Rockwood Elementary School

Mathematics

Grade Level: Kindergarten

	2.1 Numbers & Operations–Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
K	CC.2.1.K.A.1–Know number names and write and recite the count sequence.	I. Number Names II. Ordinal Words	I. Number Names a. Recognize and name a number 0–30. b. Print numbers 1–30 in sequence. c. Sequence numbers 0–30. d. Orally count to 100. e. Skip count by 2s, 5s, and 10s. f. Count beginning with any number, not just 1. II. Ordinal Words a. Read number words 0–10. a. Place ordinal words in the correct order 0–10.	Number Word Book, flashcards, games, Number booklets, small group tens frames, MacMillan McGraw Hill textbook	Kindergarten Checklist Report Card 80% Accuracy
	CC.2.1.K.A.2–Apply one to one correspondence to count the number of objects.	I. Number Values	I. Number Values a. Show number values by drawing pictures or coloring a given amount 1–30. b. Show values of numbers 0–30.	Small group hands-on materials, McGraw Hill textbook, Small Group Hundreds Chart, tens frame, whole group counting songs,	Kindergarten Checklist Report Card 80% Accuracy

				MacMillan McGraw Hill textbook, Dr. Jean CD Sing to Read, Jack Hartman Math CD	
	CC.2.1.K.A.3–Apply the concept of magnitude to compare numbers and quantities.	I. Comparing Numbers	I. Comparing Numbers a. Describe who has more, less, or equal using manipulatives.	MacMillan McGraw Hill Number books from online sources, poems, numeral song, Dr. Jean Sing to Read	Kindergarten Checklist Report Card 80% Accuracy
	2.1 Numbers & Operations–Numbers & Operations in Base Ten				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
K	CC.2.1.K.B.1–Use place value to compose and decompose numbers within 19.	I. Representing Numbers	I. Representing Numbers a. Show number value by drawing pictures or coloring a given amount. b. Use a ten frame to represent the numbers 0–30.	McMillan McGraw Hill Number books from online sources, poems, numeral song, Dr. Jean Sing to Read, McGraw Hill textbook, number booklet, small group tens frame.	Kindergarten Checklist Report Card 80% Accuracy
	2.1 Numbers & Operations–Numbers & Operations–Fractions				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

2.2 Algebraic Concepts–Operations and Algebraic Thinking

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.2.K.A.1–Extend the concepts of putting together and taking apart to add and subtract within 10.	I. Addition & Subtraction	I. Addition & Subtraction a. Add within 10 using manipulatives. b. Subtract within 10 using manipulatives. c. Fluency add and subtract to 5.	Hands-on activities, number stories, McGraw Hill textbook	Kindergarten Checklist Report Card 80% Accuracy

(K)

2.3 Geometry–Geometry

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.3.K.A.1–Identify and describe two- and three- dimensional shapes.	I. Shape Identification	I. Shape Identification a. Identify objects in the room that are shaped	Shape Bingo, Follow the Directions, Dr. Jean Shape Song, Sing to Read,	Kindergarten Checklist Report Card 80% Accuracy

| K | | II. Developing Graphs | like the four basic shapes.
b. Recognize shapes regardless of orientation.
c. Identify and describe sphere, cone, cube, cylinder.

I. Developing Graphs
a. Create pictographs.
b. Create bar graphs.
c. Create tally charts. | McGraw Hill textbook | |
| | CC.2.3.K.A.2–Analyze, compare, create, and compose two– and three– dimensional shapes. | I. Draw Shapes

II. Comparison of Shapes | I. Draw Shapes
a. Draw the four basic shapes.

II. Comparison of Shapes
b. Compare 2-Dimensional shapes based on attributes. | McGraw Hill textbook, hands-on activities | Teacher Observation

80% Accuracy |

2.4 Measurement, Data, and Probability–Measurement & Data				
PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.4.K.A.1–Describe and compare attributes of length, area, weight, and	I. Nonstandard Units of Measurement	I. Nonstandard Units of Measurement a. Measure using nonstandard units of	Attribute blocks, McGraw Hill	Kindergarten Checklist Report Card 80% Accuracy

K	capacity of everyday objects.	II. Weight III. Capacity	measurement (ex. connecting cubes). II. Weight a. Compare objects of weight by describing which object is lighter, heavier, or equal. III. Capacity a. Compare objects of capacity by describing which objects holds less, more, or equal. IV. Telling Time a. Tell time to the hour and half hour using digital and analog clocks.	textbook, Student Clocks	
K	CC.2.4.K.A.4–Classify objects and count the number of objects in each category.	I. Counting II. Sorting	I. Counting a. Estimate the number of objects in a group. b. Count the actual amount verses the estimated amount. II. Sorting a. Sort by color, shape, size, and kind.	McGraw Hill textbook, hands-on manipulatives, Buttons, blocks, bears, squares, lids, unifex cubes, M& Ms, "Sorting Socks," pictures	Teacher Observation 80% Accuracy

