

First Grade Mathematics Pacing Guide

Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.

Essential Question - What are the specific strategies that have wide application in attacking problems and can help in problem solving?

NO.3.1.3	Solve problems by using a variety of methods and tools (e.g., objects, mental computations, paper and pencil with and without appropriate technology)
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First Nine Weeks

(1) Enduring Understanding: Quantities can be counted, ordered, compared, estimated, combined, and separated using number, words, and numerals with various strategies.

Essential Question 1A: How can sets of numbers be represented, counted, compared, and ordered?

NO.1.1.1	Use efficient strategies to count a given set of objects in groups of 10 up to 100.
NO.1.1.3	Connect various physical models and representations to the quantities they represent using number names, numerals and number words up to 20 with and without appropriate technology
NO.1.1.4	Represent numbers to 20 in various forms Ex. 2 rods, 2 bundles of 10, tally marks, 10 units
NO.1.1.9	Compare 2 numbers, with less than 12 in each set, using objects and pictures, with and without appropriate technology Ex. A: (XXXXXX) B: (□□□)
NO.1.1.10	Compare 2 numbers less than 100 using mathematical language of greater than, equal to (same amount as), less than.
NO.1.1.11	Communicate the relative position of any number less than 20(18 is less than 20 and greater than 12).
NO.2.1.1	Count on (forward) and count back (backward) using physical models or a number line

Essential Question 1B: How are numbers used to solve problems?

NO.1.1.2	Represent a whole number less than 15 in all possible ways using composition and decomposition Composition: 10 can be made by combining 1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5 Decomposition: 5 cubes can be separated into 2 red and 3 green or 1 red and 4 green
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NO.1.1.6	Recognize the number or quantity of sets up to 10 without counting, regardless of arrangement
NO.2.1.2	Develop an understanding of the commutative (turn around facts) and identify (+0) properties of addition using objects
NO.2.1.3	Apply number theory <ul style="list-style-type: none"> • determine if a one-digit number is odd or even • use the terms sum and difference in appropriate context • use conventional symbols (+,-,=) to represent the operations of addition and subtraction
NO.2.1.4	Use physical, pictorial and symbolic models to demonstrate various meanings of addition and subtraction See Appendix for examples.
NO.2.1.5	Identify and use the relationship between addition and subtraction to solve problems in contextual situations involving whole numbers
NO.3.1.1	Develop strategies for basic addition facts <ul style="list-style-type: none"> • counting all • counting on • one more, two more • doubles • doubles plus one or minus one • make ten • using ten frames • Identity Property (adding zero)
A.5.1.2	Recognize that "=" indicates a relationship in which the quantities on each side of an equation are equal. Ex. $3+2=4+1$
(2) Enduring Understanding: Objects can be sorted by similarities.	
Essential Question 2A: How can items be explored using 2-D figures ?	
Essential Question 2B: How can items be explored using 3-D figures?	
(3) Enduring Understanding: The position of an object can be described.	
Essential Question 3A: What words can be used to describe the position of an object?	
(4) Enduring Understand: Quantities can be measured in a variety of ways using objects, numerals and tools.	
Essential Question 4A: Why are coins different?	

A.4.1.1	Sort and classify objects(coins) by one or two attributes in more than one way
M.12.1.5	State the values of penny, nickel, dime, quarter and dollar bill
A.7.1.1	Interpret qualitative change (in money) Ex. A nickel is worth more than a penny so I can
M.12.1.4	Recognize and identify attributes of penny, nickel, dime, quarter and dollar bill
M.13.1.6	Show different combinations of coins that have the same value

Essential Question 4B: How can the order of events be described?

M.12.1.1	Recognize the number of days in a week and the number of days in a month using a calendar.
	Orally sequence the months of the year.
M.12.1.2	
M.12.1.3	Recognize that an hour is longer than a minute and a minute is longer than a second
	Use a calendar to determine elapsed time involving a time period of one week
M.13.1.1	
	Tell time to the half-hour
M.13.1.2	
M.13.1.3	Determine elapsed time (to the hour) in contextual situations
	Interpret qualitative change (in time) Ex.
A.7.1.1	

(5) Enduring Understanding: Objects can be sorted, classified and identified by their

Essential Question 5A: How are objects alike or different?

