



Pine Grove Area

SCHOOL DISTRICT

Mathematics

Grade Four

August 20, 2009

I. PHILOSOPHY

The fourth grade mathematics course of the Pine Grove Area School District has been structured to introduce, systematically and thematically, mathematical computation and problem solving skills throughout all concepts. The fourth grade mathematics course builds previous materials and concepts learned in earlier grades. The course will allow for the accommodation of many learning styles, motivational levels, and academic abilities.

II. CORE CONCEPTS

1. Place Value and Money- Read, write, and compare numbers through the hundred millions in relationship to money.
2. Addition and Subtraction of Whole Numbers- Apply problem solving strategies to add and subtract numbers through the hundred millions.
3. Multiplication- Review of basic multiplication facts and introduce writing and evaluating expressions. Multiply two or three digit numbers by one or two digit numbers. Apply problem solving strategies to create or solve word problems involving multiplication.
4. Division- Review of basic division facts and introduce writing and evaluating expressions. Divide a three digit number by a one or two digit divisor with and without a remainder. Apply problem solving strategies to create or solve word problems involving division.
5. Time, Data, and Graphs- Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.
6. Fractions- Ordering, comparing and simplifying fractions and mixed numbers. Adding and subtracting fractions with like and unlike denominators.
7. Geometry- Identify solid figures and the plane figures within them and find perimeter, area, and volume.
8. Measurement- Measure customary and metric length, capacity, and weight/mass to include comparing and changing units.
9. Decimals- Develop decimal place value concepts and adding and subtracting decimals through hundredths.
10. Probability- Write probability as a fraction and make predictions based on outcomes.
11. Algebraic Concepts- Identify number and shape patterns and evaluate expressions containing a variable.

III. COURSE OF STUDY

- A. Course Name: *Mathematics*
- B. Grade Level: Fourth
- C. Length of Course: Full Year
- D. Academic Level: Fourth Grade
- E. Credits: none
- F. Prerequisites: none
- G. Course Description:

The fourth grade math curriculum will build upon previously learned concepts and ideas and expose students to concepts of mathematical terminology, operations, and problem-solving. Emphasis will be placed on meeting student's academic abilities and learning styles through use of manipulative and technology.

IV. CONTENT: Grade Four Math

CORE CONCEPT 1: Place Value and Money

MAJOR OBJECTIVE: Read, write, and compare numbers through the hundred millions in relationship to money.

CURRICULUM STANDARD:

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.1.5.A</p> <p>Use expanded notation to represent whole numbers or decimals</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.4 Write whole numbers in expanded, standard and/or word form through 6 digits (example of standard to expanded form: 43,076 = 40,000+3000+70+6).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 1: Place Value and Money

MAJOR OBJECTIVE: Read, write, and compare numbers through the hundred millions in relationship to money.

CURRICULUM STANDARD:

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.1.5.D</p> <p>Use models to represent fractions and decimals.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.</p> <p>M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).</p> <p>M4.A.1.1.3 Match the standard number form to the word form of decimal numbers (through the tenths place).</p> <p>M4.A.1.1.4 Write whole numbers in expanded, standard and/or word form through 6 digits (example of standard to expanded form: 43,076 = 40,000+3000+70+6).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Place Value Blocks</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 1: Place Value and Money

MAJOR OBJECTIVE: Read, write, and compare numbers through the hundred millions in relationship to money.

CURRICULUM STANDARD:

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.D</p> <p>Demonstrate the ability to round numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.3.1.1 Round whole numbers to the nearest ten, hundred, thousand, ten-thousand or hundred-thousand.</p> <p>M4.A.3.1.2 Round amounts of money to the nearest dollar.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.2.5.G</p> <p>Apply estimation strategies to a variety of problems including time and money</p>	<p>Teacher will guide students to:</p> <p>M4.A.3.1.2 Round amounts of money to the nearest dollar.</p> <p>M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits (for multiplication, no more than 2 digits X 1 digit, excluding powers of 10).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Overhead manipulative</p>

CONTENT: Grade Four Math

CORE CONCEPT 1: Place Value and Money

MAJOR OBJECTIVE: Read, write, and compare numbers through the hundred millions in relationship to money.

