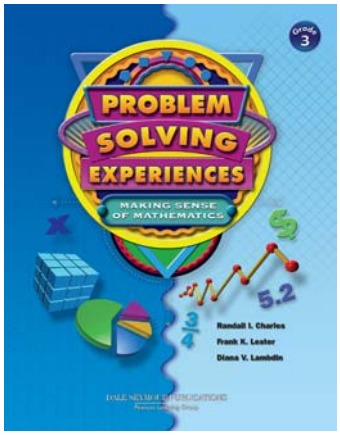
PROBLEM SOLVING EXPERIENCES ©2005

CONTENT ALIGNMENT GUIDE TO

SCOTT FORESMAN'S

INVESTIGATIONS IN NUMBER, DATA, AND SPACE® CURRICULUM

Grade 3



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Mathematical Thinking at Grade 3 (Introduction)
Students are introduced to content, processes, and materials for solving problems in mathematics. They are introduced to a way of approaching mathematics that empasizes thinking, strategy use, communication and collaboration.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Counting and grouping quantities to make 100		1:1	1:1			1:1				1:1
Becoming familiar with number patterns on the 100 chart	31		1:2-3	1:2-3		1:2-3				1:2-3
Exploring materials, includnig the calculator, to be used throughout the curriculum as tools for solving problems			1:1,2-3 2:1,5-7 3:3-4 4:2 TMM	1:1,2-3 3:3-4 4:2 TMM	1:1,2-3 3:3-4 4:2	2:1				
Using grouping to count		3:3-4	1:1 3:3-4							
Constructing symmetrical patterns	101		2:1,3-4	2:1,3-4		2:1,3-4			2:1,3-4	2:1
Learning the addition combinations from 1+ 1 to 10 + 10	81		2:1,2, 3-4	2:1,2, 3-4 TMM	2:1,2, 3-4					2:1,2
Developing and using strategies to combine and compare quantities	17, 56	3:3-4	2:2,5-7 3:3-4 4:1 TMM	2:2,5-7 3:3-4 4:1 TMM	2:2,5-7 3:3-4 4:1 TMM					2:5-7 4:1
Exploring what happens when you add or subtract 10 or 20	4		1:1 2:3-4, 5-7	1:1 2:3-4, 5-7	1:1 2:3-4, 5-7					1:1 2:3-4, 5-7
Exploring what numbers can be divided evenly			2:3-4 4:2	2:3-4						
Reviewing the values of coins and finding the values of collections of coins	89		2:5-7 TMM	2:5-7 TMM	2:5-7 TMM					
Sorting and classifying information	20, 41, 80		3:3-4					3:1-2 3:3-4		3:1-2
Collecting, recording, and representing data	7, 116, 120		3:3-4					3:1-2, 3-4 TMM		3:1-2, 3-4 TMM
Exploring the characteristics of odd and even numbers and how they behave when combined	30, 35, 40, 150		4:1,2,3	4:1,3	4:1					4:1
Working with wholes and halves			4:2	4:2	4:2				4:2	4:2
Developing awareness of the decimal point and its meaning	54, 95, 138		4:2	4:2					4:2	

