

Looking Forward To:

Kindergarten	
Number and Operations	83
Geometry	87
Measurement	88
Data	89

Grade 1	
Number and Operations	90
Geometry	95
Fractions	96
Measurement	97
Data	98

Kindergarten
Number and Operations

The Number System

Understanding place value

UNIT 8 MATH FOCUS POINTS

- Recognizing, identifying, and writing the teen numbers
- Seeing and representing a teen number as a group of ten ones and some number of ones
- Representing a teen number as a set of ones, and decomposing it into a group of ten and some number of ones
- Counting groups of 10
- Practicing the rote counting by 10s sequence to 100
- Combining 10 and a single-digit number
- Using addition notation to represent the teen numbers as 10 plus some number of ones

CLASSROOM ROUTINES

- Decomposing a number into groups of ten ones and some number of ones
- Counting groups of 10
- Practicing the rote counting by 10s sequence to 100

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.

Kindergarten Number and Operations

Counting

Counting and representing quantities

UNIT 1 MATH FOCUS POINTS

- Practicing the rote counting sequence, from 1 up to 31
- Developing language to describe quantity
- Connecting number names, numerals, and quantities
- Establishing one-to-one correspondence between equal groups (e.g., students and cubes, students and names on the chart)
- Developing strategies for accurately counting and keeping track of quantities up to 10
- Making an equivalent set
- Counting and comparing quantities
- Representing quantities with pictures, numbers, objects, and/or words

UNIT 2 MATH FOCUS POINTS

- Developing strategies for accurately counting and keeping track of quantities up to 12
- Connecting number names, numerals, and quantities
- Developing and analyzing visual images for quantities up to 10
- Making an equivalent set
- Considering whether order matters when you count
- Establishing one-to-one correspondence between equal groups (e.g., pennies and squares, number of letters, cubes, dot stickers)
- Representing quantities with pictures, numbers, objects and/or words
- Using numbers to represent quantities

UNIT 3 MATH FOCUS POINTS

- Making an equivalent set and representing the quantity for a given number
- Counting and representing a quantity, and making an equivalent set

UNIT 4 MATH FOCUS POINTS

- Counting a set of up to 20 objects
- Counting and representing a quantity, and making an equivalent set
- Connecting number names, numerals, and quantities
- Keeping track of a growing set of objects
- Making a set of a given size
- Establishing one-to-one correspondence between equal groups (e.g., dots on a number cube and spaces on a game board)
- Developing and analyzing visual images for numbers to 10
- Using numbers to represent measurements and quantities
- Recording an arrangement of a quantity

UNIT 5 MATH FOCUS POINTS

- Counting and representing a quantity, and making an equivalent set
- Making an equivalent set and representing the quantity for a given number
- Counting back to double-check a quantity

UNIT 6 MATH FOCUS POINTS

- Developing strategies for accurately counting and keeping track of quantities up to 20
- Using subsets to count a set of objects
- Counting and representing a quantity, and making an equivalent set
- Making an equivalent set and representing the quantity for a given number
- Using numbers, pictures, words, and/or addition notation to represent a quantity
- Counting and comparing quantities to 20 to determine which is greater
- Counting multiple units to quantify and compare lengths
- Using numbers to record measurements
- Using the number line as a tool for practicing the rote counting sequence to 50
- Using numbers to record how many

UNIT 7 MATH FOCUS POINTS

- Counting and keeping track of quantities
- Counting and representing a quantity, and making an equivalent set
- Counting and matching sets with a one-to-one correspondence
- Establishing the one-to-one correspondence between a set of data and a representation of this data set
- Finding the total of up to 6 small quantities
- Exploring a many-to-one relationship (2:1, 10:1)
- Counting by groups of 2
- Counting by groups of 10

UNIT 8 MATH FOCUS POINTS

- Making a set and representing the quantity equivalent to a given expression
- Developing and analyzing visual images for quantities up to 10
- Developing strategies for accurately counting and keeping track of larger quantities
- Making an equivalent set and representing the quantity for a given number
- Counting and representing a quantity, and making an equivalent set

