



# Math Curriculum Guide: PETAL 6<sup>th</sup> & 6A grades

## Revised for 2008-2009

### INTRODUCTION:

This Curriculum Guide is an evolving document that will serve the teachers in the new PETAL block for 6<sup>th</sup> and 6A grade math. Our own teachers, working with a variety of resources, constructed the sequence from the already existing 6<sup>th</sup> and 6A grade sequences. We look forward to your comments and suggestions for improvement as we work together to provide the best possible educational experience for children in the Lynchburg City Schools.

When one views a curriculum sequence like this one, it is critical that the listing not be interpreted to mean that each topic should be taught only once. Rather, the introduction of that topic should occur before or within the given six weeks, and a major focus during that time would be to address those specific SOL.

As educators, we recognize that it is unrealistic to think that these topics can be taught and mastered in a day or even a week. A sound educational approach involves weaving the math SOL throughout the school year and into other subject matter as well. To truly understand and be able to demonstrate mastery of the math SOL, students need to experience the SOL content spiraled throughout the curriculum at appropriate cognitive levels during the entire school year.

As you use this guide, periodically send your comments and suggestions for improvement to Patty West at [westpl@lcsedu.net](mailto:westpl@lcsedu.net). We will be reconvening a committee in the spring to review all feedback and to revise and improve this document.

Thank you for all that you do for our children and for your fellow educators.

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 1 of 6)

Six Weeks	SOL Objectives	Textbook References	
1 <sup>st</sup> six weeks	6.3 Identify and describe prime and composite numbers, odd and even integers	Ch 1.2-1.4	Number Patterns and Algebra
	6.22 *Investigate/describe concepts of positive exponents, perfect squares, square roots concretely (begin)		
	6.21 Recognize/describe numerical and geometric number patterns, triangular numbers, powers of 10.		
	6.18 **Collect/analyze/display and interpret data in various types of graphs and plots	Ch 2	Statistics and Graphs
	6.19 Mean, mode, median and range		
	6.4 Compare and order whole numbers and decimals	Ch 3	Adding and Subtracting Decimals
	6.7 Estimating multi-step problems with whole numbers and decimals		
	6.6 Division with decimals	Ch 4.1-4.4	Multiplying and Dividing Decimals
	6.8 Consumer applications of graphs and plots; creating budgets***		
	6.22 Investigate/describe scientific notation.		
	6.3 Find common multiples, factors, LCM, and GCF.	Ch 5	Fractions and Decimals
	6.4 Comparing and ordering decimals and fractions		
	6.1 Describe the relationship between fractions and decimals		

NOTES: \* Square Roots should be covered with this section because they don't appear to be covered anywhere in the book.  
 \*\* Circle graphs are studied in the 3<sup>rd</sup> six weeks.  
 \*\*\* Consumer application problems (SOL 6.8) are in chapters 3, 4, and 8.

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 2 of 6)

Six Weeks	SOL Objectives	Textbook References	
<b>2<sup>nd</sup> six weeks</b>	6.6 Solve addition, subtraction problems with fractions	Ch 6	Adding and Subtracting Fractions
	6.7 Estimate to solve multi-step problems with fractions (begin)		
	6.3 Explain common multiples, factors, LCM, and GCF.	Ch 7	Multiplying and Dividing Fractions
	6.6 Solve multiplication, and division problems with fractions		
	6.7 Estimate to solve multi step problems with fractions (continued)		
	6.21 Recognize/describe numerical and geometric patterns with fractions.		
	6.5 *Identify, represent, order and compare integers.	Ch 8.1	Algebra: Integers
	6.8 Consumer applications of graphs and plots; creating budgets		
	6.23 **Model/solve one-step linear equations with whole number coefficients and rational solutions; Appropriately use the terms "variable", "coefficient", "term", and "equation."	Ch 1.6-1.7 Ch 9.1-9.4,	Algebra: Solving Equations
	6.1 Represent percents using concrete materials and describe the relationship between fractions, decimals, and percents	Ch 10	Ratio, Proportion, and Percent
	6.2 Describe/compare two sets of data using ratios and appropriate notations		
	6.20 Determine/interpret probability from sample space, make a sample space in the form of a tree diagram, chart, list, or picture	Ch 11	Probability
	6.9 Compare/convert measures for length, weight, mass, and volume	Ch 12.1-12.5	Measurement
	6.10 Estimate and determine measurements		

**NOTES:** \* Addition and subtraction of integers is not in the 6<sup>th</sup> grade SOL.  
 \*\* Use the Hands-on-Equations Smartboard activity in the Math Resource Folder.