CURRICULUM STANDARD:

PA State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.4.5.A</p> <p>Compare quantities and magnitudes of numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.2.2 Compare and/or order whole numbers through 6 digits and amounts of money to \$100 (limit sets for ordering, to no more than 4 numbers).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Play money</p>
<p>PA Standard 2.11.5.A</p> <p>Make comparisons of numbers (e.g., more, less, same, least, most, greater than, less than).</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.2.2 Compare and/or order whole numbers through 6 digits and amounts of money to \$100 (limit sets for ordering, to no more than 4 numbers).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 2: Addition and Subtraction of Whole Numbers

MAJOR OBJECTIVE: Apply problem solving strategies to add and subtract numbers through the hundred millions.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.A</p> <p>Create and solve word problems involving addition, subtraction, multiplication and division of whole numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.2.5. E</p> <p>Determine through estimations the reasonableness of answers to problems involving addition, subtraction, multiplication and division of whole numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits (for multiplication, no more than 2 digits X 1 digit, excluding powers of 10).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 2: Addition and Subtraction of Whole Numbers

MAJOR OBJECTIVE: Apply problem solving strategies to add and subtract numbers through the hundred millions.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.2.5. I Select a method for computation and explain why it is appropriate.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.4.5. D Distinguish between relevant and irrelevant information in a mathematical problem.	Teacher will guide students to M4.A.2.1.1 Solve problem involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 2: Addition and Subtraction of Whole Numbers

MAJOR OBJECTIVE: Apply problem solving strategies to add and subtract numbers through the hundred millions.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.5.5.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense and explain how the problem was solved.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 2: Addition and Subtraction of Whole Numbers

MAJOR OBJECTIVE: Apply problem solving strategies to add and subtract numbers through the hundred millions.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.5.5.B</p> <p>Use appropriate mathematical terms, vocabulary, language symbols and graphs to explain clearly and logically solutions to problems</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.5.5.E</p> <p>Select, use and justify the methods, materials and strategies used to solve problems.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 2: Addition and Subtraction of Whole Numbers

MAJOR OBJECTIVE: Apply problem solving strategies to add and subtract numbers through the hundred millions.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.5.5.F</p> <p>Use appropriate problem-solving strategies (e.g., solving a simpler problem, drawing a picture or diagram).</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 3: Multiplication

MAJOR OBJECTIVE: Review of basic multiplication facts and introduction to writing and evaluating expressions. Multiply two or three digit numbers by one or two digit numbers. Apply problem solving strategies to create or solve word problems involving multiplication.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.1.5.E Explain the concepts of prime and composite numbers.	Teacher will guide students to: M4.A.1.3.1 Find/list/identify all factors through 10 of any given number.	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.1.5.G Develop and apply number theory concepts (e.g., primes, factors, multiples, composites) to represent numbers in various ways.	Teacher will guide students to: M4.A.1.3.1 Find/list/identify all factors through 10 of any given number. M4.A.1.3.2 Find/list/identify multiples of a number, where the multiples do not exceed 100.	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 3: Multiplication

MAJOR OBJECTIVE: Review of basic multiplication facts and introduction to writing and evaluating expressions. Multiply two or three digit numbers by one or two digit numbers. Apply problem solving strategies to create or solve word problems involving multiplication.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.2.5.A Create and solve word problems involving addition, subtraction, multiplication and division of whole numbers.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.2.5.E Determine through estimations the reasonableness of answers to problems involving addition, subtraction, multiplication and division of whole numbers.	Teacher will guide students to: M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits (for multiplication, no more than 2 digits X 1 digit, excluding powers of 10).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 3: Multiplication

MAJOR OBJECTIVE: Review of basic multiplication facts and introduction to writing and evaluating expressions. Multiply two or three digit numbers by one or two digit numbers. Apply problem solving strategies to create or solve word problems involving multiplication.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.H</p> <p>Explain multiplication and division algorithms</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.2.5. I</p> <p>Select a method for computation and explain why it is appropriate.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 3: Multiplication

MAJOR OBJECTIVE: Review of basic multiplication facts and introduction to writing and evaluating expressions. Multiply two or three digit numbers by one or two digit numbers. Apply problem solving strategies to create or solve word problems involving multiplication.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.5.5.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense and explain how the problem was solved.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.5.5.E Select, use and justify the methods, materials and strategies used to solve problems.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion/Q & A	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 4: Division

MAJOR OBJECTIVE: Review of basic division facts and introduce writing and evaluating expressions. Divide a three digit number by a one or two digit divisor with and without a remainder. Apply problem solving strategies to create or solve word problems involving division.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.A</p> <p>Create and solve word problems involving addition, subtraction, multiplication and division of whole numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 4: Division