- Using numbers to record
- Counting from numbers other than 1
- Using the number line as a tool for practicing the rote counting sequence, to 100
- Counting on from one number
- Establishing one-to-one correspondence between equal groups (e.g., students and names on the chart)

CLASSROOM ROUTINES

- Practicing the rote counting sequence, from 1 up to 31
- Developing strategies for accurately counting and keeping track of quantities up to the number of students in the class
- Connecting number names, numerals, and quantities
- Establishing one-to-one correspondence between equal groups (e.g., students and cubes)
- Counting and comparing quantities
- Considering whether order matters when you count
- Practicing the rote counting sequence, from 1 to the number of students in the class
- Counting on from one number
- Practicing the rote counting sequence, forward and back
- Using the number line as a tool for practicing the rote counting sequence, to 50
- Using the number line as a tool for practicing the rote counting sequence, to 75
- Counting from numbers other than 1
- Using the number line as a tool for practicing the rote counting sequence, to 100
- Counting groups of 10
- Practicing the rote counting by 10s sequence to 100
- Exploring a many-to-one relationship (10:1)

Comparing and ordering quantities

UNIT 2 MATH FOCUS POINTS

- Comparing two (or more) quantities to determine which is greater
- Developing language for comparing quantities (more, greater, less, fewer, most, greatest, least, fewest, same, and equal to)
- Ordering quantities from fewest to most

UNIT 4 MATH FOCUS POINTS

- Developing an understanding of more than and less than
- Comparing two quantities to determine which is greater

UNIT 7 MATH FOCUS POINTS

- Counting and ordering a sort by the number of items in each group
- Representing, counting, and comparing two quantities to determine which is more
- Describing, counting, and comparing the data in each of two categories

CLASSROOM ROUTINES

- Counting and comparing quantities
- Comparing two groups to determine how many more

The Number System

Understanding place value

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CLASSROOM ROUTINES

- Decomposing a number into groups of ten ones and some number of ones
- Counting groups of 10
- Practicing the rote counting by 10s sequence to 100

Addition and Subtraction

Understanding, representing, and solving addition and subtraction problems

UNIT 4 MATH FOCUS POINTS

- Combining two amounts
- Separating one amount from another
- Adding to or subtracting from one quantity to make another quantity
- Adding or subtracting one to/from numbers up to 10
- Finding the total after a small amount (1, 2, 3) is added to a set of up to 12
- Representing and solving addition and subtraction story problems with result unknown
- Decomposing numbers to 10 in different ways
- Exploring combinations of a number (e.g., 6 is 3 and 3 and also 5 and 1)
- Using numbers, and/or addition notation, to record how many

UNIT 6 MATH FOCUS POINTS

- Finding the total after 1, 2, or 3 is added to a set of up to 17
- Combining two numbers (0–10), with totals to 20
- Finding the result after 1, 2, or 3 is subtracted from a set
- Representing and solving addition and subtraction story problems with result unknown
- Developing strategies for solving addition and subtraction story problems with result unknown
- Solving put-together/take apart story problems with both addends unknown
- Decomposing numbers to 6 into two or more addends
- Using numbers, pictures, words, and/or addition/subtraction notation to represent a solution to a problem

UNIT 8 MATH FOCUS POINTS

- Finding the result after 1, 2, or 3 is subtracted from a set of up to 10
- Adding and subtracting within 5
- Using addition and subtraction notation to record
- Interpreting addition and subtraction notation
- Making a set, and representing the quantity equivalent to a given expression
- Developing strategies for solving addition and subtraction story problems with result unknown
- Using numbers, pictures, words, and/or addition or subtraction notation to represent a solution to a problem
- Decomposing 10 into two addends
- Finding a missing addend when the sum is 10