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 3 of 6)

Six Weeks	SOL Objectives	Textbook References	
<b>3<sup>rd</sup> six weeks</b>	6.13 Estimate, measure and draw angles and triangles	Ch 13	Geometry: Angles and Polygons
	6.14 Identify and classify plane geometric figures		
	6.15 Determine congruence of segments, angles, and polygons		
	6.16 Construct perpendicular bisectors of line segments and angle bisectors		
	6.11 Selecting and using perimeter or area to solve problems (polygons < 5 sides)	Ch 4.5 Ch 1.8	Perimeter Area of a rectangle
	6.12 Determine the circumference and area of a circle	Ch 4.6 Ch 14.3	Circumference Area of a Circle
	6.18 Collect/analyze/display and interpret data in circle graphs	Ch 14.3b	Circle graphs
	6.17 Classify, sketch, construct 3-D geometric figures	Ch 14.1-14.2 14.4-14.5	Geometry: Measuring Area and Volume
	<b>Review for Semester Test</b>		

NOTES:

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 4 of 6)

SIX WEEKS	SOL Objectives	Textbook References	
		Glencoe	MathScape
4 <sup>th</sup> six weeks	7.2 Simplifying expressions containing whole numbers, positive exponents and decimals using order of operations ( begin)	Ch 1- Decimal Patterns and Algebra; includes: <ul style="list-style-type: none"> <li>• Scientific notation</li> <li>• Metric conversions</li> <li>• Exponents</li> <li>• Introducing variables, expressions and equations</li> </ul>	<i>The Language of Algebra</i> Phase 1: Writing Equations and Inequalities
	7.1 Use of scientific notation for numbers greater than ten (begin)		
	7.3 Identify and apply properties of operations with Real Numbers		
	7.19 Investigate and describe with tables, graphs and rules, patterns of functional relationships, including arithmetic and geometric sequences.		
	7.21 Use algebraic terms appropriately: <i>equation, inequality, and expression.</i>		
	7.16 Mean, mode, median, and range	Ch 2.1-2.7- Statistics: Analyzing Data	<i>Getting Down to Business</i> Phase 3: Spreadsheets and Graphs (Use graphs to compare profit, income and expense)
	7.17 Collect, analyze, display and interpret data, including frequency distributions, line, stem & leaf, and box & whiskers plots, histograms and scattergrams		
	7.18 Make inferences and predictions based on the analysis of data		
	7.5 Basic operations with integers	Ch 3- Algebra: Integers ; includes: <ul style="list-style-type: none"> <li>• Coordinate graphing</li> </ul>	<i>The Language of Algebra</i> Phase 2: Creating Graphs of Equations
	7.12 Graphing ordered pairs in four quadrants of a coordinate plane		
	7.20 Translate verbal expressions into algebraic expressions, and sentences into equations	Ch 4.1-4.3 Algebra: Linear Equations (in 1-variable)* Ch 4.5- Inequalities	<i>The Language of Algebra</i> Phase 3: Finding Solutions of Equations
	7.22 Solve one-step, one variable equations and inequalities		

NOTES: The beginning of the 7<sup>th</sup> grade book may be a review of the material just covered. Use whatever parts you deem necessary.  
 \*Ch 4.4, 4.6 and 4.7 involve 8<sup>th</sup> grade SOL which will be used as an extension after SOL tests are given. They will not be tested during this six weeks. Omit any problems that involve two step solutions.