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Things That Come in Groups (Multiplication and Division)
Students work with things that come in groups, with patterns in the multiplication tables using 100 charts, and with rectangular arrays. They invent and solve problems in multiplication and division.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Finding things that come in groups	1		1:1,2	1:2	1:2					
Using multiplication to mean groups			1:1,2 2:3-4	1:1,2, 3,4 2:3-4	1,2,3,4 2:3-4					1:1,2
Recognizing that skip counting represents multiples of the same number and has a connection to multiplication			2:1,2, 3-4 5:3 TMM	1:4, 2:1,2, 3:4, 5:1, TMM	5:1					TMM 2:2
Finding patterns in multiples of 2, 3, 4, 5, 6, 9, 10, 11, and 12 by using the 100 chart and the calculator	66		2:1,2, 3-4,5-6	2:1,2, 3-4,5-6						2:1,2, 3-4,5-6
Understanding that number patterns can help in multiplication	61, 88, 126			2:3-4	2:3-4					2:3-4
Recognizing that multiplication can be used to find the area of a rectangle			3:3	3:1,2,3	3:3	3:1,2,3				
Using arrays to skip count; multiplying and dividing with skip counting	16		3:2,3	3:1,2,3	3:2,3	3:1,2,3				3:2
Finding factor pairs	50, 137			3:2,3	3:2,3 4:1	3:2				3:3 4:1
Understanding relationships between multiplication and division	129			1:3 3:3 4:1 5:4	3:3 4:1 5:4	3:3				3:3 5:4
Identifying whether word problems can be solved using division and/or multiplication	10, 98, 107, 108, 112, 117, 124, 128, 133, 148			4:1,3-4	4:1,3-4					
Using multiplication and/or division notation to write number sentences	46, 111, 118, 122, 123, 132, 134, 139, 143			1:2,4 2:3-4 4:1	4:1					
Using patterns to solve multiplication and division problems	55			3:3	3:3 5:1	3:3				3:3, 5:1
Organizing and presenting data in tables and line plots	26, 146			5:1,3	5:1,3				5: 1,3	5:1
Sorting out complex problems that require both multiplication and addition	69, 79, 84, 114, 119, 144		5:4	5:1,4	5:1,4				5:1	5:4
TMM - Describing events as likely and unlikely	140							4:2 5:1 TMM		

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Flips, Turns, and Area
(2-D Geometry)
Students develop spatial visualization abilities as they investigate, measure, and compare area of shapes. They explore geometric motions--slides, flips and turns--as well as measuring area in units and half-units.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Measuring area by covering a flat space with square units			1:2-3 2:2-3, 4-5	1:2-3, 4-5	2:4-5	1:1,2-3 2:1, 2-3,4-5	1:1,2-3 2:1, 2-3,4-5			1:2-3
Systematically finding all possible geometric arrangements of a given number of squares						1:1				1:1
Finding patterns for covering a space	125					1:1,2-3	1:1,2-3			1:1,2-3
Comparing areas of rectangles that have different dimensions			1:4	1:4,5		1:4,5	1:4,5			1:4,5
Describing physical motions precisely as a series of slides, flips, and turns						1:1, 2-3,5 2:2-3				1:2-3
Comparing the area of two shapes by determining whether they cover the same amount of flat space	135					2:2-3	2:2-3			
Comparing shapes to determine congruence through motions such as rotation (turns) and reflection (flips)						2:2-3, 4-5				2:2-3
Exploring relationships amoung shapes (for example, a rectangle can be cut into two triangles, each of which is half the area of the rectangle)						2:2-3, 4-5	2:2-3,4-5		2:2-3	
Finding the area of complex shapes by identifying smaller units of area, such as square units and half units						2:1,4-5	2:1,4-5			
TMM--Finding alternative ways to arrive at the same numerical solution	106		1:2-3 2:2-3 TMM	1:2-3 2:2-3 TMM	1:2-3 2:2-3 TMM					1:2-3 2:2-3 TMM