Second Nine Weeks

(1) Enduring Understanding: Quantities can be counted, ordered, compared, estimated, combined, and separated using number, words, and numerals with various strategies.

Essential Question 1A: How can sets of numbers be represented, counted, compared, and ordered?

NO.1.1.3	Connect various physical models and representations to the quantities they represent
NO.1.1.9	Compare two numbers with less than 12 in each set using objects and pictures with and without appropriate technology.
	Use efficient strategies to count a given set of objects in groups of 10 up to 100.
NO.1.1.1	
NO.1.1.8	Determine relative position using ordinal numbers
	Count on and count back using physical models or a number line starting at any whole number up to 50
NO.2.1.1	

A.4.1.3	Use patterns to count forward and backward when given a number less than or equal to 50.
Essential Question 1B: How are numbers used to solve problems?	
NO.3.1.2	Develop strategies for basic subtraction facts <ul style="list-style-type: none"> • relating to addition (Ex. Think of $7 - 3 = \underline{\quad}$ as "$3 + \underline{\quad} = 7$") • one less, two less • all but one (Ex. $9 - 8$, $6 - 5$) • using ten frames of the answers
NO.2.1.1.1	Count on and count back using physical models or a number line starting at any whole number up to 50
NO.2.1.3	Apply number theory to determine odd and even, use the terms sum and difference in context, use symbols to represent operations. (+, -, =)
NO.2.1.2	Develop an understanding of the Commutative Property and identify properties of addition
NO.3.1.1	Develop strategies for basic addition facts
NO.2.1.4	Use physical, pictorial and symbolic models to demonstrate meanings of addition and subtraction.
(2) Enduring Understanding: Objects can be sorted by similarities.	
Essential Question 2A: How can items be explored using 2-D figures ?	
G.8.1.3	Compare and make (2 dimensional) geometric figures (triangle, rectangle [including square] and circle by investigating their physical characteristics independent of position or size
G.11.1.1	Replicate a simple two-dimensional figure from a briefly displayed example or from a description
G.11.1.2	Recognize that new figures can be created by combining and subdividing models of existing figures
Essential Question 2B: How can items be explored using 3-D figures?	
G.8.1.1	Compare 3-D solids (sphere, cube, rectangular prism, cone, and cylinder) by investigating
G.8.1.2	Investigate presence of 3-D objects in the environment
G.8.1.1	Compare 3-D solids (sphere, cube, rectangular prism, cone, and cylinder) by investigating their physical characteristics
(3) Enduring Understanding: The position of an object can be described.	
Essential Question 3A: What words can be used to describe the position of an object?	
G.10.1.1	Extend the use of location words to include distance (near, far, close to) and direction (left and right)
Essential Question 3B: What are some ways to decide if shapes are symmetric?	

G.10.1.1	Extend the use of location words to include distance (near, far, close to) and direction (left and right)
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Essential Question 3C: What are transformations?

G.9.1.2	Manipulate two-dimensional figures through slides, flips and turns
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(4) Enduring Understand: Quantities can be measured in a variety of ways using objects, Essential Question 4A: How is money used?

M.12.1.5	State the values of penny, nickel, dime, quarter and dollar bill.
M.12.1.4	Recognize and identify attributes of penny, nickel, dime, quarter and dollar bill.

Essential Question 4B: How can the order of events be described?

M.13.1.1	Use a calendar to use elapsed time involving a time period of one week.
	Recognize days in a week, days in month using a calendar.
M.12.1.1	

Essential Question 4C: How does measurement help compare objects related to length? Enduring Understanding (7): Graphs convey data in a concise way.

Essential Question 7A: What are some ways to gather , record and use data on a graph?