Rockwood Elementary School

Mathematics

Grade Level: 1

	2.1 Numbers & Operations–Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank
	2.1 Numbers & Operations–Numbers & Operations in Base Ten				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
1	CC.2.1.1.B.1–Extend the counting sequence to read and write numerals to represent objects.	I. Number Sense II. Comparing Values III. Number Words	I. Number Sense a. Read & write numerals 0–100. II. Comparing Values a. Compare values of numbers 0–100. III. Number Words a. Connect numbers with their words 0–20.	Basal, manipulatives, SmartBoard, worksheets	Written assessments, performance tasks 80% Accuracy

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
I	CC.2.1.1.B.2–Use place–value concepts to represent amounts of tens and ones and to compare two digit numbers.	I. Place Value II. Even & Odd III. Skip Counting	I. Place Value a. Represent numbers by tens and ones. II. Even & Odd a. Distinguish between even and odd numbers 0–100. III. Skip Counting a. Skip count by 2s, 5s, and 10s up to 100.	Basal, manipulatives, SmartBoard, workbooks	Written assessments and performance tasks 80% Accuracy
	CC.2.1.1.B.3–Use place–value concepts and properties of operations to add and subtract within 100.	I. Addition & Subtraction II. Estimation	I. Addition & Subtraction a. Solve addition and subtraction problems with two digit numbers without regrouping. II. Estimation b. Round sums and differences of two digit numbers.	Basal, manipulatives, SmartBoard, worksheets	Written assessments, performance tasks 80% Accuracy
	<mark>2.1 Numbers & Operations–Numbers & Operations–Fractions</mark>				
	<mark>PA Common Core Standards</mark>	<mark>Learning Objectives</mark>	<mark>Description of Specific Skills Taught</mark>	<mark>Resources</mark>	<mark>Evaluation</mark>
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

	2.2 Algebraic Concepts–Operations and Algebraic Thinking				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
1	CC.2.2.1.A.1–Represent and solve problems involving addition and subtraction within 20.	I. Addition Sentences II. Subtraction Sentences	I. Addition Sentences a. Count on to 100 from greater numbers. b. Solve addition sentences using one and two digit numbers. c. Solve addition sentences using three numbers. d. Use a number line within 100. II. Subtraction Sentences a. Count back from greater numbers within 100.	Basal, manipulatives, SmartBoard, worksheets	Performance tasks, written assessments 80% Accuracy

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
			b. Solve subtraction sentences using one and two digit numbers. c. Use a number line within 100.		
	CC.2.2.1.A.2–Understand and apply properties of operations and the relationship between addition and subtraction.	I. Properties of Addition & Subtraction	I. Properties of Addition & Subtraction a. Recognize the commutative property and how to apply it to number sentences.	Basal, manipulatives, SmartBoard, worksheets	Performance tasks, written assessments 80% Accuracy

	2.3 Geometry–Geometry				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.3.1.A.1–Compose and distinguish between two– and three– dimensional shapes based on their attributes.	I. Two–Dimensional Shapes II. Three–Dimensional Shapes	I. Two–Dimensional Shapes a. Identify common two dimensional figures–sphere, cube, pyramid, rectangular prism, cone, cylinder. b. Classify two dimensional figures by the number of sides.	Basal, worksheets, SmartBoard, manipulatives	Written assessments, performance tasks 80% Accuracy

| | | | II. Three-Dimensional Figures
a. Identify common three dimensional figures—sphere, cube, pyramid, rectangular prism, cone, cylinder.
b. Classify three dimensional figures by faces, edges, and corners. | | |
| I | CC.2.3.1.A.2–Use the understanding of fractions to partition shapes into halves and quarters. | I. Fractions | I. Fractions
a. Separate a whole into two, three, or four equal parts.
b. Use appropriate fraction language–numerator and denominator. | Basal, worksheets, SmartBoard, manipulatives | Written assessments, performance tasks

80% Accuracy |

2.4 Measurement, Data, and Probability–Measurement & Data					
PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation	
CC.2.4.1.A.1–Order lengths and measure them both indirectly and by repeating length units.	I. Length II. Area III. Capacity	I. Length a. Measure lengths using standard and nonstandard units. b. Measure lengths using a ruler to the nearest inch.	Basal, manipulatives, worksheets, SmartBoard	Written assessments, performance tasks 80% Accuracy	

