

Math

KINDERGARTEN

STANDARD 1

The student understands and applies the concepts and procedures of number sense and operations

To meet this standard, the student will:

Benchmark K.1.1: Understand and represent whole numbers by exploring number relationships using concrete materials, drawings, numerals, and number worlds

Indicators:

- K.1.1.1 Count objects up to 100
- K.1.1.2 Count objects with reasonable accuracy to 30
- K.1.1.3 Demonstrate 1-1 correspondence between number and objects when counting
- K.1.1.4 Recognize written numbers to 30
- K.1.1.5 Write numbers 0-30 (some reversals expected)
- K.1.1.6 Recognize, name and write numerals by 10's to 100
- K.1.1.7 Identify ordinal numbers: first, second, third
- K.1.1.8 Count on from any number
- K.1.1.9 Demonstrate understanding of number value
- K.1.1.10 Describe parts of numbers to 10

Benchmark K.1.2: Compare and order whole numbers using concrete materials and drawings to develop number meanings

Indicators:

- K.1.2.1 Demonstrate an understanding of more and less
- K.1.2.2 Use vocabulary such as: shorter, longer, higher, etc
- K.1.2.3 Instantly recognize number arrangements or number groups to 10
- K.1.2.4 Seriate in numerical/chronological order

Benchmark K.1.3: Represent fractions (halves, fourths, and thirds as part of a whole) using concrete materials

Indicator:

- K.1.3.1 Represent and explain half as part of a whole using concrete materials and drawings (ex. half of a piece of cake)

K.1.3.8 Match, combine, and create sets

K.1.3.9 Name attributes of a set

K.1.3.10 Describe and identify sets

Key: 1 Grade 1.1 Standard 1.1.1 Benchmark 1.1.1.1 Indicator

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Benchmark K.1.4: Understand and use basic operations (addition and subtraction) of whole numbers using concrete materials and drawings

Indicator:

- K.1.4.1 Add and subtract whole numbers using up to 10 concrete items

Benchmark K.1.5: Estimate quantities in everyday life

Indicators:

- K.1.5.1 Estimate 10-20 objects
- K.1.5.2 Check for reasonableness of results using concepts and procedures

Benchmark K.1.6: Describe and explain the strategies used for problem solving

Indicators:

- K.1.6.1 Act out story-type problems using number manipulatives or concrete objects
- K.1.6.2 Recognize when an attempted approach is unproductive and try a new approach
- K.1.6.3 Recognize when information is missing or extraneous
- K.1.6.4 Use a variety of strategies and approaches
- K.1.6.5 Make and test predictions based on prior experience and known facts
- K.1.6.6 Apply appropriate operations to solve problems
- K.1.6.7 Solve simple oral work problems

Benchmark K.1.7: Understand the significance of numbers within the surrounding environment

Indicators:

- K.1.7.1 Use mathematical language to identify and describe numbers in real life situations
- K.1.7.2 Discuss the use of numbers and arrangement in real-life situations (e.g. there are 15 students in this class, 8 boys and 7 girls)
- K.1.7.3 Recognize that numbers are used in the Bible

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STANDARD 2

The student understands and applies concepts and procedures of patterns and algebra

To meet this standard, the student will:

Benchmark K.2.1: Identify, extend, and create number, geometric and other patterns

Indicators:

- K.2.1.1 Copy and extend simple repeating patterns
- K.2.1.2 Create simple repeating patterns
- K.2.1.3 Recognize, duplicate and extend patterns
- K.2.1.4 Investigate and recognize patterns formed by counting by fives and tens using concrete objects
- K.2.1.5 Create and expand patterns with three attributes

Benchmark K.2.2: Explore patterns and pattern rules

Indicators:

- K.2.2.1 Interpret patterns verbally
- K.2.2.2 Explore counting patterns
- K.2.2.3 Recognize patterns in the environment
- K.2.2.4 Given a rule expressed in informal language, extend a pattern
- K.2.2.5 Validate thinking using models, known facts, patterns, and relationships
- K.2.2.6 Support arguments and justify results based on experiences

Benchmark K.2.3: Identify relationships between and among patterns

Indicators:

