered. Number sense routines do not necessarily have to align to the content that is currently being taught during mini lessons. Some number sense activities include, but not limited to, are noted here.

The following supporting standards are not included directly in the scope and sequence. They should be spiraled through daily number sense routines and learning stations throughout the school year.

- 2.4(A) recall basic facts to add and subtract within 20 with automaticity
- 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number
- 2.2(E) locate the position of a given whole number on an open number line
- 2.2(F) name the whole number that corresponds to a specific point on a number line
- 2.9(C) represent whole numbers as distances from any given location on a number line

Spiral Essentials

The following essential standard from the previous cluster should be spiraled throughout this cluster during **number sense routines, learning stations, and small group instruction** based on formative assessments. *Process Standards should be taught throughout all components of the workshop (see page 1).*


- 2.2(B)** use standard, word, and expanded forms to represent numbers up to 1,200
2.2B Resources to Support Blended Learning
- 2.2(D)** use place value to compare and order whole numbers up to 1,200 using language, numbers, and symbols
2.2D Resources to Support Blended Learning
- 2.3(B)** explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part
2.3(B) Resources to Support Blended Learning



STEM Activity



Coding Activity

| | | |
|--|--|---|
| Cluster 3: Place Value and Operations | Knowledge and Skills | 2.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve addition and subtraction problems with efficiency and accuracy |
| | Readiness Essential | 2.4(C) solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms 2.4(C) Resources to Support Blended Learning |
| | Supporting | 2.7(C) represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem |
| | Supporting | 2.4(B) add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations |
| | Readiness Essential | 2.4(D) generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000 2.4(D) Resources to Support Blended Learning |
| Suggested Pacing: November 1 - February 11 | Knowledge and Skills | 2.5 Number and operations. The student applies mathematical process standards to determine the value of coins in order to solve monetary transactions. |
| | Readiness  | 2.5(A) determine the value of a collection of coins up to one dollar 2.5(A) Resources to Support Blended Learning |
| | Supporting | 2.5(B) use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins |
| | Knowledge and Skills | 2.6 Number and operations. The student applies mathematical process standards to connect repeated addition and subtraction to multiplication and division situations that involve equal groupings and shares. The student is expected to |
| | Supporting | 2.6(A) model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined |
| | Supporting | 2.6(B) model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets |



STEM Activity



Coding Activity

Grade 2 Math District Snapshot #2 Blueprint

Cluster 4: Geometry and Measurement Cluster 4 Pre Assessment [SPAN]

Description of Cluster:

In this cluster, students will analyze the different attributes of two-dimensional and three-dimensional shapes. Students should create shapes of different variations. For example, different five sided shapes that represent pentagons. Students will also explore using different tools to measure the length of various objects. Students are introduced to the concept of area using square tiles.

Daily Numeracy

A number sense routine is an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics discussion and thinking. Number Sense standards are **addressed and spiraled throughout the year during daily number sense routines**. The numeracy activities should be rotated and varied in the mode delivered. Number sense routines do not necessarily have to align to the content that is currently being taught during mini lessons. Some number sense activities include, but not limited to, are noted here.

The following supporting standards are not included directly in the scope and sequence. They should be spiraled through daily number sense routines and learning stations throughout the school year.

- 2.4(A) recall basic facts to add and subtract within 20 with automaticity
- 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number
- 2.2(E) locate the position of a given whole number on an open number line
- 2.2(F) name the whole number that corresponds to a specific point on a number line
- 2.9(C) represent whole numbers as distances from any given location on a number line

Spiral Essentials

The following essential standard from the previous cluster should be spiraled throughout this cluster during **number sense routines, learning stations, and small group instruction** based on formative assessments. *Process Standards should be taught throughout all components of the workshop (see page 1).*

- 2.2(B) use standard, word, and expanded forms to represent numbers up to 1,200
2.2(B) Resources to Support Blended Learning
- 2.2(D) use place value to compare and order whole numbers up to 1,200 using language, numbers, and symbols
2.2(D) Resources to Support Blended Learning
- 2.3(B) explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part
2.3(B) Resources to Support Blended Learning