			II. Area a. Measure area using nonstandard units. III. Capacity a. Measure capacity using nonstandard units.		
I	CC.2.4.I.A.2–Tell and write time to the nearest half hour using both analog and digit clocks.	I. Telling Time	I. Telling Time a. Read time to the nearest hour and half hour. b. Understand how many minutes in one hour and how many hours in a day. c. Demonstrate time on a model clock to the nearest half hour. d. Differentiate between shorter and longer time spans with everyday activities.	Basal, manipulatives, worksheets, SmartBoard	Written assessments, performance tasks 80% Accuracy
	CC.2.4.I.A.4–Represent and interpret data using tables/charts.	I. Graphing	I. Graphing a. Construct pie charts. b. Construct bar graphs. c. Construct pictographs. d. Collect data and create tally charts. e. Compare and analyze data and results.	Basal, manipulatives, worksheets, SmartBoard	Written assessments, performance tasks 80% Accuracy

Rockwood Elementary School

Mathematics

Grade Level: 2

	2.1 Numbers & Operations-Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank
	2.1 Numbers & Operations-Numbers & Operations in Base Ten				
2	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.1.2.B.1-Use place value concepts to represent amounts of tens and ones and to compare three digit numbers.	I. Ones & Tens Place Value II. Hundreds Place Value III. Thousands Place Value IV. Estimation V. Compare Numbers	I. Ones & Tens Place Value a. Show and model numbers with ones and tens. II. Hundreds Place Value b. Identify place values to 100. III. Thousands Place Value c. Introduce place values to 1,000. IV. Estimation a. Estimate amounts up to 100. V. Compare Numbers a. Order numbers from least to greatest and greatest to least to thousands place value. b. Compare numbers using greater than, less	Basal, manipulatives, supplemental activities, student book, SmartBoard, First in Math	Book assessment, informal performance assessments 80% Accuracy

			than, and equal to symbols. c. Compare numbers to thousands.		
2	CC.2.1.2.B.2–Use place value concepts to read, write, and skip count to 1000.	I. Patterns II. Read & Write Numbers III. Skip Count	I. Patterns a. Identify the rule followed in a pattern (pictures and numerical patterns using one and two rules). b. Recognize patterns on a hundreds chart. II. Read & Write Numbers a. Read numbers to 1,000. b. Read number words to 1,000. c. Write numbers to 1,000 in standard form. d. Write numbers in expanded notation to 1,000. III. Skip Count a. Skip count by 2s, 3s, 5s, and 10s.	Basal, manipulatives, supplemental activities, student book, SmartBoard, First in Math	Base ten blocks 80% Accuracy
	CC.2.1.2.B.3–Use place value understanding and properties of operations to add and subtract within 1000.	I. Adding II. Subtracting III. Problem Solving Strategies	I. Adding a. Add numbers up to tens place value. b. Count on ones and tens.	Basal, manipulatives, supplemental activities, student book, SmartBoard, First in Math	Book assessment, informal performance assessments

2			c. Regroup ones and tens while adding. d. Write addition number sentences. e. Estimate and add numbers up to tens place value. f. Add three two digit numbers. g. Name the missing addend. II. Subtracting a. Subtract numbers in tens and ones place value. b. Regroup while subtracting numbers in tens and ones place value. c. Count back in tens and ones. d. Write subtraction number sentences. e. Estimate and subtract numbers up to tens place value. III. Problem Solving Strategies a. Work backwards while solving word problems.		

2			b. Use the act it out strategy to solve word problems. c. Guess and check while solving word problems. d. Draw a picture while solving word problems. e. Make a table/chart while solving word problems.		

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

2.2 Algebraic Concepts–Operations and Algebraic Thinking

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.2.2.A.1–Represent and solve problems involving	I. Addition Properties	I. Addition Properties	Graphic organizers, flashcards, "Dad's	Book assessments, informal performance assessments

2	addition and subtraction within 100.	II. Doubles III. Make Ten IV. Adding Multiple Numbers	a. Use the commutative property to solve addition sentences. II. Doubles a. Recognize doubles. b. Give the sum of doubles. c. Recognize near doubles. d. Give the sum of near doubles. III. Make Ten I. Give a second number to make ten. IV. Adding Multiple Numbers a. Add three numbers within ten.	worksheets," manipulatives, basal, student book	80% Accuracy
	CC.2.2.2.A.2–Use mental strategies to add and subtract within 20.	I. Mental Subtraction	I. Mental Subtraction a. Count back to subtract. b. Subtract all and subtract zero. c. Use doubles to subtract. d. Relate addition to subtraction.	Basal, manipulatives, SmartBoard, worksheets, flashcards, "Dad's worksheets"	Book assessments, informal performance assessments 80% Accuracy

2			e. Understand fact families to quickly recognize addition and subtraction facts.		
	CC.2.2.2.A.3–Work with equal groups of objects to gain foundations for multiplication.	I. Multiplication	I. Multiplication a. Introduce multiplication as repeated addition. b. Show strategies and tricks for multiplying by 1, 2, 5, and 10. c. Fluently multiply by 1, 2, 5, and 10s.	"Dad's worksheets," timer	"Dad's Worksheets" 80% Accuracy

