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Grade 1

Number and Operations

The Number System

Understanding and extending the counting sequence

UNIT 1 MATH FOCUS POINTS

- Practicing the rote counting sequence forward and backward, starting from any number 1 to 30
- Using the number line as a tool for counting
- Developing strategies for accurately counting a set of objects by ones
- Counting and representing a set of up to 30 objects
- Recognizing, identifying, and writing the numbers to 20
- Developing and analyzing visual images for quantities up to 10
- Representing a teen number as a group of ten ones and some number of ones
- Comparing two quantities up to 20 to see which is greater

CLASSROOM ROUTINES

- Practicing the rote counting sequence forward and backward, starting from any number 1 to 30
- Using the number line as a tool for counting
- Writing numbers up to 30
- Developing and analyzing visual images for quantities up to 10
- Representing a teen number as a group of ten ones and some number of ones
- Using standard notation ($<$, $>$) to represent the comparison of unequal quantities

Each strand is labeled with a grade level.

The content is organized around six strands. All strands do not appear at every grade level.

The strands are divided into main math ideas.

The main math ideas are further subdivided into Math Focus Points. The main math ideas may appear in one or more units.

The main math ideas are also supported by the Classroom Routines.

Grade 1

Number and Operations

The Number System

Understanding and extending the counting sequence

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UNIT 3 MATH FOCUS POINTS

- Estimating and counting quantities
- Accurately counting a set of objects up to 60
- Developing strategies for counting by groups
- Identifying, reading, writing, and sequencing numbers to 120
- Identifying and using patterns in the written number sequence
- Seeing the 100 chart as a representation of the counting numbers to 100

UNIT 7 MATH FOCUS POINTS

- Counting and combining things that come in groups of 2, 5, and/or 10
- Counting by 2s, 5s, and 10s
- Recording strategies for counting and combining
- Exploring a many-to-one relationship (2:1, 5:1, 10:1)

CLASSROOM ROUTINES

- Practicing the rote counting sequence forward and backward, starting from any number 1 to 120
- Using the number line as a tool for counting
- Writing numbers up to 120
- Developing and analyzing visual images for quantities up to 10
- Representing a teen number as a group of ten ones and some number of ones
- Using standard notation ($<$, $>$) to represent the comparison of unequal quantities
- Using the number line and 120 chart as tools for counting
- Counting by 10s, forward and backward, and from numbers other than 10

Understanding place value

UNIT 3 MATH FOCUS POINT

- Representing a teen number as one group of ten and some number of ones (e.g., $15 = 10 + 5$)

UNIT 5 MATH FOCUS POINT

- Representing a teen number as one group of ten plus some number of ones (e.g., $15 = 10 + 5$)

UNIT 6 MATH FOCUS POINT

- Counting by groups of 10

UNIT 7 MATH FOCUS POINTS

- Counting by groups of 10
- Determining the number of tens in a given quantity
- Determining the quantity represented by a given number of tens and no (zero) ones
- Determining the quantity represented by a given number of tens and ones
- Recognizing that the first digit of a 2-digit number designates the number of groups of 10 and the second digit designates the number of ones
- Representing a multiple of 10 (up to 90) as groups of ten and no (zero) ones

- Representing a 2-digit number as a group of tens and a group of ones
- Comparing two 2-digit numbers and using notation ($>$, $<$) to record the results of the comparison

CLASSROOM ROUTINES

- Representing a teen number as a group of ten ones and some number of ones
- Representing a teen number as one group of ten and some number of ones
- Using an equation to represent a teen number as the sum of 10 plus some number of ones (e.g., $15 = 10 + 5$)
- Determining the 2-digit number that represents a quantity organized into groups of ten and no (zero) ones
- Determining the quantity represented by a given number of tens and no (zero) ones
- Determining the 2-digit number that represents a quantity organized into groups of ten and some number of ones
- Determining the quantity represented by a given number of tens and ones
- Representing a 2-digit number as a group of tens and some number of ones
- Recognizing that the first digit of a 2-digit number designates the number of groups of 10 and the second digit designates the number of ones
- Using an equation to represent a multiple of 10 (up to 90) as the sum of groups of 10 (e.g., $10 + 10 + 10 = 30$)
- Using an equation to represent a 2-digit number as the sum of a multiple of ten and some number of ones (e.g., $22 = 20 + 2$, $22 = 10 + 10 + 2$)
- Counting by groups of 10
- Writing the counting by 10 sequence to 120