MAJOR OBJECTIVE: Review of basic division facts and introduce writing and evaluating expressions. Divide a three digit number by a one or two digit divisor with and without a remainder. Apply problem solving strategies to create or solve word problems involving division.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.E</p> <p>Determine through estimations the reasonableness of answers to problems involving addition, subtraction, multiplication and division of whole numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits (for multiplication, no more than 2 digits X 1 digit, excluding powers of 10).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.5.5.E</p> <p>Select, use and justify the methods, materials and strategies used to solve problems.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 4: Division

MAJOR OBJECTIVE: Review of basic division facts and introduce writing and evaluating expressions. Divide a three digit number by a one or two digit divisor with and without a remainder. Apply problem solving strategies to create or solve word problems involving division.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.2.5.H Explain multiplication and division algorithms	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.2.5. I Select a method for computation and explain why it is appropriate.	Teacher will guide students to: M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 4: Division

MAJOR OBJECTIVE: Review of basic division facts and introduce writing and evaluating expressions. Divide a three digit number by a one or two digit divisor with and without a remainder. Apply problem solving strategies to create or solve word problems involving division.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.5.5.A</p> <p>Create and solve word problems involving addition, subtraction, multiplication and division of whole numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution (limit to two-step problems; e.g., multiply then add – single digit multipliers and divisors).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.G</p> <p>Apply estimation strategies to a variety of problems including time and money.</p>	<p>Teacher will guide students to:</p> <p>M4.B.1.1.1 Match/construct analog time (a picture of a clock), to the same time written in digital.</p> <p>M4.B.1.1.2 Identify time (analog or digital) as the amount of minutes before and/or after the hour (e.g., 2:50 is the same as 10 minutes before 3:00; quarter past six is the same as 6:15).</p> <p>M4.B.1.1.3 Calculate the elapsed time, to the minute, in a given situation (limited to 2 adjacent hours).</p> <p>M4.B.1.1.4 Determine the beginning or ending time, given the elapsed time (limited to 2 adjacent hours).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.3.5.A</p> <p>Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).</p>	<p>Teacher will guide students to:</p> <p>M4.B.1.1.1 Match/construct analog time (a picture of a clock), to the same time written in digital.</p> <p>M4.B.1.1.2 Identify time (analog or digital) as the amount of minutes before and/or after the hour (e.g., 2:50 is the same as 10 minutes before 3:00; quarter past six is the same as 6:15).</p> <p>M4.B.1.1.3 Calculate the elapsed time, to the minute, in a given situation (limited to 2 adjacent hours)</p> <p>M4.B.1.1.4 Determine the beginning or ending time, given the elapsed time (limited to 2 adjacent hours).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.5.5.C</p> <p>Show ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models.</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p> <p>M4.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph – grid is provided).</p> <p>M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.6.5.A</p> <p>Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p> <p>M4.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph – grid is provided).</p> <p>M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.6.5.B Describe data sets using mean, median, mode and range.	Teacher will guide students to: M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.6.5.C Sort data using Venn diagrams	Teacher will guide students to: M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs. M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion/ Q & A	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.6.5. E Construct and defend simple conclusions based on data.	Teacher will guide students to: M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs. M4.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph – grid is provided). M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.H</p> <p>Locate and identify points on a coordinate system.</p>	<p>Teacher will guide students to:</p> <p>M4.C.3.1.1 Match or plot the ordered pair with the appropriate point (or object) on a simple grid.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.8.5.I</p> <p>Generate functions from tables of data and relate data to corresponding graphs and functions.</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p> <p>M4.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph – grid is provided).</p> <p>M4.E.1.2.2 Translate information from one type of display to another (table, chart, bar graph, or pictograph).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.11.5.B</p> <p>Identify least and greatest values represented in bar and circle graphs</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.11.5.C</p> <p>Identify maximum and minimum</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 5: Time, Data, and Graphs

MAJOR OBJECTIVE: Compare units of time and find elapsed time, represent and interpret data in graphs, and find median, mode and range from a set of data.

