

Matrix: A Very Tall Lady

Student's Name:		Grade Level:		School:	
Analytical Score:			Holistic Score: N A P E		
<input type="checkbox"/> Understanding:		N A P E		Comments or Observations:	
<input type="checkbox"/> Reasoning, Strategies, & Mathematical Procedures:		N A P E			
<input type="checkbox"/> Communication:		N A P E			
APS MATHEMATICS STRAND: GEOMETRY, SPATIAL SENSE, AND MEASUREMENT					
GRADE: THIRD					
Uses knowledge of geometry to develop spatial visual skills.		Uses benchmarks (e.g., handspan, length of arm) to gain a sense of size of objects.		Explains the reasons for discrepant measurements of the same object in everyday situations.	
Compares and measures objects with respect to a given attribute (e.g., length, area, perimeter, volume, weight).		Selects and uses standard measurement units in everyday situations.			
GRADE: FOURTH					
Represents and solves real-world problems using geometric models.		Uses both U.S. and metric tools for linear measurement, volume, and mass.		Selects and uses the appropriate tool based on the type and size of the unit to be measured and explains the selection (e.g., square units are used for finding areas and cubic units are used for finding volume).	
GRADE: FIFTH					
Uses measures of money and time, U.S. and metric measures of length, weight, and volume to solve problems and makes estimates.		Carries out simple unit conversions, (e.g., from centimeters to meters) within a system of measurement.			

APS MATHEMATICS STRAND: NUMBER SENSE AND OPERATIONS

GRADE: THIRD

Selects and uses an appropriate method for adding and subtracting using mental arithmetic.		Models concepts of addition and subtraction of two- and three-digit numbers, with and without regrouping, in a variety of ways.		Models, represents, and explains multiplication and division equations and situations using words, pictures, manipulatives, etc.	
Uses and explains standard addition and subtraction notation (i.e., equations) to represent word problems.		Uses and explains estimation strategies used to solve situational story problems.		Explores the theory that fractions and decimals are two different representations of the same concept (e.g., .50 is $\frac{1}{2}$ of a dollar).	
Uses and explains anchor numbers, decomposing, and recombining strategies to combine and compare quantities in the 100s [e.g., $37+54=(30+7)+(50+3+1)=30+50+10+1=90+1=91$].		Solves addition/subtraction problems with a variety of givens and unknowns.			

GRADE: FOURTH

Estimates and solves addition and subtraction problems using a variety of strategies (e.g., mental math, calculators, spreadsheets, anchor numbers, and pencil/paper).		Explains that what to do with "remainders" in division depends on the situation (e.g., How many cars do you need to take 9 people to the zoo, if each car can hold 4 people?).		Reads, writes, compares, and models tenths and hundredths in decimal and fractional notation.	
Estimates and solves multiplication/division problems involving multi-digit numbers multiplied/divided by one-digit numbers using a variety of efficient strategies [e.g., mental math, anchor numbers, distributive property (decomposing and recombining)] and determines if the answer is reasonable.		Solves multiplication and division problem situations with a variety of givens and unknowns (e.g., $4 \times 3 = ?$, $3 \times ? = 12$).		Represents decimals and their relationship to fractional equivalents using a variety of strategies.	

GRADE: FIFTH				
Develops, compares, and selects a strategy that is efficient and accurate when solving addition, subtraction, multiplication, and division problems.		Selects the appropriate operation involving addition, subtraction, multiplication, and division from situational story problems, and uses relationships among the four basic operations to solve them.		Estimates and solves problems involving sums, differences, products, and quotients and justifies the reasonableness of the solutions.
APS MATHEMATICS STRAND: DATA ANALYSIS, STATISTICS, AND PROBABILITY				
GRADE: THIRD				
Uses averaging in everyday problem situations.				
APS MATHEMATICS STRAND: PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS				
GRADE: FOURTH				
Finds patterns by organizing data in T-charts and describes the growing pattern numerically.		Represents the idea of a variable as an unknown quantity using a letter or a symbol (e.g., $3 + ? = 7$; $3 + \underline{\quad} = 7$; $3 + a = 7$).		
GRADE: FIFTH				
Uses T-charts to represent patterning with functions.		Uses patterns and numerical rules to represent and solve problems.		Uses variables and open sentences to express simple, single-step algebraic equations (e.g., $2 + n = 5$).
APS MATHEMATICS STRAND: GLOBAL MATHEMATICAL PROCESSES				
GRADE: KINDERGARTEN THROUGH TWELTH				
Develops resourcefulness and perseverance in problem solving in mathematics and other disciplines.		Works in teams to share ideas, to develop and coordinate group approaches to problems, and to communicate findings.		Recognizes and applies mathematics in contexts outside the mathematics course.

Recognizes when to use previously learned strategies to solve new problems.		Communicates mathematical thinking coherently and clearly to others.		Develops a repertoire of mathematical representation (e.g. pictures, written symbols, oral language, real-world situations, and manipulative models) that can be used purposefully and appropriately interchangeably.	
Develops and uses strategies (e.g., breaking complex problems into simpler parts) for solving given problems.		Analyzes and evaluates mathematical thinking and strategies of others.		Selects, applies, and translates among mathematical representations to solve problems.	
Monitors, discusses, and reflects on the process of mathematical problem solving.		Relates applications to mathematical language in various modalities.		Uses representations to model and interpret physical, social, and mathematical phenomena.	
Makes and investigates mathematical conjectures and uses them successfully in developing and evaluating mathematical arguments and proofs.		Identifies and connects functions with real-world applications.		Uses manipulatives, calculators, computers, and other tools as appropriate in order to strengthen mathematical thinking, understanding, and power to build upon foundational concepts.	