- K.2.3.1 Translate from one pattern system to another (ex. sign language to letters of alphabet)
- K.2.3.2 Compare patterns using objects, pictures, actions, numbers and spoken words

Key: 1. Grade 1.1 Standard 1.1.1 Benchmark 1.1.1.1 Indicator

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STANDARD 3

The student understands and applies the concepts and procedures of geometry

To meet this standard, the student will:

Benchmark K.3.1: Identify, describe, compare, and classify polygons using concrete materials and drawings

Indicators:

- K.3.1.1 Begin to recognize basic shapes (spatial and plane shapes)
- K.3.1.2 Name and make shapes (circle, square, triangle, oval, kite, rectangle)
- K.3.1.3 Explore sorting of shapes by various attributes
- K.3.1.4 Look for shapes in their world
- K.3.1.5 Use math vocabulary for position (above, below, beside, next to, over, under, top, bottom, middle)
- K.3.1.6 Compare and contrast information

Benchmark K.3.2: Understand basic concepts in transformational geometry using concrete materials and drawing

Indicator:

- K.3.2.1 Explore symmetry

Benchmark K.3.3: Investigate the attributes and build three-dimensional objects and models

Indicator:

- K.3.3.1 Explore two and three dimensional shapes to see how they fit together

Key: 1 Grade 1.1 Standard 1.1.1 Benchmark 1.1.1.1 Indicator

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STANDARD 4

The student understands and applies the concepts and procedures of measurement

To meet this standard, the student will:

Benchmark K.4.1: Demonstrate an understanding of and ability to apply measurement terms: time (calendar, clock, passing), money, size, length

Indicators:

- K.4.1.1 Determine how long something is in non-standard measure
- K.4.1.2 Begin to understand the invariance of quantity under change of shape by having many experiences pouring liquids, sand, rice, etc.
- K.4.1.3 Explore the calendar
- K.4.1.4 Understand blocks of time (week, month)
- K.4.1.5 Experience telling time with a clock (digital and analog)
- K.4.1.6 Tell time to the hour
- K.4.1.7 Become familiar with coins (count pennies, nickels, dimes; match coin with prices)
- K.4.1.8 Explore money in context; recognize penny as one cent, can count pennies to ten cents

Benchmark K.4.2: Identify relationships between and among measurement concepts

Indicators:

- K.4.2.1 Compare objects by size (taller, shorter, longer, same, bigger, smaller, more, less, etc)
- K.4.2.2 Use math vocabulary for quantity and size (more, fewer, less, same, larger, smaller, equal)
- K.4.2.3 Begin to develop a sense of time (morning, noon, afternoon, evening, etc)
- K.4.2.4 Identify the days of the week in relation to yesterday, today, and tomorrow
- K.4.2.5 Understand passing of time (yesterday, tomorrow)

Benchmark K.4.3: Estimate and measure using measuring tools

Indicators:

- K.4.3.1 Identify instruments used to measure length (ruler), weight (scale), time (clock: digital/analog), calendar (day, month, season), temperature (thermometer)
- K.4.3.2 Experience measurement
- K.4.3.3 Reflect on and evaluate procedures and results in familiar situations

Key: 1. Grade 1.1 Standard 1.1.1 Benchmark 1.1.1.1 Indicator

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STANDARD 5

The student *understands and applies the concepts and procedures of data analysis and probability*

To meet this standard, the student will:

Benchmark K.5.1: Collect, organize and describe data using concrete materials and drawings

Indicators:

- K.5.1.1 Explore data collection
- K.5.1.2 Create and respond to a concrete graph (i.e. tally charts)
- K.5.1.3 Make and interpret bar graphs
- K.5.1.4 Create a plan for collecting information
- K.5.1.5 Organize mathematical information
- K.5.1.6 Express ideas using mathematical language and notation such as physical or pictorial models, charts and graphs

Benchmark K.5.2: Demonstrate an understanding of probability

Indicators:

- K.5.2.1 Explore concepts of likely and unlikely
- K.5.2.2 Investigate and describe the results of dropping a two colored counter or using a multicolored spinner

Key: 1 Grade 1.1 Standard 1.1.1 Benchmark 1.1.1.1 Indicator

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