CURRICULUM STANDARD:			
State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.11.5.E Describe the relationship between rates of change and time.	Teacher will guide students to: M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 6: Fractions

MAJOR OBJECTIVE: Ordering, comparing and simplifying fractions and mixed numbers. Adding and subtracting fractions with like and unlike denominators.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.1.5.D</p> <p>Use models to represent fractions and decimals.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.</p> <p>M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).</p> <p>M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).</p> <p>M4.A.3.2.2 Solve addition or subtraction problems with fractions with like denominators (denominators to 10, no simplifying necessary).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Fraction strips</p>

CONTENT: Grade Four Math

CORE CONCEPT 6: Fractions

MAJOR OBJECTIVE: Ordering, comparing and simplifying fractions and mixed numbers. Adding and subtracting fractions with like and unlike denominators.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.C</p> <p>Develop and apply algorithms to solve word problems that involve addition, subtraction, and/or multiplication with fractions and mixed numbers that include like and unlike denominators.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.</p> <p>M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).</p> <p>M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).</p> <p>M4.A.3.2.2 Solve addition or subtraction problems with fractions with like denominators (denominators to 10, no simplifying necessary).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Fraction Strips</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.3.5.A</p> <p>Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).</p>	<p>Teacher will guide students to:</p> <p>M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p> <p>Rulers</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.3.4.B</p> <p>Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter and area.</p>	<p>Teacher will guide students to:</p> <p>M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p> <p>rulers</p>
<p>PA Standard 2.9.5.A</p> <p>Give formal definitions of geometric figures.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.B</p> <p>Classify and compare triangles and quadrilaterals according to sides or angles.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>
<p>PA Standard 2.9.5.C</p> <p>Identify and measure circles, their diameters and their radii.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p> <p>Rulers</p> <p>Protractor</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.D</p> <p>Describe in words how geometric shapes are constructed.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>
<p>PA Standard 2.9.5.E</p> <p>Construct two- and three-dimensional shapes and figures using manipulatives, geoboards and computer software</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Geoboards</p> <p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.F</p> <p>Find familiar solids in the environment and describe them.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>
<p>PA Standard 2.9.5.H</p> <p>Describe the relationship between the perimeter and area of triangles, quadrilaterals and circles.</p>	<p>Teacher will guide students to:</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.I</p> <p>Represent and use the concepts of line, point and plane.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.2.1 Identify points, lines, line segments or rays.</p> <p>M4.C.1.2.2 Identify parallel and perpendicular lines.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.9.5.J</p> <p>Define the basic properties of squares, pyramids, parallelograms, quadrilaterals, trapezoids, polygons, rectangles, rhombi, circles, triangles, cubes, prisms, spheres and cylinders.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.K</p> <p>Analyze simple transformations of geometric figures and rotations of line segments.</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p> <p>M4.C.1.2.1 Identify points, lines, line segments or rays.</p> <p>M4.C.1.2.2 Identify parallel and perpendicular lines.</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 7: Geometry

MAJOR OBJECTIVE: Identify solid figures and the plane figures within them and find perimeter, area, and volume.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.9.5.L</p> <p>Identify properties of geometric figures (e.g., parallel, perpendicular, similar, congruent, symmetrical).</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p> <p>M4.C.1.1.2 Identify or classify three-dimensional figures (cube, sphere, rectangular prism and pyramid).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>
<p>PA Standard 2.10.5.B</p> <p>Create right triangles on a geoboard</p>	<p>Teacher will guide students to:</p> <p>M4.C.1.1.1 Identify, classify and/or compare two-dimensional figures (circle, triangle, square, parallelogram, trapezoid, rhombus, rectangle, pentagon, hexagon, octagon).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion/ Q & A</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>3-Dimensional Objects</p>

CONTENT: Grade Four Math

CORE CONCEPT 8: Measurement

MAJOR OBJECTIVE: Measure customary and metric length, capacity, and weight/mass to include comparing and changing units.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.3.5.A</p> <p>Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).</p>	<p>Teacher will guide students to:</p> <p>M4.B.2.1.1 Use or read a ruler (provided) to measure to the nearest 1/4 inch or centimeter.</p> <p>M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Rulers</p> <p>Measurement Manipulative</p>

CONTENT: Grade Four Math

CORE CONCEPT 8: Measurement

MAJOR OBJECTIVE: Measure customary and metric length, capacity, and weight/mass to include comparing and changing units.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.3.5.B</p> <p>Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter and area.</p>	<p>Teacher will guide students to:</p> <p>M4.B.2.1.1 Use or read a ruler (provided) to measure to the nearest 1/4 inch or centimeter.</p> <p>M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Rulers</p> <p>Measurement Manipulative</p>
<p>PA Standards 2.3.5.C</p> <p>Estimate, refine and verify specified measurements of objects.</p>	<p>Teacher will guide students to:</p> <p>M4.B.2.1.1 Use or read a ruler (provided) to measure to the nearest 1/4 inch or centimeter.</p> <p>M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Measurement Manipulative</p>