Addition and Subtraction

Understanding, representing, and solving problems involving addition and subtraction

UNIT 1 MATH FOCUS POINTS

- Adding 1 or 2 to numbers up to 10
- Relating adding 1 or 2 to counting on
- Finding the total of two quantities (0–10) up to a total of 20
- Visualizing, representing, and solving add to and put together story problems with result/total unknown

- Analyzing and solving related problems
- Using numbers, pictures, words, and/or addition notation to represent a solution to a problem
- Introducing and using standard notation ($+$ and $=$) to represent addition situations
- Seeing that adding the same two numbers (e.g., $4 + 3$) results in the same total, regardless of context (e.g., number cubes, cards, objects)
- Subtracting 1 or 2 from numbers up to 10
- Relating subtracting 1 or 2 to counting back
- Subtracting one number from another, with initial amounts up to 12
- Visualizing, representing, and solving take from story problems with result unknown, and recording solution strategies
- Analyzing and solving related problems
- Introducing and using standard notation ($-$ and $=$) to represent subtraction situations
- Using numbers, pictures, words, and/or subtraction notation to represent a solution to a problem
- Seeing that the difference between the same two numbers (e.g., $9 - 2$) is the same amount, regardless of context (e.g., number cubes, objects)

UNIT 2 MATH FOCUS POINTS

- Finding the sum of multiple addends
- Comparing and finding the difference between the number of objects in two (or more) categories

UNIT 3 MATH FOCUS POINTS

- Adding and subtracting within 12
- Finding the total of two or more single-digit quantities
- Developing counting on/back as a strategy for adding/subtracting two numbers
- Considering whether order of addends affects the total
- Visualizing, representing, and solving a put together/take apart story problem with both addends unknown
- Finding and proving that all possible two-addend combinations of a number have been found
- Finding and exploring relationships among combinations of numbers up to 15
- Solving problems with two or more addends unknown
- Visualizing, representing, and solving put together/take apart story problems with multiple addends and the total unknown
- Visualizing, representing, and solving add to story problems with multiple addends and an unknown result

- Solving problems about an unknown change
- Developing counting up as a strategy for solving unknown change problems
- Using standard notation (+ and =) to represent addition situations
- Using numbers, pictures, words, and/or notation to represent a solution to a problem

UNIT 4 MATH FOCUS POINTS

- Visualizing, representing, and solving comparison story problems with the difference unknown (how many more, how many fewer)
- Using numbers, pictures, words, and/or notation to represent a solution to a problem

UNIT 5 MATH FOCUS POINTS

- Visualizing, representing, and solving a put together/take apart story problem with both addends unknown, and trying to find all of the possible combinations
- Proving that all of the possible two-addend combinations of a number have been found
- Visualizing, representing, and solving put together/take apart story problems with one addend unknown, and recording solution strategies
- Visualizing, representing, and solving related put together/add to/and take from story problems with the total/result unknown
- Visualizing, representing, and developing strategies for solving story problems about unknown change
- Solving problems with one, two, or more addends unknown
- Solving put together/take apart problems with one or both addends unknown
- Solving problems about unknown change
- Using numbers, pictures, words, and/or notation to represent a solution to a problem
- Finding and exploring relationships among combinations of numbers up to 12
- Developing strategies for adding (or subtracting) two numbers by counting on (or back) or using a known fact
- Using $5 + 5$ to reason about other combinations of 10
- Considering whether order matters in addition
- Adding and subtracting within 20, demonstrating fluency within 10

- Determining the missing number in an equation relating 3 numbers (e.g., $3 + \underline{\quad} = 7$)
- Using standard notation (<, >, +, -, =) to express the relationship among quantities
- Using standard notation (+, -, =) to represent put together/take apart situations with one addend unknown, and situations with unknown change
- Generating a story context to match a given equation

UNIT 6 MATH FOCUS POINTS

- Visualizing, representing, and solving comparison story problems with the difference, the bigger amount, or the smaller amount unknown
- Using numbers, pictures, words, and/or notation to represent a solution to a problem
- Making comparative statements (more than/fewer than/same as) about a data representation