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 5 of 6)

SIX WEEKS	SOL Objectives	Textbook References	
		Glencoe	MathScape
5 <sup>th</sup> six weeks	7.1 Compare, order, and determine equivalent relations between fractions, decimals, and percents, including scientific notation for numbers greater than ten. (continue)	Ch 5- Fractions, Decimals and Percents; includes: <ul style="list-style-type: none"> <li>• Prime factorization</li> <li>• GCF</li> <li>• LCM</li> </ul>	<i>Making Mathematical Arguments</i> Phase 3: Primes, Patterns and Generalizations
	7.2 Simplifying expressions that contain whole numbers, fractions, decimals and positive exponents using order of operations (continue)		
	*6.6 Review the four operations (add, subtract, multiply and divide) with fractions	Review if needed: Ch 6.1-6.6- Applying Fractions	
	7.4 Solve practical problems involving tips, discounts, sales tax, and simple interest with whole numbers, fractions, decimals, and percents (begin)	Ch 7.1-7.5- Ratios and Proportions Ch 7.7-7.8- Percents	<i>Buyer Beware</i> Phase 1: Rates & unit prices Phase 2: Ratio and Proportion <i>From the Ground Up</i> Phase 1: Floor plans, Site Plans and Walls
	7.6 Use proportions to solve practical problems, including scale drawings with rational numbers and percents	Ch 6.7 –Changing customary units of measure	
	7.4 Solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents, including tips, discounts, sales tax and simple interest (continue)	Ch 8- Applying Percent	<i>Buyer Beware</i> Phase 3: Percents
	7.14 Describe the difference between the theoretical probability of a simple event and the probability found through simulation	Ch 9- Probability	<i>Chance Encounters</i> Phase 1: Games of Chance Phase 2: Spinner Games Phase 3: Fair and Unfair Games Phase 4: Real World Simulations
	7.15 Identify the possible arrangements of several objects using a tree diagram or the Fundamental (Basic) Counting Principle		

NOTES: \* A review of operations with fractions may or may not be necessary for your students.

## 2008-2009 PETAL 6<sup>th</sup> & 7<sup>th</sup> Math Sequence (page 6 of 6)

SIX WEEKS	SOL Objectives	Textbook References	
		Glencoe	MathScape
6 <sup>th</sup> six weeks	7.9 Compare, contrast and classify quadrilaterals (parallelogram, rectangle, square, rhombus, and trapezoid)	Ch 10.5-10.9b- Geometry <ul style="list-style-type: none"> <li>• Quadrilaterals</li> <li>• Similarity</li> <li>• Tessellations</li> <li>• Transformations</li> </ul> Ch 6.8- Perimeter and area* Ch 6.9- Circumference  Ch 11.4-11.8 Geometry: Measuring Two-Dimensional Figures <ul style="list-style-type: none"> <li>• Area of PGF*</li> </ul>	<i>Getting In Shape</i> Phase 2: Polygons Phase 3: Circles  <i>From the Ground Up</i> Phase 2: Roofs, Area and Cost  Phase 3: Budgeting and Building
	7.10 Identify and draw polygons (5 to 10 sides)		
	7.11 Determine if quadrilaterals and triangles are similar, and write proportions to express the relationships between corresponding parts of similar polygons		
	7.13 Transformations of polygons in a coordinate plane using rotations and translations.		
	7.7 Estimate and find the area of polygons by subdividing; and apply perimeter and area formulas in practical situations		
	7.8 Solve problems involving the volume and surface area of rectangular prisms and cylinders*	Ch 12.1-12.5 - Geometry: Measuring Three-Dimensional Figures*	
	<b>Review for SOL Test</b>		
	8.15 Solve two step equations and inequalities in one variable	Ch 4.4 Two-step linear equations	
	8.16 Graph a linear equation in two variables in a coordinate plane.	Ch 4.6-4.7 Functions and linear equations; and slope.	
	8.5 Identify squares and square roots	Ch 11.1-11.2 – Squares and Square Roots	

NOTES: \* Geometry formulas are on the Math 8th grade SOL test reference sheet.