	2.3 Geometry–Geometry				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
2	CC.2.3.2.A.1–Analyze and draw two and three dimensional shapes having specified attributes.	I. Naming Parts of Shapes II. Similarities & Differences between Two Dimensional and Three Dimensional	I. Naming Parts of Shapes a. Identify faces, edges, and vertices. II. Similarities & Differences between Two Dimensional and Three Dimensional a. Relate 2D and 3D figures by comparing and contrasting attributes. b. Introduce a hemisphere.	Basal, manipulatives, SmartBoard, worksheets, flashcards, "Dad's worksheets"	Book assessments, informal performance assessments
2	CC.2.3.2.A.2–Use the understanding of fractions to partition shapes into halves, quarters, and thirds.	I. Unit Fractions II. Compare Fractions	I. Unit Fractions a. Name unit fractions from 1/2 to 1/12. b. Draw a picture of fractions from ½ to 1/12. c. Name how many parts are equal to a whole. II. Compare Fractions a. Compare fractions by looking at pictures with equal denominators.	Basal, worksheets, SmartBoard, manipulatives, fraction bars, fraction books, fraction pizza, food	Hands-on assessments, Chapter check up, homework 80% Accuracy

2.4 Measurement, Data, and Probability-Measurement & Data				
PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.4.2.A.1-Measure and estimate lengths in standards units using appropriate tools.	I. Length II. Capacity III. Weight IV. Temperature	I. Length a. Measure length in standard and nonstandard units. b. Measure length to the nearest inch and feet in standard units. c. Measure length to the nearest centimeter in metric units. II. Capacity a. Measure capacity in standard and nonstandard units. b. Measure capacity in cups, pints, quarts, and gallons. III. Weight a. Measure weight in standard and nonstandard units. b. Measure weight in standard units-pounds. c. Measure weight in metric units-kilograms.	Weather iron, large demonstration thermometer, timer	Book assessments, informal performance assessments 80% Accuracy

2			IV. Temperatures a. Read and write positive temperatures. b. Read thermometers. c. Use a thermometer to gather data.		
	CC.2.4.2.A.2–Tell and write time to the nearest five minutes using both analog and digital clocks.	I. Reading Time II. Elapsed Time	I. Reading Time a. Tells time to hour and half hour. b. Tells time to the nearest five minutes. c. Estimate time. II. Elapsed Time a. Identify elapsed time to hour and half hour.	Basal, manipulatives, counters, buttons, food, blocks, unifex cubes	Book assessments, informal performance assessments 80% Accuracy
	CC.2.4.2.A.3–Solve problems and make change using coins and paper currency with appropriate symbols.	I. Counting Money II. Adding & Subtracting Money	I. Counting Money a. Count coins–pennies, nickels, dimes, quarters, half dollars. b. Use dollars and coins to make whole amounts. II. Adding & Subtracting Money a. Add & subtract money to determine totals or change.	Coins, whiteboards, basal, large demonstration coins	Book assessments, informal observations, performance assessment of counting money 80% Accuracy
	CC.2.4.2.A.4–Represent and interpret data using	I. Collecting Data II. Picture Graphs	I. Collecting Data a. Take a survey and record results.	Basal, manipulatives,	Book assessments, informal performance assessments

2	line plots, picture graphs, and bar graphs.	III. Bar Graphs IV. Tally Charts	II. Picture Graphs a. Read a picture graph. b. Create a picture graph. c. Analyze picture graphs. III. Bar Graphs a. Read a bar graph. b. Create a bar graph. c. Analyze bar graphs. IV. Tally Charts a. Use tally charts to construct graphs.	worksheets, SmartBoard	80% Accuracy
2	CC.2.4.2.A.6–Extend the concepts of addition and subtraction to problems involving length.	I. Adding & Subtracting Length	I. Adding & Subtracting with Length a. Compare lengths by finding the differences and combinations of different lengths to the nearest inch or foot.	Rulers, Number Lines	Hands-on, chapter check ups 80% Accuracy