DAP15.1.1	Analyze and interpret concrete and pictorial graphs (bar graphs, picto graphs, venn)
	Make a true statement about the data displayed on a graph or chart
DAP15.1.2	

Third Nine Weeks

(1) Enduring Understanding: Quantities can be counted, ordered, compared, estimated, Essential Question 1A: How can sets of numbers be represented, counted, compared, and ordered?

NO.1.1.7	Estimate the results of whole number addition and subtraction problems and judge the reasonableness.
NO.1.1.8	Determine relative position using ordinal numbers (first through twelfth)
A.4.1.3	Use patterns to count forward and backward when given a number less than or equal to 50.
No.1.1.4	Represent numbers 1-20 in various forms Ex. Rods, bundles, tally marks and units of 10
NO.1.1.5	Use multiple models to develop understandings of place value including 10's and 1's
NO.1.1.10	Compare 2 numbers less than 100 using mathematical language of greater than, equal to and less than

Essential Question 1B: How are addition and subtraction used to solve problems?

NO.1.1.7 SCCSD	Estimate the results of whole number addition and subtraction problems and judge the reasonableness.
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A.5.1.1	Select and/or write number sentences to find the unknown in problem-solving contexts involving single-digit addition and subtraction using appropriate labels Ex. Bob had 5 baseball cards. His friend gave him some more. Now he has seven cards. How many cards did his friend give him?
A.5.1.3	Recognize that symbols in an addition and subtraction equation represent a missing value that will make the statement true
NO.3.1.3	Solve problems by using a variety of methods and tools with and without technology
NO.2.1.5	Identify and use the relationship between addition and subtraction to solve problems in
No.3.1.2	Develop strategies for basic subtraction facts
A.5.1.2	Recognize that = indicates a relationship in which the quantities on each side of an

Essential Question 1C: How can groups be divided equally and represented by fractions?

A.4.1.4	Identify, describe and extend skip-counting patterns by 2s.
NO.1.1.12	Represent commonly used fractions using words and physical models for halves, thirds and fourths

(2) Enduring Understanding: Objects can be sorted by similarities.

Essential Question 2A: How can items be explored using 2-D figures ?

G.11.1.2	Recognize that new figures can be created by combining and subdividing models of existing figure.
G.11.1.1	Replicate a simple two-dimensional figure from a briefly displayed example or from a description
G.8.1.3	Compare and make (2 dimensional) geometric figures (triangle, rectangle [including square] and circle by investigating their physical characteristics independent of position or

Essential Question 2B: How can items be explored using 3-D figures?

A.4.1.1	Sort and classify (3 dimensional) objects by one or two attributes in more than one way
G.8.1.1	Compare 3-D solids (sphere, cube, rectangular prism, cone, and cylinder) by investigating their physical characteristics
G.8.1.2	Investigate the presence of three-dimensional objects in the environment

Essential Question 3A: What words can be used to describe the position of an object?

Essential Question 3B: What are some ways to decide if shapes are symmetric?

G.9.1.1	Identify a line or lines of symmetry in 2 D figures and justify by folding
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Essential Question 3C: What are transformations?

G.9.1.2 Manipulate 2 D figures through slides, flips and turns

(4) Enduring Understand: Quantities can be measured in a variety of ways using objects, numerals and tools.

Essential Question 4A: How is money used?

A.4.1.1	Sort and classify objects(coins) by one or two attributes in more than one way
M.12.1.5	State the values of penny, nickel, dime, quarter and dollar bill
A.7.1.1	Interpret qualitative change (in money) Ex. A nickel is worth more than a penny so I can buy more.
M.12.1.4	Recognize and identify attributes of penny, nickel, dime, quarter and dollar bill
M.12.1.6	Compare the value of coins (pennies, nickels, dimes, quarters)
M.13.1.4	Determine the value of a small collection of coins (with a total value up to \$1.00) using 1 or 2 different types of coins, including pennies, nickels, dimes and quarters
M.13.1.5	Represent and write the value of money using the cent sign
M.13.1.6	Show different combinations of coins that have the same value

Enduring Understanding (5): Objects can be sorted, classified and identified by their attributes.

