## **Pitt County Schools**

Instructional Guide

# **GRADE 4 MATHEMATICS**

# PERCENTAGE OF ITEMS BY GOAL FOR END OF GRADE MATHEMATICS TEST

Goal 1 Number Sense	Goal 2 Measurement	Goal 3 Geometry	<b>Goal 4</b> Data, Probability,	<b>Goal 5</b> Patterns, Relationships,
35-40%	10-12%	10-12%	Statistics 15-18%	and Functions <b>20-25%</b>

# TIME FRAME: FIRST GRADING PERIOD

SCOS GOALS AND OBJECTIVES	ESSENTIAL QUESTIONS, BENCHMARKS, AND SKILLS	RECOMMENDED RESOURCES AND ASSESSMENT	ESSENTIAL TASKS, STRATEGIES, PROJECTS, CONNECTIONS
	Diagnostic Readiness Test	Pacing : 4 days Resource: Math Diagnostic Intervention System p. 1-28	
<ul> <li>Goal 1: The learner will read, write, model, and compute with non-negative rational numbers.</li> <li>1.01 Develop number sense for rational numbers 0.01 Through 99,999.</li> <li>(a) Connect model, number word, and number</li> </ul>	<ul> <li>NUMBER SENSE</li> <li>Place Value</li> <li>Compare and Order Numbers</li> <li>Rounding</li> <li>Money</li> <li>Adding and Subtracting Whole Numbers</li> </ul>	Pacing: 41 days Textbook: Topic 1 (10 days) Pgs. 3-25	NAVIGATIONS SERIES (NCTM) <i>Navigating through Algebra</i> 1. Hundred Board Wonders

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using a variety of representations.	Multiplication Meaning and Facts	Topic 2: 10 days	INVESTIGATIONS: Modules:
(b) Build understanding of place value	Division Facts	Pgs. 27-50	1. Landmarks in the
(nundreaths through ten thousands).		Topic 3: 10 days	I nousanos 2 Money Miles and Large
1.05 Develop flexibility in solving problems by		Pas. 53-72	Numbers
selecting strategies and using mental			3. Packages and Groups
computation, estimation, calculators or		<u>Topic 4:</u> 6 days	
computers, and paper and pencil.	ALEGEBRA	Pgs. 75-92	
1.02 Develop fluency with multiplication and division:	Patterns and Expressions	Topic 6: 5 days	
(a) Two digit by two digit multiplication (larger	Problem Solving	Pas. 127-138	
numbers with calculator)			
(c) Strategies for multiplying and dividing		**See page 6 of guide	
numbers.		for listing for Grade 4	
		www.studvisland.com	
Goal 5: The learner will demonstrate an			
understanding of mathematical			
relationships.			
5.01 Identify, describe, and generalize			
relationships in which:			
(a) Quantities change proportionally			
(b) Change in one quantity relates to change in			
a second quantity.			
verbal, and pictorial representations of number			
relationships.			
5.03 Verify mathematical relationships using;			
(a) Models, words, and numbers.			