CLASSROOM ROUTINES

- Combining two amounts
- Separating one amount from another
- Determining the difference between two numbers
- Representing and solving addition and subtraction story problems with total/result unknown
- Solving a set of related problems
- Using an equation to represent addition and subtraction story problems
- Generating a story problem for a given addition/subtraction expression
- Making connections between an equation and the story context it represents

Kindergarten Geometry

Describing, identifying, and comparing 2-D shapes

UNIT 3 MATH FOCUS POINTS

- Developing language to describe and compare 2-D shapes and their attributes
- Relating 2-D shapes to real-world (3-D) objects
- Describing the attributes of circles and rectangles
- Describing the attributes of triangles and squares
- Describing attributes of hexagons

CLASSROOM ROUTINES

- Developing language to describe relative position

Composing and decomposing 2-D shapes

UNIT 3 MATH FOCUS POINTS

- Making 2-D shapes
- Combining smaller shapes to make larger shapes
- Finding combinations of shapes that fill a region

Describing, identifying, and comparing 3-D shapes

UNIT 5 MATH FOCUS POINTS

- Developing language to describe and compare attributes of 3-D shapes
- Relating 3-D shapes to real-world objects
- Relating 3-D objects to 2-D pictures of 3-D shapes
- Comparing and matching the faces of different 3-D shapes
- Matching a 3-D block to a 2-D outline of one of the block faces
- Describing attributes of 3-D shapes
- Describing and comparing the attributes of cones, cylinders, spheres, triangular prisms, cubes, and rectangular prisms
- Describing and comparing related 2-D and 3-D shapes (e.g., circle/sphere, square/cube)

CLASSROOM ROUTINES

- Developing language to describe relative position

Composing and decomposing 3-D shapes

UNIT 5 MATH FOCUS POINTS

- Building a replica of a 3-D model
- Making 3-D shapes with clay
- Combining 3-D shapes to make a replica of a given 3-D shape
- Composing rectangular prisms from cubes

Kindergarten Measurement

Understanding length

UNIT 2 MATH FOCUS POINTS

- Directly comparing two objects to determine which is longer
- Developing language to describe and compare lengths (long, longer than, short, shorter than, the same, equal to)

UNIT 4 MATH FOCUS POINTS

- Understanding what length is
- Identifying the longest dimension of an object
- Counting multiple units to quantify length
- Developing strategies for measuring the length of an object
- Comparing lengths of different objects

Understanding weight

UNIT 8 MATH FOCUS POINTS

- Understanding what weight is
- Comparing the weight of pairs of objects
- Developing strategies for measuring the weight of an object
- Using a pan balance to compare weight

Kindergarten Data

Sorting and classifying

UNIT 1 MATH FOCUS POINTS

- Exploring math manipulatives and their attributes
- Developing language to describe shapes, position, and quantity
- Identifying attributes (e.g., color, size, and shape) and developing language to describe them
- Comparing how objects are the same and different
- Finding objects that share at least one attribute
- Using attributes to sort a group of people or objects

UNIT 7 MATH FOCUS POINTS

- Identifying an attribute that two (or more) objects have in common
- Grouping data into categories based on similar attributes
- Using attributes to sort a set of objects in different ways
- Sorting the same set of data in different ways and analyzing the results

Collecting, representing, describing, and interpreting data

UNIT 1 MATH FOCUS POINTS

- Collecting and keeping track of survey data
- Describing, counting, and comparing the data in each of two categories

UNIT 7 MATH FOCUS POINTS

- Collecting, recording, and keeping track of survey data
- Choosing a survey question with two possible responses
- Representing a set of data
- Establishing and seeing the one-to-one correspondence between a set of data and a representation of this data set
- Interpreting the results of a data investigation
- Sharing the results of a data investigation
- Using data to solve a problem

CLASSROOM ROUTINES

- Collecting and keeping track of survey data
- Describing, counting, and comparing the data in each of two categories
- Using an equation to represent survey data
- Establishing one-to-one correspondence between equal groups (e.g., students and names on the chart; students and stick-on notes)