Rockwood Area Elementary School

Mathematics Curriculum

Grade Level: 3

	2.1 Numbers & Operations–Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank
	2.1 Numbers & Operations–Numbers & Operations in Base Ten				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
3	CC.2.1.3.B.1–Apply place-value understanding and properties of operations to perform multi-digit arithmetic. 3.NBT.1, 3.NBT.2, 3.NBT.3	I. Reading & Writing Numbers II. Decimals III. Place Value IV. Properties V. Fact Families	I. Reading & Writing Numbers a. Write numbers in standard form up to 100,000. b. Write numbers in word form up to 100,000. c. Write numbers in expanded form up to 100,000.	Student Hardback books, Teachers' Manual, Word Wall words, flash cards, manipulatives, number lines, place value material, hundreds chart, M&M's Counting Book, Adding It Up,	Daily Teacher observation of student responses, informal and formal assessments, project: Fact Family House Flip Book (rubric), Problem of Week 80% Accuracy

| 3 | | VI. Number Sentences

VII. Rounding

VIII. Adding/Subtracting

IX. Multiplying

X. Ordering | II. Decimals
a. Write decimals up to hundredths place value in standard form.
b. Write numbers up to hundredths place value in word form.
c. Write numbers up to hundredths place value in expanded form.

III. Place Value
a. Apply and connect place value to the expanded form.
b. Round to the nearest ten, hundreds, and thousands.
c. Apply rounding to estimating sums and differences.

IV. Properties
a. Apply commutative and identity properties.
b. Apply associative property using addition.

V. Fact Families
a. Write and relate fact families using basic facts. | Sir Circumference and All the King's Tens, First in Math, Smart Board/Promethean Board, Study Island | |

3			b. Apply fact families to two digit addition and subtraction problems to form equations and expressions. VI. Number Sentences a. Write number sentences for addition, subtraction, and estimating to solve multi-step word problems. VII. Rounding a. Round two and three digit numbers to the nearest ten or hundred. VIII. Adding/Subtracting a. Add/subtract two or three digit numbers. IX. Multiplying a. Multiply one digit whole numbers by two digit multiples of ten. X. Ordering a. Order whole numbers from least to greatest or greatest to least (up to 9,999).		

	2.1 Numbers & Operations–Numbers & Operations–Fractions				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.1.3.C.1–Explore and develop an understanding of fractions as numbers.

3.NF.1, 3.NF.2, 3.NF.3, 3.NF.4 | I. Fraction Terminology

II. Representing Fractions

III. Comparing Fractions | I. Fraction Terminology
a. Introduce fractions using the terms numerator and denominator.

II. Representing Fractions
a. Differentiate between fractions as part of a whole and as part of a set.
b. Model Fractions using I Do, We Do, You Do strategy using manipulatives.
c. Partition shapes (denominator of 8) into equal parts with equal areas.
d. Identify the area of each part as a unit fraction of a whole (i.e. 1/3 + 1/3 + 1/3 = 3/3 = 1 whole).
e. Represent fractions with denominators of 2,3,4,6, and 8 on a number line (numerators | Student Hardback Book, Teachers' Manual, word wall, worksheets, Tangrams, fraction pies and bars, Grandfather Tang, The Grapes of Math, Jump, Kangaroo, Jump!, Fractions, Fraction Fun, Probably Pistachio: Probability, First in Math, Smart Board/Promethean Board, Study Island | Daily teacher observation of student responses, Informal and formal assessments, project–create patterns within shapes with tangrams (rubric), pizza project

80% Accuracy |

| 3 | | | less than the denominator).
e. Create simple equivalent fractions with original denominators of 2,3,4,6, and 8.
f. Express whole numbers as fractions.

III. Comparing Fractions
a. Compare fractions with the same denominators using less than, greater than, or equal to. | | |

3					

3	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.2.3.A.1–Represent and solve problems involving multiplication and division. 3.OA.1, 3.OA.2 3.OA.3, 3.OA.4	I. Arrays II. Multiples III. Division IV. Missing Number	I. Arrays a. Introduce arrays to help develop visual images that support their understanding of multiplication. b. Understand and work with an array. c. Use arrays and repeated addition to represent the relationship between a product and its factors.	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, manipulatives, balance–commutative property, Hershey's Multiplication, Hershey's Multiplication and Division, Too Many Kangaroo Things to Do: Multiplying, First in	Daily teacher observation of student responses, informal and formal assessments, project–array (rubric), groups of repeated addition, write a story problem booklet, problem of week 80% Accuracy

3			d. Explain how to break apart arrays, and use known facts, to multiply by different factors. II. Multiples a. Determine, describe, and compare sets of multiples. b. Learn the multiplication combinations with products up to 144. c. Explore the connection between multiplication and division. d. Interpret products of whole numbers up to 12x12. III. Division a. Solve division situations that involve sharing and grouping. b. Solve division using repeated subtraction. c. Develop strategies for solving multiplication and division problems.	Math, Smart Board/Promethean Board, Study Island	

			d. Write and solve division word problems. e. Interpret whole number quotients. IV. Missing Number a. Determine the missing number in a multiplication or division equation to make an equation true.		
3	CC.2.2.3.A.2–Understand properties of multiplication and the relationship between multiplication and division. 3.OA.5, 3.OA.6	I. Meaning of Multiplication II. Properties of Multiplication III. Inverse Operations	I. Meaning of Multiplication a. Understand the meaning of multiplication. II. Properties of Multiplication a. Multiply three factors using the associative property. b. Investigate the properties of multiplication and division, including the inverse relationship between these two operations.	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, manipulatives, number lines, Hershey's Multiplication and Division books, First in Math, Smart Board/Promethean Board, Study Island	Daily teacher observation of student responses, informal and formal assessments, project–properties poster (rubric), problem of week 80% Accuracy

			c. Apply the commutative, associative, and distributive properties of multiplication as they solve problems.