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

From Paces to Feet
(Measuring and Data)
Students explore the need for standard measurement, learn to use different measuring tools and systems, and interpret data they collect by measuring.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Using a nonstandard unit to measure a distance and experiencing the iterative nature of measurement		1:1, 2, 3-4				1:1, 2, 3-4	1:1, 2, 3-4	1:1,2		
Estimating length in "paces" by visualizing the unit "pace" repeated over a distance		1:1, 2, 3-4				1:1, 2, 3-4	1:1, 2, 3-4			
Comparing the effects of measurement using units of different sizes	15	1:2				1:1, 2	1:1, 2 2:2	1:1, 2 2:2		2:2
Describing the shape of the data and analyzing it for patterns	136							1:2		1:2
Examining a set of data to determine which is the "middle-sized" piece	130					1:5-6	1:5-6 2:2	1:5-6 2:2		1:5-6 2:2
Understanding the rationale for a standard measure						1:5-6 2:1	1:5-6 2:1			
Developing familiarity with inches, feet, and yards						2:1, 3-4	2:1, 2, 3-4	2:1, 3-4		2:1,2
Developing awareness of centimeters and meters and how big these units of measure are						2:5, 6-7 4:1-3	2:5, 6-7 4:1-3	2:6-7		
Describing a set of data that involve measurements by representing the data on a line plot and then by describing the general features of the data	26,96					2:3-4	2:2, 3-4, 5, 6-7	2:2, 3-4, 5, 6-7		2:2, 3-4, 5
Using standard measures (US standard or metric) in complex situations to gather and analyze data concerning size and proportion	63					3:2-3 4:1-3	2:6-7 3:1,2-3 4:1-3	2:6-7 3:2-3		3:2-3
TMM--Estimating solutions to arithmetic problems and using mental computation strategies to find an answer	37,82	1:2, 5-6 TMM	1:2, 5-6 TMM	1:2, 5-6 TMM	1:2, 5-6 TMM					
TMM--Developing a visual image of a geometric figure						2:2, 5 TMM				

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Landmarks in the Hundreds
(The Number System)
Students work with 100, investigating factors of 100, and multiples of 100 (up to 1000). Based on their understanding of landmark numbers, they develop strategies to solve multiplication and divi- sion problems.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Understanding the relationship between skip counting and grouping			1:1,2-3	1:2-3		1:1,2-3				1:1,2-3
Becoming familiar with the relationships among commonly used factors and multiples	145		1:1,2-3	1:1,2-3		1:1,2-3				1:1,2-3
Increasing fluency in counting by single-digit numbers and by useful two-digit numbers			1:1,2-3 2:1-3 TMM							1:2-3 TMM
Developing familiarity with the factors of 100 and their relationships to 100 using cubes, coins, and 100 charts			1:3-4, 6-7 TMM	1:3-4, 6-7 TMM		1:3-4			1:6-7	1:3-4, 6-7 TMM
Using knowledge about factors of 100 to understand the structure of mutiples of 100	62		2:1-3	2:1-3	2:1-3					2:1-3
Developing strategies to solve problems in multiplication and division situations by using knowledge of factors and multiples			1:6-7 2:5-6	1:6-7 2:4,5-6	2:1-3, 5-6					2:1-3
Reading and using standard multiplication and division notations to record				1:6-7 2:5-6	2:5-6					
Using factors of 100 to understand the structure of 1000	60		3:1 TMM	3:1,2-3		3:2-3				3:2-3
Estimating quantities up to 1000		2:5-6 3:2-3	3:2-3							
Using landmarks to calculte "distances" within 1000 (How far is it from 650 to 950?)			3:2-3	3:2-3						
Creating numerical expressions that equal a given number	28,45		TMM	TMM	1:6-7 TMM					

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Up and Down the Number Line (Changes)

