



ICAM Content Specifications

Grade 4 Mathematics

11/12/01

ICAM Content Specifications: Fourth-Grade Mathematics

Module: Problem-Solving Strategies and Process

Form: X or Y

Description: This assessment module consists of a total of 10 multiple-choice questions and three open-ended questions. One of the open-ended questions is scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended questions are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|--|-----------------|
| 1.1 Translates verbal situations into mathematical language and symbols | 3 |
| 1.2 Uses strategies to understand and solve problems | 16 |
| 1.3 Identifies relevant and irrelevant information when solving problems | 1 |
| Total Points: | 20 |

ICAM Content Specifications: Fourth-Grade Mathematics

Module: Number Concepts & Operations

Form: Z

Description: This assessment module consists of a total of eight multiple-choice questions and four open-ended questions. Two of the open-ended questions are scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended questions are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|---|-----------------|
| 2.1 Understands the meaning of place value and rounds whole numbers (e.g., nearest hundred or thousand) | 3 |
| 2.2 Understands whole numbers, fractions, decimals, percents, and mixed numbers and the relationships among them and their equivalent representations | 6 |
| 2.3 Knows the concept of basic operations and understands the relationships among arithmetic operations (e.g., inverse operations, multiplication is repeated addition) | 2 |
| 2.4 Solves problems using number concepts (e.g., relative magnitude, equivalent forms, factors and multiples, place value, and rounding) | 9 |
| Total Points: | 20 |

ICAM Content Specifications: Fourth-Grade Mathematics

Module: Measurement

Form: X or Y

Description: This assessment module consists of a total of eight multiple-choice questions and four open-ended questions. Two of the open-ended questions are scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended questions are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|--|-----------------|
| 3.1 Solves problems involving the basic measures of length, perimeter (circumference), area, and volume | 2 |
| 3.2 Uses measurement tools appropriately (e.g., thermometer, scale, ruler, clock) for given situations | 3 |
| 3.3 Solves problems involving money and making change | 8 |
| 3.4 Knows approximate size of basic standard units of measurement and the relationships between them, selects and uses appropriate units of measurement (both metric and standard) according to type and size of unit, and estimates quantities and measurements | 3-4 |
| 3.5 Tells time to the nearest minute and calculates elapsed time by using both types of clocks | 3-4 |
| Total Points: | 20 |

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Module: Geometry

Form: X or Y

Description: This assessment module consists of a total of eight multiple-choice questions and four open-ended questions. Two of the open-ended questions are scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended questions are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|---|-----------------|
| 4.1 Understands the basic properties of different types of lines and knows the geometric language for describing and naming them (i.e., parallel, perpendicular, and intersecting lines) | 4 |
| 4.2 Understands the basic properties of different types of angles and knows the geometric language for describing and naming them (i.e., right, obtuse and acute angles) | 2 |
| 4.3 Understands basic properties of two- or three-dimensional figures (e.g., dimensionality, number of faces, symmetry, congruency) and knows the geometric language for describing and naming them | 14 |
| Total Points: | 20 |

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Module: Data Interpretation, Statistics, & Probability **Form:** X or Y

Description: This assessment module consists of a total of eight multiple-choice questions and four open-ended questions. Two of the open-ended questions are scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended questions are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|--|-----------------|
| 5.1 Reads and interprets data in simple tables and graphs (e.g., bar graphs, pictographs, pie charts, and line graphs) | 4 |
| 5.2 Organizes and displays data in simple bar graphs | 4 |
| 5.3 Understands concepts of mode and range | 4 |
| 5.4 Understands that the word “chance” refers to the likelihood of an event and recognizes events that are sure to happen, sure not to happen, and may or may not happen | 8 |
| Total Points: | 20 |

ICAM Content Specifications: Fourth-Grade Mathematics

Module: Patterns, Functions, & Algebra

Form: X or Y

Description: This assessment module consists of a total of nine multiple-choice questions and three open-ended questions. Two of the open-ended questions are scored using a 3-point (0 to 2) focused-holistic rubric. The remaining open-ended question is scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|--|-----------------|
| 6.1 Recognizes and extends a wide variety of patterns (e.g., basic linear patterns such as [2,4,6,8...]; simple repeating and growing patterns) | 6 |
| 6.2 Knows that a variable is a letter or symbol that stands for one or more numbers and solves simple open sentences involving operations with whole numbers | 2 |
| 6.3 Understands the basic concept of an equality (i.e., an equation is a number sentence that shows two quantities that are equal) | 5 |
| 6.4 Solves problems using patterns | 4 |
| Total Points: | 17 |

ICAM Content Specifications: Fourth-Grade Mathematics

Module: Solving Work-Related Math Problems

Form: X or Y

Description: This assessment module consists of a total of nine multiple-choice questions and three open-ended questions. One of the open-ended questions is scored using a 3-point (0 to 2) focused-holistic rubric. The remaining two open-ended question are scored using a 5-point (0 to 4) focused-holistic rubric.

| Benchmarks | Points Possible |
|--|-----------------|
| 7.1 Solves work-related mathematics problems using a variety of basic mathematical concepts and computations | 19 |
| Total Points: | 19 |