CLASSROOM ROUTINES

- Finding the total of two single-digit quantities
- Finding the total of two or more single-digit quantities
- Analyzing and solving related problems
- Relating adding 1 or 2 to counting on
- Relating subtracting 1 or 2 to counting back
- Relating adding or subtracting to counting on/back
- Considering whether order of addends affects the total
- Solving comparison problems with the difference unknown (how many more, how many fewer)
- Using standard notation (<, >, +, =) to represent and compare quantities
- Developing fluency with the 2-addend combinations of 10
- Using known combinations (i.e., combinations that make 10) to combine two or more single-digit quantities
- Solving comparison problems with the difference unknown (how many more, how many fewer)
- Visualizing, representing, and developing strategies for solving add to/take from story problems with an unknown start
- Introducing standard notation (+, -, and =) to represent add to/take from story problems with an unknown start

Understanding equivalence

UNIT 3 MATH FOCUS POINTS

- Generating equivalent expressions for a number
- Understanding that the equal sign represents equivalence
- Using the equal sign to show equivalent expressions
- Interpreting and using standard notation ($<$, $>$, $+$, $-$, $=$)
- Determining whether equations are true or false

UNIT 5 MATH FOCUS POINTS

- Determining equivalent expressions for a given expression (e.g., $7 + 8 = 10 + \underline{\quad}$)
- Considering notation for equivalent expressions (e.g., $7 + 8 = 10 + 5$)
- Generating equivalent expressions for a number
- Understanding that the equal sign represents equivalence
- Determining whether equations are true or false
- Using standard notation ($+$, $=$) to record expressions or equations

Using knowledge of place value to add and subtract

UNIT 7 MATH FOCUS POINTS

- Adding or subtracting a multiple of 10 to/from a multiple of 10
- Adding and subtracting 10 to/from 2-digit numbers
- Using an equation to represent adding or subtracting a multiple of 10 to/from a multiple of 10
- Recognizing that the first digit of a 2-digit number changes when 10 is added or subtracted and the second digit remains the same
- Using standard notation ($+$, $-$, and $=$) to represent addition and subtraction
- Using combinations of 10 to reason about the amount needed to reach a multiple of 10 (e.g., $16 + \underline{\quad} = 20$; $16 + \underline{\quad} = 30$)

- Using combinations of 10 to add a 1-digit number to a 2-digit number (e.g., $16 + 7 = 16 + 4 + 3$) when the sum of the ones digits is greater than 9
- Using an equation to represent adding within 100
- Determining the number of tens in two 2-digit numbers
- Adding within 100 (e.g., a 2-digit number plus a 1-digit number, a multiple of 10, or a 2-digit number)
- Developing strategies for adding a 1- or 2-digit number and a 2-digit number, by combining groups of ten and groups of ones or by keeping one number whole and adding on the other
- Practicing single-digit combinations up to $6 + 6$

CLASSROOM ROUTINES

- Using an equation to represent a multiple of 10 (10–90) as the sum of groups of 10 (e.g., $10 + 10 + 10 = 30$)
- Adding or subtracting a multiple of 10 to/from a multiple of 10
- Using an equation to represent adding or subtracting a multiple of 10 to/from a multiple of 10
- Using an equation to represent a 2-digit number as the sum of multiples of ten and some number of ones (e.g., $22 = 20 + 2$, $22 = 10 + 10 + 2$)
- Adding and subtracting 10 to/from 2-digit numbers
- Recognizing that the first digit of a 2-digit number changes when 10 is added or subtracted and the second digit remains the same
- Adding a multiple of 10 to a 2-digit number
- Using an equation to represent adding within 100
- Adding a 1-digit number to a 2-digit number when the sum of the ones digits is greater than 9
- Using combinations of 10 to add a 1-digit number to a 2-digit number (e.g., $16 + 7 = 16 + 4 + 3$) when the sum of the ones digits is greater than 9
- Adding a 2-digit number to a 2-digit number
- Developing strategies for adding two 2-digit numbers, by combining groups of tens and groups of ones or by keeping one number whole and adding on the other

Grade 1 Geometry

Describing, identifying, and comparing attributes of 2-D shapes

UNIT 1 MATH FOCUS POINTS

- Exploring math manipulatives and their attributes
- Identifying attributes (e.g., color, size, and shape) and developing language to describe and compare them

UNIT 2 MATH FOCUS POINTS

- Relating 2-D and 3-D shapes to real-world objects
- Describing, comparing, and naming 2-D shapes
- Developing visual images of 2-D shapes and language for describing their defining attributes
- Drawing 2-D shapes
- Identifying and sorting shapes by common attributes
- Identifying defining attributes of triangles and quadrilaterals
- Constructing and drawing triangles and quadrilaterals of different types and sizes
- Recognizing that there are many types of quadrilaterals (e.g., rectangles, trapezoids, squares, rhombuses)