III. Inverse Operations
a. Apply the inverse relationship between multiplication and division.
b. Develop strategies for division based on understanding the inverse relationship between multiplication and division (fact family). | | |
| 3 | CC.2.2.3.A.3–Demonstrate multiplication and division fluency. | I. Multiplication

II. Division as Multiplication | I. Multiplication
a. Learn the multiplication combinations with products to 144 fluently.
b. Solve multiplication combinations and related division problems using skip counting or known | Student Hardback books, Teachers' Manual, word wall, flashcards, worksheets, manipulatives, hundreds chart, First in Math, Smart Board/Promethean Board, Study Island | Daily teacher observation of student responses, informal and formal assessments, project–create a game board, ongoing individual timed test chart, problem of week

80% Accuracy |

3			multiplication combinations. c. Demonstrate fluency with multiplication combinations with products up to 144 (Timed tests and X games). II. Division as Multiplication a. Recognize division facts (through 144) as multiplication facts.		

| 3 | CC.2.2.3.A.4–Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.OA.8, 3.OA.9 | I. Key Words

II. Problem Solving Strategies

III. Order of Operations

IV. Patterns

V. Missing Symbols | I. Key Words
a. List and locate key words for addition, subtraction, multiplication, and division in order to solve multi step problems.

II. Problem Solving Strategies
a. Solve problems through making a list.
b. Use reasonableness to justify an answer.
c. Solve problems by drawing a picture and | Student Hardback books, Teachers' Manual, word wall, worksheets, Flash Cards, manipulatives, number lines, hundreds chart, First in Math, Smart Board/Promethean Board, Study Island, Mr. Anker website | Daily teacher observation of student responses, informal and formal assessments, project–sort of key words, create a game board in groups with word problem cards using key words, write a song to help recall key words, problem of week

80% Accuracy |

| 3 | | | writing a number sentence.
d. Use objects and draw pictures to solve a problem.
e. Explain how and why steps are used in problem solving.
f. Identify when you need to answer more than one question to solve a problem.
g. Determine what question needs to be figured out first in a multistep problem.
h. Write equations to solve multistep problems.
i. Make a table to help you solve a problem involving patterns.
j. Draw conclusions using tables and graphs to aide in problem solving.
k. Use the strategy guess and check to solve problems. | | |

3			l. Solve two step word problems using the four operations. m. Determine if an answer is reasonable. III. Order of Operations a. Solve two-step problems using order of operations. IV. Patterns a. Identify arithmetic patterns. V. Missing Symbols a. Identify missing symbols that make a number sentence true using all four operations.		

	<mark>2.3 Geometry-Geometry</mark>

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
3	CC.2.3.3.A.1–Identify, compare, and classify shapes and their attributes. 3.G.1, 3.G.2	I. Two Dimensional Figures II. Polygons III. Three Dimensional Figures IV. Quadrilaterals	I. Two Dimensional Figures a. Review two dimensional figures. b. Identify attributes for two dimensional figures. II. Polygons a. Introduce new polygons. b. Categorize polygons based on attributes (i.e. quadrilaterals and parallelograms). c. Make generalizations about a group of polygons. III. Three Dimensional Figures a. Review three dimensional figures. b. Identify attributes for three dimensional figures. c. Compare two dimensional and three dimensional figures by their attributes.	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, manipulatives, number lines, place value material, <u>Let's Fly a Kite: Symmetry</u>, <u>Math Fair Blues: 2D Shapes</u>, <u>Tatum's Favorite Shape</u>, First in Math, Smart Board/Promethean Board, Study Island, PowerPoints	Daily teacher observation of student responses, informal and formal assessments, project-zoo animals, problem of week-partitioning 80% Accuracy