Essential Question 5A: How are objects alike or different?

A.4.1.1	Sort and classify objects by one or two attribute in more than one way.
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Enduring Understanding (6): Patterns can be found in the environment in many different forms.

Essential Question 6A: How can patterns be identified and used to solve problems?

A.4.1.4	Identify, describe and extend skip-counting patterns by 2's
A.4.1.5	Identify a number that is one more or lone less than any whole number less than 100

Enduring Understanding (7): Graphs convey data in a concise way.

Essential Question 7A: What are some ways to gather , record and use data on a graph?

A.6.1.1	Explore the use of a chart or table to organize information and to understand relationships
DAP.14.1.1	Identify the purpose for data collection and collect, organize and display physical objects for describing the results

Fourth Nine Weeks

(1) Enduring Understanding: Quantities can be counted, ordered, compared, estimated, combined, and separated using number, words, and numerals with various strategies.

Essential Question 1A: How can sets of numbers be represented, counted, compared,

	Use multiple models to develop understandings of place value including tens and ones
NO.1.1.5	
	Use efficient strategies to count a given set of objects in groups of 10 up to 100.
NO.1.1.1	
	Determine relative position using ordinal numbers (first through twelfth)
NO.1.1.8	
	Count on (forward) and count back(backward)using physical models or a number line starting at any whole number up to fifty
NO.2.1.1	
NO.1.1.10	Compare 2 numbers less than 100 using mathematical language of greater than, equal to
	Use patterns to count forward and backward when given a number less than or equal to 50
A.4.1.3	

Essential Question 1B: How is addition and subtraction used to solve problems?

	Estimate the results of whole number addition and subtraction problems and judge the reasonableness
NO.1.1.7	
	Develop an understanding of the commutative (turn around facts) and identify (+0) properties of addition using objects
NO.2.1.2	
NO.2.1.4	Use physical, pictorial and symbolic models to demonstrate various meanings of addition
	Solve problems by using a variety of methods and tools (e.g., objects, mental computations, paper and pencil with and without appropriate technology)
NO.3.1.3	
A.5.1.1	Select and/or write number sentences to find the unknown in problem-solving contexts
	Identify and use the relationship between addition and subtraction to solve problems in contextual situations involving whole numbers
NO.2.1.5	
	Develop strategies for basic addition facts
NO.3.1.1	
	Develop strategies for basic subtraction facts
NO.3.1.2	• relating to addition (Ex. Think of $7 - 3 = \underline{\quad}$ as " $3 + \underline{\quad} = 7$ ")
	Recognize that "=" indicates a relationship in which the quantities on each side of an equation are equal. Ex. $3+2=4+1$
A.5.1.2	
	Recognize that symbols in an addition and subtraction equation represent a missing value that will make the statement true
A.5.1.3	

Essential Question 1C: How can groups be divided equally and represented by fractions?

A.4.1.4	Identify, describe and extend skip-counting patterns by 2's
4 NO.2.1.6	Model and represent division as sharing equally in contextual situations Ex. Sharing cookies equally among four children.

NO.1.1.12	Represent commonly used fractions using words and physical models for halves, thirds and fourths Ex.
(2) Enduring Understanding: Objects can be sorted by similarities.	
Essential Question 2A: How can items be explored using 2-D figures ?	
G.11.1.1	Replicate a simple two-dimensional figure from a briefly displayed example or from a description
G.11.1.2	Recognize that new figures can be created by combining and subdividing models of existing figures
Essential Question 2B: How can items be explored using 3-D figures?	
2 G.8.1.1	Compare 3-D solids (sphere, cube, rectangular prism, cone, and cylinder) by investigating their physical characteristics
G.8.1.2	Investigate the presence of three-dimensional objects in the environment
(3) Enduring Understanding: The position of an object can be described.	
Essential Question 3A: What words can be used to describe the position of an object?	
Essential Question 3B: What are some ways to decide if shapes are symmetric?	
2 G.9.1.1	Identify a line or lines of symmetry in two-dimensional figures and justify by folding
Essential Question 3C: What are transformations?	
2 G.9.1.2	Manipulate two-dimensional figures through slides, flips and turns
(4) Enduring Understand: Quantities can be measured in a variety of ways using objects, numerals and tools.	
Essential Question 4A: How is money used?	
A.7.1.1	Interpret qualitative change (in money) Ex. A nickel is worth more than a penny so I can buy more.
M.12.1.6	Compare the value of coins (pennies, nickels, dimes, quarters)