STEM Activity



Coding Activity

2.4(C) solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms

2.4(C) Resources to Support Blended Learning

2.4(D) generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000

2.4(D) Resources to Support Blended Learning

| | | |
|---|----------------------|---|
| Cluster 4: Geometry and Measurement | Knowledge and Skills | 2.8 Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties. The student is expected to: |
| | Readiness | 2.8(C) classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices 2.8(C) Resources to Support Blended Learning |
| | Supporting | 2.8(A) create two-dimensional shapes based on given attributes, including number of sides and vertices |
| | Supporting | 2.8(E) decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts |
| Suggested Pacing: February 14 - April 8 | Readiness | 2.8(B) classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language 2.8(B) Resources to Support Blending Learning |
| | Supporting | 2.8(D) compose two-dimensional shapes and three-dimensional solids with given properties or attributes |
| | Knowledge and Skills | 2.9 Geometry and measurement. The student applies mathematical process standards to select and use units to describe length, area, and time. |
| Snapshot Window: March 21 - March 25 | Supporting | 2.9(A) find the length of objects using concrete models for standard units of length |
| | Supporting | 2.9(B) describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object |
| | Supporting | 2.9(D) determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes |
| | Readiness | 2.9(E) determine a solution to a problem involving length, including estimating lengths 2.9(E) Resources to Support Blended Learning |
| | Supporting | 2.9(F) use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit |



STEM Activity



Coding Activity

Cluster 5: Data Analysis and Personal Financial Literacy

Description of Cluster:

In this cluster, students will explore representing data using different types of graphs. Students will then dive into understanding how to manage money through spending, saving, lending, borrowing, and depositing. Students will get to become consumers and producers by celebrating with the Economics Fair. Teachers should note that these standards will coincide with Social Studies standards.

Daily Numeracy

A number sense routine is an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics discussion and thinking. Number Sense standards are **addressed and spiraled throughout the year during daily number sense routines**. The numeracy activities should be rotated and varied in the mode delivered. Number sense routines do not necessarily have to align to the content that is currently being taught during mini lessons. Some number sense activities include, but not limited to, are noted here.

The following supporting standards are not included directly in the scope and sequence. They should be spiraled through daily number sense routines and learning stations throughout the school year.

- 2.4(A) recall basic facts to add and subtract within 20 with automaticity
- 2.7(A) determine whether a number up to 40 is even or odd using pairing of objects to represent the number
- 2.2(E) locate the position of a given whole number on an open number line
- 2.2(F) name the whole number that corresponds to a specific point on a number line
- 2.9(C) represent whole numbers as distances from any given location on a number line

Spiral Essentials

The following essential standard from the previous cluster should be spiraled throughout this cluster during **number sense routines, learning stations, and small group instruction** based on formative assessments. *Process Standards should be taught throughout all components of the workshop (see page 1).*

2.2(B) use standard, word, and expanded forms to represent numbers up to 1,200

2.2(B) Resources to Support Blended Learning

2.2(D) use place value to compare and order whole numbers up to 1,200 using language, numbers, and symbols

2.2(D) Resources to Support Blended Learning

2.3(B) explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(B) Resources to Support Blended Learning

2.4(C) solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms

2.4(C) Resources to Support Blended Learning





STEM Activity



Coding Activity

2.4(D) generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000

2.4(D) Resources to Support Blended Learning

| | | |
|--|---|--|
| <p>Cluster 5: Data Analysis and Personal Financial Literacy</p> <p>Suggested Pacing: April 11 - May 20</p> | Knowledge and Skills | 2.10 Data analysis. The student applies mathematical process standards to organize data to make it useful for interpreting information and solving problems |
| | Supporting  | 2.10(B) organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more |
| | Supporting | 2.10(A) explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category |
| | Supporting  | 2.10(D) draw conclusions and make predictions from information in a graph |
| | Readiness | 2.10(C) write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one 2.10(C) Resources to Support Blended Learning |
| | Knowledge and Skills | 2.11 Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. |
| | Supporting | 2.11(B) explain that saving is an alternative to spending |
| | Supporting | 2.11(A) calculate how money saved can accumulate into a larger amount over time |
| | Supporting | 2.11(C) distinguish between a deposit and a withdrawal |
| | Supporting | 2.11(D) identify examples of borrowing and distinguish between responsible and irresponsible borrowing |
| | Supporting | 2.11(E) identify examples of lending and use concepts of benefits and costs to evaluate lending decisions |
| | Supporting | 2.11(F) differentiate between producers and consumers and calculate the cost to produce a simple item |



STEM Activity



Coding Activity