CONTENT: Grade Four Math

CORE CONCEPT 8: Measurement

MAJOR OBJECTIVE: Measure customary and metric length, capacity, and weight/mass to include comparing and changing units.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.3.5.D Convert linear measurements within the same system.	Teacher will guide students to: M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.3.5.E Add and subtract measurements	Teacher will guide students to: M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects (measurements in the same system).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources rulers

CONTENT: Grade Four Math

CORE CONCEPT 9: Decimal

MAJOR OBJECTIVE: Develop decimal place value concepts and adding and subtracting decimals through hundredths

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.1.5.A</p> <p>Use expanded notation to represent whole numbers or decimals</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.4 Write whole numbers in expanded, standard and/or word form through 6 digits (example of standard to expanded form: $43,076 = 40,000 + 3000 + 70 + 6$).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 9: Decimal

MAJOR OBJECTIVE: Develop decimal place value concepts and adding and subtracting decimals through hundredths

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.1.5.D</p> <p>Use models to represent fractions and decimals.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.</p> <p>M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).</p> <p>M4.A.1.1.3 Match the standard number form to the word form of decimal numbers (through the tenths place).</p> <p>M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 9: Decimal

MAJOR OBJECTIVE: Develop decimal place value concepts and adding and subtracting decimals through hundredths

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.2.5.B</p> <p>Develop and apply algorithms to solve word problems that involve addition, subtraction, and/or multiplication with decimals with and without regrouping</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.1.1 Write the fraction or decimal, including mixed numbers, which corresponds to a drawing or set – no simplification necessary.</p> <p>M4.A.1.1.2 Create a drawing or set that represents a given fraction or decimal, including mixed numbers (through the tenths).</p> <p>M4.A.2.1.2 Solve problems involving addition or subtraction with decimals through the tenths or money to the cent and/or explain the solution. Limit to two-step problems.</p> <p>M4.A.3.2.1 Solve addition or subtraction problems involving decimals through hundredths (decimal numbers must have the same number of places).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 9: Decimal

MAJOR OBJECTIVE: Develop decimal place value concepts and adding and subtracting decimals through hundredths

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.4.5.A</p> <p>Compare quantities and magnitudes of numbers.</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.11.5.A</p> <p>Make comparisons of numbers (e.g., more, less, same, least, most, greater than, less than).</p>	<p>Teacher will guide students to:</p> <p>M4.A.1.2.1 Locate/identify fractions or decimals on a number line (decimals and fractions through the tenths – do not mix fractions and decimals).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.4.5.B</p> <p>Use models, number facts, properties and relationships to check and verify predictions and explain reasoning</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.4.5.E</p> <p>Interpret statements made with precise language of logic (e.g., “all”, “or”, “every”, “none”, “some”, “or”, “many”).</p>	<p>Teacher will guide students to:</p> <p>M4.E.1.1.1 Describe, interpret and/or answer questions based on data shown in tables, charts, bar graphs or pictographs.</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.7.5.A</p> <p>Perform simulations with concrete devices (e.g., dice, spinner) to predict the chance of an event occurring.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.7.5.B</p> <p>Determine the fairness of the design of a spinner.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p> <p>Spinner</p>
<p>PA Standard 2.7.5.C</p> <p>Express probabilities as fractions and decimals.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.7.5.D</p> <p>Compare predictions based on theoretical probability and experimental results.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.7.5.E</p> <p>Calculate the probability of a simple event.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.7.5.F</p> <p>Determine patterns generated as a result of an experiment.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>
<p>PA Standard 2.7.5.G</p> <p>Determine the probability of an event involving “and”, “or” or “not”.</p>	<p>Teacher will guide students to:</p> <p>M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Probability