Students investigate addition and subtraction as they work with movement on the vertical and then horizontal number lines. They explore numbers below and above zero, create graphs showing positive, negative, and zero change, and identify net change.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Finding net (total) change given a starting and ending number			1:1,2	1:1,2, 3,4	1:1,2, 3,4	1:3,4				1:1,2
Using subtraction to cancel addition			1:5,8	1:3,4, 5,8	1:3,4,5					1:3,4,5
Making the same net change in many different ways using positive and negative numbers				1:3,4,6 ,7	1:3,4, 6,7					
Using net change to determine an end point instead of counting each change seperately			1:5 3:1,2	1:5 3:1,2	1:5 3:1,2					
Developing strategies for adding a long sequence of changes, including number and operation sense: using a calculator		TMM	TMM 1:3,4,5	TMM 1:5	TMM 1:3,4,5					
Developing strategies for finding a missing starting number or a previous position along the number line	51		1:6-7	1:6-7	1:6-7					1:6-7
Representing numbers graphically and understanding that a "going up" graph indicates positive change, a "going down" graph indicates negative change, and a horizontal graph indicates zero change			2:1,2,3	2:1,2,3				2:1,2,3		2:2,3
Finding net change on graphs				2:2,3				2:2,3		
Recognizing that passage of time or order of events can be represented by moving from left to right				2:2,3				2:2,3		2:2,3,4
Moving to the left for negative changes and to the right for positive changes			2:4 3:1,2	2:4 3:1,2	3:1,2			2:4		2:4
Halving and doubling numbers	110				3:1					

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Combining and Comparing (Addition and Subtraction)
Students solve problems that involve comparison of quantities, or measurements. They are encouraged to develop their own addition and subtraction strategies, to estimate, and to use multiple strategies to double-check their work. They build fluency with using numberical landmarks in combining and comparing.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Developing computation strategies for combining and comparing based on number sense and number relationships	8, 18, 78	2:2	1:1,2 2:2 3:1-2 4:3-4 TMM	1:1,2 2:2 3:1-2 4:3-4 TMM	1:1,2 2:2 3:1-2 4:3-4 TMM		3:1-2	1:1,2		3:1-2
Using landmark numbers (multiples of 10 and 100) in comparing and combining quantities	27, 47, 85	1:1 2:1,2 3:1	1:1,2 2:1,2 3:1 4:2,3-4 TMM	1:1,2 2:1,2 3:1 4:2,3-4 TMM	1:1,2 2:1,2 3:1 4:2,3-4 TMM					4:3-4
Examining how parts and the whole are related in addition and subtraction	3, 43, 53, 73, 83, 103			5:2-3						5:2-3
Solving addition problems with multiple addends	12, 58, 142	3:1-2 TMM	3:1-2,3 TMM	3:1-2,3 TMM	3:1-2,3 TMM		3:1-2,3	3:1		
Developing more than one way to solve a computation problem and using one method to check another	11, 48	3:1	3:1 5:2-3	3:1 4:1 5:2-3 TMM	3:1 4:1 5:2-3 TMM		5:3-4	5:3-4		
Solving compare and combine problems with strategies and recording with standard addition and subtraction notation	5, 13, 29, 93, 121	1:1 4:2	1:1 4:2	1:1 4:2	1:1 4:2					
Making comparisons of how things change overtime	76, 92	2:1	2:2	2:2	2:2		2:1,2	2:1,2		
Learning to weigh with a pan balance							2:1,2	2:1,2		
Exploring number relationships in the context of time, money, and linear measure	23, 59, 68, 91, 109, 113	3:2	3:2 5:1,2-3	3:2 5:1,2-3	3:2 5:1,2-3	3:2 5:1,2-3				3:2
Using important equivalencies of time, money, and linear measure	38, 94, 115		3:2	3:2	3:2	3:2,3				3:2
Estimating solutions that can be adjusted to construct an exact solution	12, 22, 27, 32, 42, 52, 57, 67, 87, 97, 102, 127	TMM	TMM	TMM	TMM					
Reading and writing numbers in the hundreds and thousands	30, 70	4:3-4	4:3-4							
Developing strategies to combine and compare quantities in the hundreds and thousands	65, 85	4:1	4:1,2, 3-4	4:1,2, 3-4				4:1		
Developing conjectures and predictions; evaluating data and evidence	19, 74, 90	2:1 4:1,2	2:2 4:1,2 5:2-3	2:2 5:2-3	2:2 5:2-3		2:2 5:2-3	1:1,2 2:2 5:2-3 TMM		

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Combining and Comparing (Addition and Subtraction)
CONTINUED