#### RECOMMENDED **ESSENTIAL TASKS**, SCOS GOALS AND OBJECTIVES **ESSENTIAL QUESTIONS, BENCHMARKS,** RESOURCES AND STRATEGIES, PROJECTS, AND SKILLS ASSESSMENT CONNECTIONS NUMBER SENSE **INVESTIGATIONS** Goal 1: The learner will read, write, model, PACING: 45 Days Multiplication and compute with non-negative rational Modules: Division 1. Changes Over Time **TEXTBOOK:** numbers. 1.02 Develop FLUENCY with multiplication 2. The Shape of Data 3. Arrays and Shares and division: Topic 5: 10 days ALGEBRA (a) Two-digit by two-digit multiplication (larger Pgs. 94-122 numbers with calculator). Variables NAVIGATIONS SERIES (NCTM) (b) Build understanding of place value Equations Topic 7: 8 days Navigating through Algebra (hundredths through ten thousands) Pas. 140-160 1. I Spy Patterns Patterns (d) Estimation of products and quotients in Functions 2. Algebra Scales appropriate situations. Topic 8: 12 days 3. What's the best (e) Relationships between operations Pas. 162-190 deal? **Data and Graphing** 4. Watch Them Grow Measures of Central Tendency Goal 3: The learner will recognize and use Topic 17: 10 days 5. Triangle Rule (Median, Mode, Range) geometric properties and relationships. Pas. 400-426 Machine • Line Graphs 3.01 Use the coordinate systems to describe 6. Calculator Patterns Bar Graphs the location and relative position of points and Ordered Pairs draw figures in the first quadrant. **Benchmark Testing** NAVIGATIONS SERIES (NCTM) Navigating through Data Analysis Goal 4: The learner will understand and use enVisionMath Diagnosis and Probability graphs, probability, and data analysis. Intervention System 1. Long Jump 4.01 Collect, organize, analyze, and display 2. Foot, Whole Foot, (Cumulative Test and data (including line graphs and bar graphs) to and Nothing But the North Carolina EOG solve problems. Math Test Format) Foot 4.02 Describe the distribution of data using median, range, and mode. Math and 4.03 Solve problems by comparing two sets of Literature: WorldScapes related data. Books

### **Time Frame: Second Grading Period**

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		NAVIGATIONS SERIES (NCTM) Navigating through Data Analysis and Probability 1. How Many Stars Can You Draw
4.04 Design experiments and list all possible outcomes and probabilities for an event.		
Goal 5: The learner will demonstrate an understanding of mathematical relationships. 5.03 Verify mathematical relationships using; (a) Models, words, and numbers. (b) Order of operations and the identity, commutative, associative, and distributive properties.		

SCOS GOALS AND OBJECTIVES	ESSENTIAL QUESTIONS, BENCHMARKS,	RECOMMENDED RESOURCES AND	ESSENTIAL TASKS, STRATEGIES, PROJECTS,
Goal 1: The learner will read, write, model, and compute with non-negative rational numbers. 1.03 Solve problems using models, diagrams, and reasoning about fractions and relationships among fractions involving halves, fourths, eights, thirds, sixths, twelfths, fifths, tenths, hundredths, and mixed numbers.	AND SKILLS  Number Sense  Understanding Fractions  Regions and Sets  Equivalent Fractions  Simplest Form  Compare Fractions  Order Fraction	ASSESSMENT PACING: 46 Days TEXTBOOK: Topic 10: 10 days Pgs. 215-244 Topic 11: 10 days Pgs. 240, 264	CONNECTIONS         NAVIGATIONS SERIES         (NCTM)         Navigating through Algebra         1.         That's Odd
<ul> <li>subtraction of non-negative rational numbers with like denominators, including decimal fractions through hundredths.</li> <li>(a) Develop and analyze strategies for adding and subtracting numbers</li> <li>(b) Estimate sums and differences.</li> <li>(c) Judge the reasonableness of solutions.</li> </ul>	<ul> <li>Adding and Subtracting Fractions with like denominators</li> <li>Adding and Subtracting with unlike denominator</li> </ul>	<u>Topic 12:</u> 10 days Pgs. 267-286 <u>Topic 13:</u> 10 days Pgs. 289-312	1. Three Out Of Four Like Spaghetti
1.05 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	<ul> <li>UNDERSTANDING DECIMALS</li> <li>Place Value</li> <li>Ordering Decimals</li> <li>Changing Fractions to Decimals</li> </ul>	<u>Topic 18:</u> 5 days Pgs. 431-441 <u>www.studyisland.com</u>	
Goal 5: The learner will demonstrate an understanding of mathematical relationships.	<ul> <li>Decimals on a Number line</li> <li>Rounding Decimals</li> <li>Estimating Decimals</li> <li>Adding and Subtracting Decimals</li> </ul>	Math and Literature: WorldScapes Books	
<ul><li>5.01 Identify, describe, and generalize relationships in which:</li><li>(a) Quantities change proportionally</li><li>(b) Change in one quantity relates to change in</li></ul>			