		IV. Quadrilaterals a. Identify and draw quadrilaterals.		
CC.2.3.3.A.2–Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole. 3.G.1, 3.G.2	I. Equivalent Fractions II. Comparing Fractions	I. Equivalent Fractions a. Review fractions as a part of a whole and part of a set. b. Use manipulatives to represent equivalent fractions. c. Draw equivalent fractions with the same denominators. II. Comparing Fractions a. Compare two fractions with the same numerator and denominator by reasoning about their size using models. b. Record the results of comparisons with >,<,=. c. Represent fractions on a number line.	Student Hardback books, Teachers' Manual, word wall, worksheets, manipulatives, fraction number lines, fraction pieces, shapes, Dinosaur Deals: Equivalent Values, Jump, Kangaroo, Jump! Fractions, First in Math, Smart Board/Promethean Board, Study Island	Daily teacher observation of student responses, informal and formal assessments, project=1/2, 1/3, ¼ flip book, problem of week–explain equivalent 80% Accuracy

	2.4 Measurement, Data, and Probability–Measurement & Data				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
3	CC.2.4.3.A.1–Solve problems involving measurement and estimation of temperature, liquid, volume, mass, and length. 3.MD.2, 3.MD.4	I. Standards & Nonstandard Forms of Measurement II. Measuring Length III. Temperature IV. Measuring Liquids V. Mass	I. Standard & Nonstandard Forms of Measurement a. Use standard and nonstandard units of measurement. II. Measuring Length a. Measure length using customary units and metric units. b. Estimate measurements of length using customary units and metric units. c. Use rulers to measure to the nearest quarter inch or centimeter. III. Temperature a. Read a thermometer using degrees Fahrenheit–positive. b. Identify both boiling point and freezing point. c. Determine appropriate	Student Hardback books, Teachers' Manual, word wall, worksheets, capacity containers, rulers, manipuatives, Room for Ripley: Capacity, Keep Your Distance: Measurement, Carrie Measures: Length, Measuring Penny, First in Math, Smart Board/Promethean Board, Study Island	Daily teacher observation of student responses, informal and formal assessments, project–record temperature for a month (rubric), Explore Mass and Volume with Science experiment, problem of week 80% Accuracy

			temperature for a given situation or time of year. d. Compare positive temperatures by finding differences. IV. Measuring Liquids a. Use customary and metric units for measuring liquid volume. b. Convert units of liquid volumes. c. Determine reasonableness of volume using common objects. V. Mass a. Measure and estimate masses of objects using units.		
3	CC.2.4.3.A.2–Tell and write time to the nearest minute and solve problems by calculating time intervals. 3.MD.1	I. Reading Time II. Elapsed Time III. Converting Time	I. Reading Time a. Identify the amount of days in a year, months in a year, days in a month, days in a week, hours in a day, minutes in an hour, and seconds in a minute. b. Tell time to the nearest minute.	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, calendars, clocks, schedules, <u>Learn to Tell Time with the Munch Bunch</u>, <u>Slowpoke: Elapsed</u>	Daily teacher observation of student responses, informal and formal assessments, project–Create a clock, Movie Theatre manager, problem of week 80% Accuracy

			c. Use fifteen minute increments to tell time using proper terms (quarter, past, until, before, after, and half). II. Elapsed Time a. Identify elapsed time to the nearest minute. b. Solve problems to determine the elapsed time, start time, or end time of events. c. Read a calendar to determine elapsed time. III. Converting Time a. Change from hours to minutes or minutes to hours when measuring time. b. Use addition and subtraction of time intervals to solve word problems. c. Read and create schedules displaying time intervals.	Time, A Child's Calendar, First in Math, Smart Board/Promethean Board, Study Island	
3	CC.2.4.3.A.3–Solve problems and make change involving money	I. Counting Money II. Comparing Money III. Making Change IV. Amount Spent	I. Counting Money a. Count a combination of coins and bills. II. Comparing Money	Student Hardback books, Teachers' Manual, word wall, worksheets, money	Daily teacher observation of student responses, informal and formal assessments, project–Thanksgiving

| 3 | using a combination of coins and bills. | V. Rounding Money | b. Compare combinations of bills and coins (less than $5.00) using <,>,=. c. Order money amounts from greatest to least and least to greatest.

III. Making Change
a. Count up to make change (for an amount up to $5.00 but less than $2.00).
b. Subtract across zeroes to determine change.

IV. Amount Spent
a. Solve and write word problems to identify the amount spent.

V. Rounding Money
a. Round amounts of money to the nearest dollar. | flashcards, manipulatives, coins and bills, First in Math, Smart Board/Promethean Board, Study Island | Dinner/Christmas presents, problem of week

80% Accuracy |

| 3 | CC.2.4.3.A.4–Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

3.MD.3, 3.MD.4 | I. Pictographs
II. Line Plots
III. Tally Charts & Tables
IV. Bar Graphs
V. Translating Graphs | I. Pictographs
a. Determine the value of a symbol shown in a key to read a pictograph.
b. Represent and interpret a scaled pictograph.