	Problem Solving Experiences corresponding problem #	Content Strands: Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Collecting, recording, and graphing data	6		4:1 TMM	4:1				5:2-3 TMM		
Describing and interpreting data	33, 34, 39, 44, 86		2:2 4:1 TMM	4:1,2	4:2		2:2	4:1,2 5:2-3 TMM		
Exploring the mathematical characteristics of the calendar	75, 90		5:1	5:1	5:1		5:1	5:1		5:1
Developing strategies for problems that combine addition and subtraction	9, 14, 24, 99, 104		TMM	TMM	TMM					

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Turtle Paths
(2-D Geometry)
Students explore problems involving paths, lengths of paths, perimeter, and turns. They do computer activites, using the program Geo-Logo, as well as noncomputer activities to investigate these topics.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Understanding paths as representations or records of movement	21		1:3-4	1:1, 3-4	1:1	1:1,2, 3-4 2:1-2	1:1,2, 3-4 2:1-2			
Finding different ways to meet geometric constraints			1:1	1:1	1:1	1:1,3-4	1:1,3-4			
Using Logo commands to construct paths and describe the properties of paths						1:1,2,3 2:2	1:1,2,3 2:2			
Applying mathematical processes such as addition, subtraction, estimation, and "undoing" to paths in solving geometric problems	95, 141	2:1-2	TMM 2:1-2	1:2, 3-4 TMM	1:2,3 TMM	1:2,3-4 2:1-2	1:2,3-4 2:1-2 TMM			1:3-4
Understanding turns as a change in orientation or heading			2:1-2			1:1,3-4 2:1-2	1:1 2:1-2			
Estimating and measuring turns (creating, using, and interating units of turn)		2:1-2	2:1-2	2:1-2		2:1-2 2:4	2:1-2 2:4			
Becoming familiar with a common measurement for turns--degrees--and understanding that there are 360 degrees in one full turn, 180 degrees in a half turn, and 90 degrees in a quarter turn		2:1-2	2:1-2			2:1-2	2:1-2			
Building a definition of triangles from examples, and applying the definition to new figures						2:3,4	2:4			2:3
Using Logo commands to draw equilateral triangles, estimating turn measures and using trial and error strategies			2:4			2:3,4	2:4			2:4
Applying mathematical processes, such as quantitative reasoning, mental arithmetic, and logic, to find missing measures of figures	64		2:5-6 3:Exc	2:5-6 3:Exc	2:5-6 3:Exc	2:5-6 3:Exc	2:5-6 3:Exc			
Constructing geometric figures that satisfy given criteria using analysis of geometric situations, arithmetic, and problem-solving strategies	71, 131		TMM 3:1-2	TMM 2:5-6 3:1-2, 3-5	2:5-6 3:1-2, 3-5	2:3,4,5 3:1-2, 3,4,5 TMM	2:5 3:1-2, 3,4,5 TMM			TMM
Linking visual paths to Logo commands to describe, analyze, and understand geometric figures			3:1-2 3:6-7	3:1-2 3:6-7	3:6-7	3:1-2 3:6-7	3:1-2 3:6-7			3:1-2
Understanding that shapes can be moved in space without losing their properties	36					2:4 3:3-5				
Estimating and measuring the perimeter of various objects	49, 72, 77, 147, 149		3:1-2, 6-7 TMM	3:1-2, 6-7 TMM		3:1-2, 6-7 TMM	3:1-2, 6-7 TMM			3:1-2