### Time Frame: Third Grading Period

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<ul> <li>a second quantity.</li> <li>5.02 Translate among symbolic, numeric, verbal, and pictorial representations of number relationships.</li> <li>5.03 Verify mathematical relationships using;</li> <li>(a) Models, words, and numbers.</li> </ul>			
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\*\* Grade 4 Math Library includes the following WorldScapes books with guided problem solving activities:

- Dazzling Designs (Mexico)
- All Tired Up (Peru)
- It's a Big Country (Canada)
- Wild, Wet and Windy (USA)
- First in space (Russia)
- Building Blocks (West Africa)
- All Roads Lead to Rome (Italy)

### TIME FRAME: FOURTH GRADING PERIOD

SCOS GOALS AND OBJECTIVES	ESSENTIAL QUESTIONS, BENCHMARKS, AND SKILLS	RECOMMENDED RESOURCES AND ASSESSMENT	ESSENTIAL TASKS, STRATEGIES, PROJECTS, CONNECTIONS
<ul> <li>Goal 2: The learner will understand and use perimeter and area</li> <li>2.01 Develop strategies to determine the area of rectangles and the perimeter of plane figures.</li> <li>2.02 Solve problems involving perimeter of plane figures and areas of rectangles.</li> <li>Goal 3: The learner will recognize and use geometric properties and relationships.</li> <li>3.01 Use the coordinate systems to describe the location and relative position of points and draw figures in the first quadrant.</li> <li>3.03 Identify, predict, and describe the results of transformations of plane figures.</li> <li>(a) Reflections</li> <li>(b) Translations</li> <li>(c) Rotations.</li> <li>Goal 4: The learner will understand and use graphs, probability, and data analysis.</li> <li>4.04 Design experiments and list all possible outcomes and probabilities for an event.</li> </ul>	<ul> <li>GEOMETRY <ul> <li>Lines</li> <li>Angles</li> <li>Plane Figures</li> <li>Solid Figures</li> </ul> </li> <li>Translations, Reflections, Rotations <ul> <li>Congruence</li> <li>Symmetry</li> </ul> </li> <li>MEASUREMENT <ul> <li>Area</li> <li>Perimeter</li> </ul> </li> <li>PROBABILITY <ul> <li>Combinations</li> <li>Outcomes</li> </ul> </li> </ul>	TEXTBOOK:         Topic 9: 10 days         Pgs. 195-212         Topic 15: 2 days         Pgs. 345-360         Topic 19: 10 days         Pgs. 447-464         Topic 14: 10 days         Pgs. 315-342         Topic 20: 3 Days         Pgs. 467-493         Math and Literature:         WorldScapes Books	INVESTIGATIONS Modules: 1. Sunken Ships and Grid Patterns 2. Seeing Solids and Silhouette 3. Different Shapes Equal Pieces NAVIGATIONS SERIES (NCTM) Navigating through Geometry 1. Fraction Fantasy 2. Tetrominoes Cover Up 3. Motion Commotion 4. Build What I Have Created 5. X's and O's 6. Can They Be the Same 7. Patchwork Symmetry 8. Zany Tessellations NAVIGATIONS SERIES (NCTM) Navigating through Algebra
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		1. Tiling a Patio
	Math and Literature: WorldScapes Books	<ul> <li>NAVIGATIONS SERIES (NCTM)</li> <li>Navigating through Data Analysis and Probability</li> <li>1. How likely is it to Land in the Trash can?</li> <li>2. Is there such a thing as a lucky coin?</li> <li>3. Is it fair?</li> <li>4. Spin City</li> </ul>
	Pacing: 10 days	
EOG REVIEW	Resources: • enVisions: NC EOG Test Prep • DPI Indicators	
enVisionMath Diagnosis Intervention System (Cumulative Test and North Carolina EOG Math Test Format)	<ul> <li>EOG TEST REVIEW-</li> <li>State Released Test Questions (sample items)</li> <li>DPI Indicators</li> <li>Utilize School Resources for EOG Prep</li> <li>www.studyisland.com</li> </ul>	

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