CLASSROOM ROUTINES

- Developing visual images of 2-D shapes and language for describing their defining attributes
- Drawing 2-D shapes
- Describing, comparing, and naming 2-D shapes

Composing and decomposing 2-D shapes

UNIT 2 MATH FOCUS POINTS

- Finding combinations of shapes that fill a region
- Combining smaller shapes to make larger shapes
- Composing and decomposing shapes
- Examining the relationship between the size and the number of blocks used to fill a region

CLASSROOM ROUTINES

- Developing visual images of 2-D shapes and language for describing their defining attributes
- Drawing 2-D shapes
- Describing, comparing, and naming 2-D shapes

Describing, identifying, and comparing attributes of 3-D shapes

UNIT 8 MATH FOCUS POINTS

- Relating 3-D shapes to 2-D pictures of those shapes
- Relating 3-D shapes to real-world objects
- Describing and naming 3-D shapes
- Observing and describing attributes of 3-D shapes
- Comparing attributes of 3-D shapes
- Developing language to describe and compare defining attributes of 3-D shapes and their 2-D faces
- Identifying a 3-D shape by its attributes
- Comparing size, shape, and orientation of a 3-D object

Composing and decomposing 3-D shapes

UNIT 8 MATH FOCUS POINTS

- Composing a 3-D structure by combining smaller 3-D shapes
- Combining 3-D shapes to make a replica of a given 3-D shape

Relating 2-D and 3-D shapes

UNIT 8 MATH FOCUS POINTS

- Matching a 3-D shape to a 2-D image or outline of one of its faces
- Making a 2-D representation of a 3-D shape or structure
- Building a 3-D structure from a 2-D representation

Grade 1 Fractions

Understanding halves and fourths

UNIT 4 MATH FOCUS POINTS

- Developing language to describe equal parts of a whole (e.g., half, in half, one half, halves, half of, fourths, quarters, one fourth, one quarter)
- Partitioning a whole (circle, square, rectangle) into equal parts (halves and fourths or quarters)
- Understanding one half and one fourth as numbers that describe the quantity of one part when a whole is divided into two or four equal parts
- Exploring the idea that when you cut a whole into more fractional pieces, the pieces are smaller

CLASSROOM ROUTINES

- Developing language to describe equal parts of a whole (e.g., half, in half, one half, halves, half of, fourths, quarters, one fourth, one quarter)

Grade 1 Measurement

Understanding length

UNIT 4 MATH FOCUS POINTS

- Directly comparing the length of an object to a given length
- Indirectly comparing the length of two objects, based on how each compares to a third length
- Ordering a set of measurements by length
- Understanding the meaning of *at least* in the context of linear measurement
- Solving problems about comparing lengths

Using linear units

UNIT 4 MATH FOCUS POINTS

- Developing accurate techniques for measuring the length of an object
- Quantifying length by repeating multiple units from one end of an object to the other, with no gaps or overlaps
- Understanding that measurements of the same lengths should be the same when they are measured twice or by different people using the same unit
- Using inch tiles to measure objects

Understanding time

UNIT 1 MATH FOCUS POINT

- Developing vocabulary to talk about time and sequence (*first, next, last, before, after, during, and so on*)

UNIT 4 MATH FOCUS POINT

- Naming, notating, and telling time to the hour and half hour using analog and digital formats

CLASSROOM ROUTINES

- Developing vocabulary to talk about time and sequence (*first, next, last, before, after, during, and so on*)
- Associating times on the hour and half hour with classroom events
- Becoming familiar with analog and digital formats
- Naming, notating, and telling time to the hour and half hour using analog and digital formats

Grade 1 Data

Collecting, representing, describing, and interpreting data

UNIT 3 MATH FOCUS POINT

- Recording, representing, describing and interpreting numerical data

UNIT 6 MATH FOCUS POINTS

- Describing and comparing the number of pieces of data in each category, and using an equation to show that the sum of the responses in each category equals the total responses collected
- Making sense of and comparing different data representations
- Making a representation to communicate the results of a survey
- Representing and describing data
- Choosing a survey question with two possible answers
- Making a plan for gathering data
- Collecting and keeping track of survey data
- Interpreting the results of a data investigation
- Identifying attributes of a data set
- Organizing data into three categories and making a representation