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Fair Shares
(Fractions)
Students use fractions and mixed numbers as they solve sharing problems and build wholes from fractional parts. They connect fractions to division, and use the calculator to see fractions as decimals.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Realizing that fractional parts must be equal (e.g. one third is not just one of three parts but one of three equal parts)						1:1,2 2:7 3:3	1:1,2 2:7		1:1,2 2:7	1:1,2
Developing familiarity with conventional fraction words and notation though students can write their solutions in any way that communicates accurately (e.g. a student might write 1/2 + 1/4 as "half plus another piece that is half of the half")			1:1,2						1:1,2 3,4	1:1,2
Becoming familiar with grouping unit fractions, those that have a numerator of 1(for example: 1/6 + 1/6 + 1/6 is equivalent to 3/6)						2:1,2			1:1,2 2:1,2,4	
Developing familiarity with common equivalents, especially relationships among halves, thirds, and sixths (for example, students exchange 2/6 for 1/3; they may also begin to make exchanges based on 1/6 + 1/3=1/2)	100 105					2:1-2, 4, 5-6, 7 3:1-2			2:1-2 4, 5-6, 7	2:1,2
Understanding that the relationships that occur between 0 and 1 also occur between any consecutive whole numbers (e.g. 1/2 + 1/6=2/3 so 2 1/2= 2 2/3)						2:3,4			1:3,4 2:4 TMM	
Understanding the relationship between fractions and division (e.g. by solving problems in which the whole is a number of things rather than a single thing, and the fractional part is a group of things as well, as in 1/3 of 6 is 2)						1:3,4 2:5,6	1;3,4		1:3,4 2:3,5,6 3:1,2,3	2:5,6
Relating notation for common fractions (1/2, 1/4, 3/4, 1/5, 1/10) with notation for decimals on the calculator (0.5, 0.25, 0.75, 0.2, 0.1)									3:1,2	3:1,2
Using different notations for the same problem (e.g. 6 + 2 and 1/2 of 6)					3:3				3:3	
TMM--Using logical reasoning and number sense to identify a number	106								1:3-4	
TMM--Developing flexibility in solving problems by finding several ways to reach a solution			2:1,2		2:1,2				3:1,2,3 TMM	

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3

Exploring Solids and Boxes
(3-D Geometry)
Students investigate various polygons and geometric solids. They become familiar with the components of these shapes and explore relationships as they sort, build, and make patterns for solids.

		Content Strands								
	Problem Solving Experiences corresponding problem #	Estimation	Number Sense and Numeration	Whole Number Operations	Whole Number Computation	Geometry and Spatial Sense	Measurement	Statistics and Probability	Fractions and Decimals	Patterns, Relations, and Functions
Mathematical Emphases										
Exploring, sorting, comparing, and talking about common geometric solids						1:1				1:1
Investigating and analyzing the parts of solids						1:1,2				
Recognizing the components of polygons--the sides, vertices, and angles	25					2:1,2				2:1,2
Recognizing how the components of polygons are put together to form whole shapes						2:1,2 3:1				2:1,2
Recognizing the components of polyhedra--the faces, corners, and edges			2:3			1:2 2:3				2:3
Recognizing how the components of polyhedra are put together to form whole shapes			2:3,4,5			2:3,4-5				2:3
Exploring two-dimensional geometric patterns that fold up to make three-dimensional shapes						3:1,2				
Investigating interrelationships between parts of solids						2:3,4-5 3:1				
Improving spatial visualization skills						2:1,3 4-5 3:1,2 4:3 5:1-4				2:1,3 TMM
Predicting the number of cubes that fit in a box without (and later with) a top by examining a pattern that makes the box		4:1	4:1			4:1				
Determining the number of cubes that fit in a rectangular box		4:1	4:1 5:1-4			4:1 5:1-4	4:1 5:1-4			
Understanding the structure of rectangular prism arrays of cubes						4:1,2,3 5:1-4	4:1 5:1-4			4:2 5:1-4
Designing patterns for boxes that will hold a given number of cubes						3:1,2 4:2	4:2			
Using appopriate computation techniques to determine the total number of cubes in paper cities					5:1-4	5:1-4				
TMM--likely or unlikely, based on a sample--categorizing events as likely or unlikely	41							4:2 5:1-4		

TMM = Ten Minute Math
1:2-3 = Investigation 1, Sessions 2-3