

# Matrix: Ice Cream

<b>Student's Name:</b>		<b>Grade Level:</b>		<b>School:</b>	
<b>Analytical Score:</b>			<b>Holistic Score: N A P E</b>		
<input type="checkbox"/> Understanding:		N A P E		<b>Comments or Observations:</b>	
<input type="checkbox"/> Reasoning, Strategies, & Mathematical Procedures:		N A P E			
<input type="checkbox"/> Communication:		N A P E			
<b>APS MATHEMATICS STRAND: PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS</b>					
<b>GRADE: KINDERGARTEN</b>					
<b>Identifies, describes, and extends</b> patterns with familiar objects in both classroom and real-life situations.		<b>Creates, describes, and extends</b> patterns.			
<b>GRADE: FIRST</b>					
<b>Identifies, describes, creates, and extends</b> patterns observed in familiar objects in real-life situations (e.g. 1 child = 2 eyes, 2 children = 4 eyes).		<b>Describes</b> how a pattern develops, repeats, and builds toward more complex patterns.			
<b>GRADE: SECOND</b>					
<b>Describes, creates, and extends</b> a wide variety of patterns.		<b>Identifies</b> patterns in the number system (e.g., 5, 10, 15...).		<b>Develops and applies</b> more complex patterns and relationships in real-life and mathematical problem situations.	
<b>APS MATHEMATICS STRAND: NUMBER SENSE AND OPERATIONS</b>					
<b>GRADE: KINDERGARTEN</b>					
<b>Demonstrates</b> one-to-one correspondence by keeping track of quantities while counting.		<b>Represents</b> numbers in a variety of equivalent ways (e.g., dots, pictures, numerals).		<b>Demonstrates</b> that the number of objects (up to 20) does not change when the objects are moved or rearranged.	

<b>Creates</b> a set of a given size.		<b>Records</b> numerical information using pictures, words, and/or numbers.		<b>Records</b> strategies for solving, combining, and separating problems using pictures, numbers, equations, and words.	
<b>Combines and separates</b> sets of objects with quantities and <b>identifies</b> the parts and the whole.		<b>Forms and counts</b> groups of objects (e.g., 2s, 5s, 10s).			
<b>GRADE: FIRST</b>					
<b>Counts</b> orally by 2s to 30 and by 5s and 10s to 100.		<b>Finds</b> the sum or difference of two quantities up to 20 using symbols in problem-solving situations (e.g., $12+5=17$ , $12-5=7$ ).		<b>Records</b> strategies for solving, combining, and separating problems using pictures, numbers, equations, and words.	
<b>Forms and counts</b> groups of objects (e.g., 2s, 5s, 10s).		<b>Examines</b> the concept of ordered pairs by linking commonly paired relationships (e.g., How many legs do 3 chickens have?).		<b>Records</b> strategies for solving, combining, and separating problems using pictures, numbers, equations, and words.	
<b>Represents</b> equivalent forms of the same number (i.e., part – part – whole) through the use of physical models, diagrams, and number expressions to 20 (e.g., $3+5=8$ , $7+1=8$ , $2+6=8$ ).		<b>Demonstrates</b> that the number of objects (up to 20) does not change when the objects are moved or rearranged.			
<b>Builds, estimates, and compares</b> combinations of numbers to 20 in different ways using pictures, stories, and objects to model the combinations.		<b>Constructs</b> a mental image of combining and separating quantities in problem situations.			
<b>GRADE: SECOND</b>					
<b>Counts</b> by 2s to 100, by 5s and 10s to 200 and by 100s to 1,000.		<b>Analyzes</b> relationships of quantities to 20 using part – part – whole (e.g., $1+7$ , $2+6$ , $3+5$ , $4+4$ : all equal 8.).		<b>Uses and explains</b> multiple strategies to solve addition and subtraction problems, with and without re-grouping, using two-digit numbers.	

<b>Applies</b> patterns in skip counting; <b>compares and defends</b> the relationship between skip counting, grouping, and equal sets.		<b>Identifies</b> number sequences (e.g., 12, 14, 16... what comes next?).		<b>Decomposes and recombines</b> numbers in logical ways to solve problems (e.g., $8+5 = (3+5)+5 = 3+(5+5) = 3+10=13$ ).	
<b>APS MATHEMATICS STRAND: GLOBAL MATHEMATICAL PROCESSES</b>					
<b>GRADE: KINDERGARTEN THROUGH TWELTH</b>					
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.	