

Matrix: Packing Predicament

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: SIXTH					
Selects and applies appropriate formulas to solve problems.		Measures objects using U.S. and metric units for length, volume, mass, and area.			
Draws and explains congruent two-dimensional figures using mathematical terminology.		Converts accurately from one unit to another accurately within the same system (e.g., 36 inches = 3 feet or 2 kilometers = 2000 meters).			
GRADE: SEVENTH					
Develops and tests strategies for finding volume and surface area of polyhedra, cylinders, and cones.		Selects and applies appropriate formulas to solve problems.		Finds length, area, volume, and angle measures to appropriate levels of precision selecting appropriate techniques and tools.	
Translates problem-solving strategies into formulas for surface area and volume using appropriate mathematical symbols (e.g., cubic feet = ft ³).		Uses appropriate standard units for estimating measurements.			
APS MATHEMATICS STRAND: NUMBER SENSE AND OPERATIONS					
GRADE: SIXTH					
Uses commutative, associative, identity, zero, and distributive properties when solving problems.		Develops and tests strategies for adding, subtracting, multiplying, and dividing decimals.		Determines when an exact answer is necessary or when an estimate is appropriate (e.g., medicine dosage vs. number of people at a concert).	

Mathematics Standards Matrix: Packing Predicament – Grade 8

APS/RDA/CHF: Performance-Based Mathematics Assessment 2001-02

*Performance Standards are based on the APS K – 12 Mathematics Content and Performance Standards – Final 2001

Selects an appropriate operation (i.e., +, -, x, ÷) to solve situational story problems.		Estimates and solves problems involving decimals and justifies the reasonableness of the solution.			
Selects and uses the appropriate number form (e.g., fraction, decimal, or percent) in a variety of situations, including measurement in U.S and metric systems.		Uses the appropriate estimation strategy for a variety of situations.			
GRADE: EIGHTH					
Shows flexibility using multiple number representations; identifies relationships involving the subsets of the real number system (e.g., order, least to greatest: 1, $\sqrt{2}$, $\sqrt{3}$, 2).		Manipulates all real numbers, their properties, and operations.		Develops and uses strategies to estimate the results of rational-number computations and judges the reasonableness of the results.	
Selects appropriate mathematical representations to describe thought-provoking real-life situations.		Develops and evaluates arguments involving real numbers, their patterns and operations.			
APS MATHEMATICS STRAND: DATA ANALYSIS, STATISTICS, AND PROBABILITY					
GRADE: EIGHTH					
Interprets data and makes conclusions from data.					
APS MATHEMATICS STRAND: PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS					
GRADE: SIXTH					
Analyzes the use of variables to represent quantities (e.g., area of a rectangle: $A = lw$).		Solves one-step equations using the concept of balance when quantities are added, subtracted, or divided to both sides of an equation.			
GRADE: SEVENTH					
Develops and tests strategies for solving two-step equations.					

Mathematics Standards Matrix: Packing Predicament – Grade 8

APS/RDA/CHF: Performance-Based Mathematics Assessment 2001-02

*Performance Standards are based on the *APS K – 12 Mathematics Content and Performance Standards* – Final 2001

GRADE: EIGHTH					
Simplifies algebraic expressions including rational expressions.		Develops and tests strategies for solving multi-step equations.			
Investigates and applies the basic mathematical properties (e.g., commutative, associative, distributive, identity, and zero) in a variety of situations.		Solves equations for specified variables (e.g., solve for h if $A = bh/2$).			
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.	