NAME _____   DATE _____

Fourth Grade Math Skills & Concepts Student Report

Explanation of Color Coding
Pink: Just beginning to utilize this skill or concept
Green: Developing an understanding of this skill or concept
Yellow: Proficient with this skill or concept

EARLY FOURTH GRADE	LATE FOURTH GRADE	BEYOND FOURTH GRADE
Numbers & Numeration		
Reads, writes, and understands numbers to 99,999.	Reads, writes, and understands numbers to 1,000,000.	Reads, writes and understands numbers to 1,000,000.
Understands, models, reads, writes, orders and compares common fractions (e.g. ½, ⅓, ¼, ⅛, ¹⁄₁₆) using concrete models and visual representations.	Creates, models, and recognizes equivalent forms of common fractions and decimals to hundredths (e.g. ¾ = .75).	Demonstrates meanings for fractions in different contexts (area, set, number line) and recognizes relationships between different forms such as mixed numbers, improper fractions, and decimals.
Basic Facts		
Knows addition and subtraction facts to 20.		
Knows multiplication facts through 6 × 10.	Knows and fluently uses multiplication facts through 10 × 10. Developing efficient strategies for quickly determining division facts.	Knows and fluently uses multiplication and division facts through the 12's, as well as factors and multiples through 144.
Multi-Digit Computation		
Adds and subtracts up to 3-digit numbers with and without regrouping using models and a variety of efficient paper/pencil and mental strategies.	Adds and subtracts up to 4-digit numbers with and without regrouping using efficient paper/pencil and mental strategies.	Uses addition, column addition, and subtraction with multi-digit numbers (5 or more digits) in an efficient manner, making judicious use of mental strategies, estimation, rounding, and calculators.
Developing strategies to multiply 2- and 3-digit numbers by 1-digit numbers, including the use of multiples of 10 or 100 (e.g. 10 × 4 = 40, 20 × 4 = 80, 200 × 4 = 800).	Multiplies and divides 2- and 3-digit numbers by 1-digit numbers, using a variety of concrete, visual, and paper/pencil methods.	Multiplies 2-digit by 2-digit numbers and divides 3-digit by 1- and 2-digit numbers with and without remainders using a variety of efficient mental and paper/pencil strategies.
Story Problems		
Poses and solves addition, subtraction, multiplication, and division story problems using a variety of efficient paper/pencil and mental strategies.	Poses and solves multi-step story problems involving addition, subtraction, multiplication, and division using a variety of efficient paper/pencil and mental strategies.	Describes, compares, chooses and accurately uses strategies and operations for a variety of problem situations.
Algebraic Thinking		
Describes, extends, and makes verbal and written generalizations about numeric and geometric patterns to make predictions and solve problems.	Represents and analyzes patterns and functions using words, tables, graphs, or number sentences.	Represents and analyzes patterns and functions using words, tables, graphs, or simple algebraic expressions.
Geometry		
Identifies right angles in geometric figures or in appropriate objects and determines whether other angles are greater than or less than a right angle.	Identifies right, acute, and obtuse angles in isolation and in geometric figures.	Draws conclusions about the measures of corresponding sides and angles in two congruent or similar triangles or quadrilaterals.
Creates shapes with lines of symmetry using concrete models. Identifies shapes that have line symmetry.	Identifies line and rotational symmetry in 2-dimensional shapes and designs. Builds or draws shapes with line and/or rotational symmetry.	Identifies and describes line and rotational symmetry in 2- and 3-dimensional shapes and designs.

Fourth Grade Math Skills & Concepts Student Report (cont.)