M.13.1.4	Determine the value of a small collection of coins (with a total value up to \$1.00) using 1 or 2 different types of coins, including pennies, nickels, dimes and quarters
M.13.1.6	Show different combinations of coins that have the same value

Essential Question 4B: How can the order of events be described?

M.13.1.3	Determine elapsed time (to the hour) in contextual situations [End time unknown] Lunch began at 11:00 and lasted 1 hour. When was lunch over? [Elapsed time unknown] John went to Tim's house at 3:00. He left at 5:00. How long did he stay? [Beginning time unknown] Mary watched a movie for 2 hours. The movie ended at 8:00. When did the movie begin?
A.7.1.1	Interpret qualitative change (in time) Ex.

Essential Question 4C: How does measurement help compare objects related to length?

M.13.1.8	Estimate and measure length with non-standard units
A.7.1.1	Interpret qualitative change (in distance) Ex.
M.12.1.8	Recognize attributes measurement(length) and identify appropriate tools used to measure each attribute Ex.
M.13.1.7	Select the appropriate non-standard measurement tools for length
M.13.1.9	Surround a figure with objects (links, craft sticks, etc) and tell how many it takes to go

Essential Question 4D: How does measurement help compare objects related to temperature?

A.7.1.1	Interpret qualitative change (in temperature)
M.12.1.7	Distinguish between hot and cold temperatures on a thermometer Ex. The higher the mercury level the warmer the temperature

Essential Question 4E: How does measurement help compare objects related to area?

M.13.1.10	Cover a figure with squares and tell how many it takes to cover (Area answers the questions: How much to cover?)
A.7.1.1	Interpret qualitative change (in area)

Essential Question 4F: How does measurement help compare objects related to weight/mass?

M.12.1.8	Recognize the attributes of weight and mass and identify appropriate tools used to measure each attribute
M.13.1.7	Select appropriate non-standard measurement tools for weight/mass
M.13.1.8	Estimate and measure weight/mass with non-standard units
A.7.1.1	Interpret qualitative change (in weight/mass)

Essential Question 4G: How does measurement help compare objects related to volume/capacity?

M.12.1.8	Recognize the attributes of volume/capacity and identify appropriate tools used to measure each attribute
M.13.1.7	Select the appropriate non-standard measurement tools for volume/capacity (cup or liter)
M.13.1.8	Estimate and measure volume/capacity familiar objects using non-standard units
A.7.1.1	Interpret qualitative change (in volume/capacity)

Enduring Understanding (7): Graphs convey data in a concise way.

Essential Question 7A: What are some ways to gather , record and use data on a graph?

A.6.1.1	Explore the use of a chart or table to organize information and to understand relationships
DAP.14.1.1	Identify the purpose for data collection and collect, organize and display physical objects for describing the results.
DAP.15.1.1	Analyze and interpret concrete and pictorial graphs (i.e. bar graphs, pictographs, Venn diagrams, T-chart)
DAP.15.1.2	Make a true statement about the data displayed on a graph or chart

Enduring Understanding (8): The likelihood of an event depends on the possible

Essential Question 8A: How can the possible outcome for an event be determined?

DAP.17.1.1	Describe the probability of an event as being more, less or equally likely to occur
DAP.16.1.1	Explore making simple predictions for a given set of data