MAJOR OBJECTIVE: Write probability as a fraction and make predictions based on outcomes.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.7.5.H Predict and determine why some outcomes are certain, more likely, less likely, equally likely or impossible	Teacher will guide students to: M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.7.5.I Find all possible combinations and arrangements involving a limited number of variables.	Teacher will guide students to: M4.E.3.1.1 Make a prediction based on data or chance (data may be shown in tables, charts, line graphs, bar graphs or pictographs)	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.A</p> <p>Recognize, reproduce, extend, create and describe patterns, sequences and relationships verbally, numerically, symbolically and graphically, using a variety of materials.</p>	<p>Teacher will guide students to:</p> <p>M4.D.1.1.1 Extend or find a missing element in a numerical or geometric pattern (+, - or x may be used – numerical patterns must be whole numbers).</p> <p>M4.D.1.1.2 Identify/describe the rule for a numerical or geometric pattern shown (+, - or x may be used - numerical patterns must be whole numbers).</p> <p>M4.D.1.1.3 Create or replicate a numerical or geometric pattern showing 3 repetitions (+, - or x may be used - numerical patterns must be whole numbers or money).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.B</p> <p>Connect patterns to geometric relations and basic number skills.</p>	<p>Teacher will guide students to:</p> <p>M4.D.1.1.1 Extend or find a missing element in a numerical or geometric pattern (+, - or x may be used – numerical patterns must be whole numbers).</p> <p>M4.D.1.1.2 Identify/describe the rule for a numerical or geometric pattern shown (+, - or x may be used - numerical patterns must be whole numbers).</p> <p>M4.D.1.1.3 Create or replicate a numerical or geometric pattern showing 3 repetitions (+, - or x may be used - numerical patterns must be whole numbers or money).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.C</p> <p>Form rules based on patterns (e.g., an equation that relates pairs in a sequence).</p>	<p>Teacher will guide students to:</p> <p>M4.D.1.1.1 Extend or find a missing element in a numerical or geometric pattern (+, - or x may be used – numerical patterns must be whole numbers).</p> <p>M4.D.1.1.2 Identify/describe the rule for a numerical or geometric pattern shown (+, - or x may be used - numerical patterns must be whole numbers).</p> <p>M4.D.1.1.3 Create or replicate a numerical or geometric pattern showing 3 repetitions (+, - or x may be used - numerical patterns must be whole numbers or money).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.D</p> <p>Use concrete objects and combinations of symbols and numbers to create expressions that model mathematical situations.</p>	<p>Teacher will guide students to:</p> <p>M4.D.1.2.1 Determine the missing elements in a function table (functions may use +, - or x and whole numbers or money).</p> <p>M4.D.1.2.2 Determine the rule for a function given a table (functions may use +, - or x and whole numbers).</p> <p>M4.D.2.1.1 Correlate story situations with expressions or equations (may use numbers and one operation +, - or x; no variables).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
PA Standard 2.8.5.E Explain the use of combinations of symbols and numbers in expressions, equations and inequalities.	Teacher will guide students to: M4.D.1.2.2 Determine the rule for a function given a table (functions may use +, - or x and whole numbers).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources
PA Standard 2.8.5.F Describe a realistic situation using information given in equations, inequalities, tables or graphs.	Teacher will guide students to: M4.D.2.1.1 Correlate story situations with expressions or equations (may use numbers and one operation +, - or x; no variables).	Teacher evaluation of: tests/quizzes class discussion board work individual/group activities math journal whole class discussion oral question and answer	Textbook resources Journal or notebook Various supplemental materials Technology resources

CONTENT: Grade Four Math

CORE CONCEPT 10: Algebraic Concepts

MAJOR OBJECTIVE: Identify number and shape patterns and evaluate expressions containing a variable.

CURRICULUM STANDARD:

State Standard/Student Expectation	Specific Content	Assessments	Resources/Materials
<p>PA Standard 2.8.5.G</p> <p>Select and use appropriate strategies, including concrete materials, to solve number sentences and explain the method of solution.</p>	<p>Teacher will guide students to:</p> <p>M4.D.2.2.1 Solve for a missing number in an equation (using estimation, guess & check, etc.). May use +, - or single digit \times or \div.</p> <p>M4.D.2.2.2 Identify the missing symbol (+, -, \times, \div, =, <, >) that makes a number sentence true (single digit \times or \div only).</p>	<p>Teacher evaluation of:</p> <p>tests/quizzes</p> <p>class discussion</p> <p>board work</p> <p>individual/group activities</p> <p>math journal</p> <p>whole class discussion</p> <p>oral question and answer</p>	<p>Textbook resources</p> <p>Journal or notebook</p> <p>Various supplemental materials</p> <p>Technology resources</p>

V. EXPECTED LEVELS OF ACHIEVEMENT

A. Students are expected to reach the proficient level of achievement in grade four mathematics. These skills include all of those noted in the specific content area of this curriculum.

B. Grading system this course is as follows:

Grading Scale	
A	100%-90%
B	89%-80%
C	79%-70%
D	69%-60%
F	Below 60%

C. A student's grade will be determined at the conclusion of each marking period. Progress reports will be sent home at the mid-point of each marking period for those students achieving below 70%.