EARLY FOURTH GRADE	LATE FOURTH GRADE	BEYOND FOURTH GRADE
Geometry (cont.)		
Recognizes, describes, compares, and draws a variety of 2- and 3-dimensional shapes (e.g. pentagon, octagon, square, rectangle, cube).	Describes, compares, and analyzes 2- and 3-dimensional shapes both singly and in relation to one another. Uses a variety of geometric terms including face, edge, point, vertex, parallel, perpendicular, and congruent.	Uses properties of triangles and quadrilaterals to determine the lengths of their sides and perimeters, and to identify, describe, compare, and classify different types of triangles and quadrilaterals.
Measurement		
Identifies the size of the most commonly used units (inch, foot, yard; centimeter, meter; cup, quart, and gallon) to make reasonable estimates and measurements. Selects the unit and tool that is most appropriate in a given situation.	Makes realistic estimates and measurements using most common units of measure (inch, foot, yard; cup, quart, gallon; ounce, pound; centimeter, meter; milliliter, liter; gram, kilogram) and selects the unit and tool most appropriate for a given situation.	Selects and accurately uses appropriate units and tools for measuring length, perimeter, weight, and capacity in both metric and U.S. customary systems. Determines measurements of length and perimeter to the nearest tenth centimeter and nearest tenth meter.
Develops strategies for determining the area and perimeter of a rectangle. Uses models or sketches to demonstrate the fact that perimeter means the distance around something, while the area refers to the size of its surface.	Develops strategies for finding the perimeter and area of rectangles and related triangles and parallelograms.	Develops and uses formulas for determining the perimeter and area of rectangles and related triangles and parallelograms.
Telling Time & Determining Elapsed Time		
Tells time on digital and analog clocks to the minute and determines elapsed time in minutes and hours.	Determines elapsed time requiring unit conversions (e.g., weeks to months, minutes to hours).	Uses time fractions as operants, and then converts back to whole numbers (e.g., $1\frac{1}{4}$ + $1\frac{1}{4}$ hours = $2\frac{1}{2}$ hours, and $2\frac{1}{2}$ hours = 150 minutes).
Data Analysis		
Reads and interprets bar graphs, line plots, and pictographs, including displays in which each division stands for more than 1 item.	Reads, interprets, and constructs properly labeled tables, bar graphs, line plots, pictographs, circle graphs, and line graphs. Is able to use these displays to find the mode, median, and range of a data set, as well as to draw, support, and communicate conclusions.	Is able to read, interpret, and construct a wide variety of well-labeled graphic displays, and can use such displays to find the mode, median, mean, and range of a data set, as well as to draw, support, and communicate conclusions.
Probability		
Predicts the likelihood of a particular outcome based on the initial conditions of a simple game or activity involving spinners, coins, or number cubes. Records and systematically keeps track of the outcomes when an event is repeated many times.	Expresses the outcomes of probability experiments verbally and numerically using both whole numbers and fractions (e.g., 3 out of 4 or ¾), and compares predicted probability with the actual results.	Determines all the possible outcomes of a situation in an organized manner, and expresses the probability of each numerically. Compares experimental probability to the theoretical probability of a particular outcome.
Problem Solving Strategies		
Uses several problem-solving strategies flexibly and fluently, including looking for a pattern, guess and check, using an organized list, and making a sketch or enacting the situation.	Develops and applies strategies to solve a wide variety of problems: verifies and interprets results with respect to the original problem. Developing the ability to remain engaged with a problem even when temporarily stuck.	Develops and applies strategies to solve a wide variety of problems; verifies and interprets results with respect to the original problem. Demonstrates patience and persistence in solving problems.

EARLY FOURTH GRADE	LATE FOURTH GRADE	BEYOND FOURTH GRADE
Communication Skills		
Engages in pair sharing and class discussions using active listening and respectful behaviors. Understands the importance of listening to and learning from others' ideas.	Engages in pair sharing and group discussions and is able to elaborate on or paraphrase the ideas of others. Is able to disagree with grace and ask meaningful questions to clarify understanding.	Engages in pair sharing and group discussions. Feels comfortable with disagreement or confusion and knows how to respectfully ask questions or challenge ideas. Accepts feedback from classmates or teacher as a learning opportunity instead of as a criticism.
Is able to explain and justify ideas and conclusions using labeled sketches, number sentences, and words.	Is able to revise written work to communicate ideas and conclusions more completely.	Communicates thinking and reasoning in a clear and coherent manner using mathematical language precisely.

Comments

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