

CORE BODY OF KNOWLEDGE

Math-Kindergarten

Subject Area - Mathematics

Standard Area - 2.1: Numbers, Number Systems and Number Relationships

Grade Level - 2.1.K: GRADE K

2.1.K.A: Demonstrate the relationship between numbers and quantities, including one-to-one correspondence, and compare values of whole numbers up to 20 and beyond, to include values of money

2.1.K.B: Represent equivalent forms of the same number through the use of concrete objects (including money), drawings, word names, and symbols up to 20 and beyond.

2.1.K.C: Use concrete objects, drawings, diagrams or models to compose sets and decompose into equivalent and nonequivalent sets.

2.1.K.D: Use concrete objects to demonstrate place value concepts and base-ten numeration up to 20 and beyond.

2.1.K.E: Recognize even and odd number patterns.

2.1.K.F: Use concrete objects to solve addition and subtraction problems.

Standard Area - 2.2: Computation and Estimation

Grade Level - 2.2.K: GRADE K

2.2.K.B: Represent and explain the results of adding and subtracting sets of objects up to and including ten using math vocabulary

2.2.K.D: Estimate how many objects are in a set/group up to and beyond twenty objects and conclude the reasonableness of those estimates.

NUMBERS AND OPERATIONS: ANCHORS

**M.3.A.1 Demonstrate and understanding, ways of representing numbers, relationships among numbers and number systems*

**M3.A.1.2 Use fractions to represent quantities as part of a whole or part of a set*

**M3.A.1.3 Count, compare, and make change using a collection of coins and one-dollar bills*

**M3.A.2 Understand the meanings of operations, use of operations and understand how they relate to each other*

- *Use objects to represent and count the quantities 0-31*
- *Recognize and write the numerals that describe the quantities 0-31*
- *Compare two numbers using sets of objects and one to one correspondence to determine which number is greater and which is less*
- *Use objects and a number line to order numbers 0-31*
- *Use objects and ten frames to represent and count the quantities 11-31*
- *Use the words first through tenth to identify ordinal positions*

- *Use objects and a number line to skip count by 2s and 5s*
- *Find, identify, and record numbers through 31 on a calendar*
- *Identify equal parts of a whole*
- *Identify halves and fourths of a whole*
- *Solve problems involving equal shares*
- *Recognize a penny, nickel, dime, quarter, and dollar bill*
- *Identify the value of a given set of pennies, a nickel, and some pennies, and a dime and some pennies*
- *Compare the values of individual coins through 10 cents*
- *Use counters and/or ten frames to show numbers in two parts and in different combinations*
- *Find the number that is one/two more/fewer than*
- *Use the plus, minus, and equal signs to add/subtract to find sum/difference*
- *Write and solve addition and subtraction sentences*
- *Estimate quantities and measures*

Standard Area - 2.3: Measurement and Estimation

Grade Level - 2.3.K: GRADE K

2.3.K.A: Identify characteristics that are measurable and compare objects according to those characteristics.

2.3.K.B: Use concrete objects as non-standard units to estimate and measure.

MEASUREMENT: ANCHORS

***M3.B.1** *Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement*

- *Demonstrate calendar skills: days, months, seasons, yesterday, today and tomorrow*
- *Identify day, night, morning, afternoon, and evening*
- *Tell time to the hour on analog and digital clocks*
- *Identify activities or events that take more or less time*
- *Decide the order in which a sequence of events occurs*
- *Compare and order objects by size, length, capacity and weight*
- *Measure length using nonstandard units*
- *Estimate measures*

Standard Area - 2.9: Geometry

Grade Level - 2.9.K: GRADE K

2.9.K.A: Identify, describe and name common 2-dimensional geometric shapes.

2.9.K.B: Identify symmetry in real world situations

GEOMETRY: ANCHORS

**M3.C.1 Analyze characteristics and properties of two and three dimensional geometric shapes and demonstrate understanding of geometric relationships*

- *Identify spheres, cubes, cones, and cylinders*
- *Identify solid figures that roll, stack, or slide on a flat surface*
- *Describe the shape of a flat surface of a solid figure*
- *Identify and describe squares, rectangles, circles, and triangles*
- *Identify and describe triangles*
- *Identify a slide, a flip, and a turn*
- *Identify shapes that are symmetrical*

Standard Area - 2.8: Algebra and Functions

Grade Level - 2.8.K: GRADE K

2.8.K.A: Use concrete objects to demonstrate understanding of equal and not equal..

2.8.K.B: Recreate and explain simple story problems using manipulatives.

2.8.K.C: Recognize, describe, extend, replicate and transfer number and geometric patterns.

2.8.K.D: Use a rule represented by concrete objects to find a missing value.

2.8.K.E: Use concrete objects to represent mathematical situations.

ALGABRAIC CONCEPTS: ANCHORS

**M3.D.1 Demonstrate an understanding of patterns, relations, and functions*

**M3.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables, and/or graphs*

Standard Area - 2.4: Mathematical Reasoning and Connections

Grade Level - 2.4.K: GRADE K

2.4.K.A: Draw conclusions and describe thought process (es) (e.g., think aloud) related to problem solving situations.

2.4.K.B: Use concrete objects to explain precise terms of logic (e.g., all, or, every, none, some, or many).

Standard Area - 2.5: Mathematical Problem Solving and Communication

Grade Level - 2.5.K: GRADE K

2.5.K.A: Discuss how the problem was solved in grade appropriate contexts.

2.5.K.B: Use appropriate mathematical vocabulary when explaining how to solve a problem.

- Copy and extend sound movement, color, and shape patterns
- Compare patterns to find out how they are alike and different
- Solve problems by identifying patterns and showing the pattern in another way
- Create and extend patterns
- Write and solve addition and subtractions sentences

Standard Area - 2.6: Statistics and Data Analysis

Grade Level - 2.6.K: GRADE K

2.6.K.A: Gather data in response to questions posed to learners.

2.6.K.B: Organize and display objects by one or more attributes.

2.6.K.C: Answer numerical summation questions based on data shown on graphs or charts.

2.6.K.D: Answer comparative questions based on representations of data.

2.6.K.E: Draw conclusions about information shown on a graph or chart.

Standard Area - 2.7: Probability and Predictions

Grade Level - 2.7.K: GRADE K

2.7.K.A: Determine the likelihood of an event occurring using words like certain, likely, unlikely or impossible.

2.7.K.B: Predict outcomes of events.

2.7.K.E: Determine that there can be a difference between predicted and actual outcomes.

DATA ANALYSIS AND PROBABILITY: ANCHORS

**M3.E.1 Formulate or answer questions that can be addressed with data and/or organize display, interpret or analyze data*

- *Use one to one correspondence to compare two groups and determine whether one group has more, fewer, or as many as the other group*
- *Make and read a real graph*
- *Make and read a picture graph*
- *Collect and organize data in a bar graph to answer a question*

Standard Area - 2.10: Trigonometry

Grade Level - 2.10.K: GRADE K

Standard Area - 2.11: Concepts of Calculus

Grade Level - 2.11.K: GRADE K