II. Line Plots
a. Create line plots to organize and represent data. | Student Hardback books, Teachers' Manual, word wall, worksheets, manipulatives, First in Math, Smart Board/Promethean Board, Study Island | Daily teacher observation of student responses, informal and formal assessments, project–graphing project, problem of week

80% Accuracy |

3			b. Represent and interpret a line plot. III. Tally Charts & Tables a. Collect and organize data using a tally chart and table. IV. Bar Graphs a. Construct a scaled bar graph from a given set of data. b. Represent and interpret a bar graph. c. Determine the scale to represent data for a bar graph. V. Translating Graphs a. Translate information displayed in one type of graph to another.		
	CC.2.4.3.A.5–Determine the area of a rectangle and apply the concept to multiplication and to addition. 3.MD.6, 3.MD.7	I. Measuring Area II. Designing Shapes Using Area	I. Measuring Area a. Measure the number of squares needed to cover a shape. b. Use units to describe an area. c. Measure the area of a shape using standard units.	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, manipulatives, place value material, Bigger, Better, Best! Area, First in Math, Smart	Daily teacher observation of student responses, informal and formal assessments, project, problem of week 80% Accuracy

3			d. Measure the area of a shape using computations. e. Explore shapes within shapes (rectangles) and apply it to area using addition or multiplication. f. Calculate the area of an irregular figure. II. Designing Shapes Using Area a. Design rectangles of the same area, but different perimeters (similar shapes). b. Create polygons based on a given area.	Board/Promethean Board, Study Island	
3	CC.2.4.3.A.6–Solve problems involving perimeters of polygons and distinguish between linear and area measures. 3.MD.8	I. Perimeter II. Difference Between Area & Perimeter	I. Perimeter a. Calculate the distance around a shape. b. Use standard tools to measure the perimeter of a shape. c. Calculate the perimeter of common shapes when some lengths are not given. d. Create a shape with a known perimeter. e. Recognize when perimeter can be	Student Hardback books, Teachers' Manual, word wall, worksheets, flashcards, manipulatives, number lines, place value material, Racing Around: Perimeter, First in Math,	Daily teacher observation of student responses, informal and formal assessments, project, problem of week 80% Accuracy

			calculated using addition versus multiplication. f. Find unknown side lengths. II. Difference Between Area & Perimeter a. Investigate the difference between area and perimeter with congruent polygons.	SmartBoard/Promethean Board, Study Island	

Rockwood Area Elementary School

Mathematics Curriculum

Grade Level: 4

	2.1 Numbers & Operations–Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank
	2.1 Numbers & Operations–Numbers & Operations in Base Ten				

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
4	CC.2.1.4.B.1-Apply place-value concepts to show an understanding of multi-digit whole numbers. 4.NBT.1, 4.NBT.2, 4.NBT.3	I. Representing Numbers II. Place Value III. Comparing Numbers IV. Rounding Numbers	I. Representing Numbers a. Write numbers in expanded notation up to one millions. b. Write numbers in word form up to one million. c. Write numbers in standard form up to one million. II. Place Value a. Label each digit in whole numbers through the one millions. b. Determine the value of a number. c. Understand that a digit in any place value represents ten times the value of the digit to the right. III. Comparing Numbers a. Compare whole numbers through one millions using less than,	Place Value Chart, PA Math Connects Macmillan McGraw-Hill, Resource book, Rounding Rules Reminder, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

4			greater than, or equal to symbols. b. Order whole numbers through one millions. IV. Rounding Numbers a. Round whole numbers through the hundred millions.		
	CC.2.1.4.B.2–Use place value understanding and properties of operations to perform multi-digit arithmetic. 4.NBT.4, 4.NBT.5, 4.NBT.6	I. Properties of Operations II. Estimation III. Add & Subtract Multi-Digit Numbers IV. Multiply Multi-Digit Numbers V. Divide Multi-Digit Numbers	I. Properties of Operations a. Use addition properties (commutative, associative, identity, and zero) and subtraction rules when adding and subtracting. b. Introduce distributive property of multiplication. II. Estimation a. Estimate sums when adding numbers. b. Estimate differences when subtracting numbers. c. Estimate products when multiplying numbers.	PA Math Connects Macmillan McGraw-Hill, Resource Book, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

4			d. Determine when to estimate or find an exact number. III. Add & Subtract Multi-Digit Numbers a. Add numbers including multi-digit numbers to a sum that does not exceed one million. b. Subtract whole numbers, not greater than one million. c. Subtract across zeros. d. Add and subtract decimals to the hundredths place value. IV. Multiply Multi-Digit Numbers a. Multiply a four digit number by a one digit number. b. Multiply a two digit number by a two digit number. c. Recognize the comparison of two groups as another type of multiplication.		

4			d. Recall multiplication facts through 12 x 12. e. Multiply multiples of 10, 100, and 1,000 using basic facts and patterns. f. Multiply multi-digit numbers with zeros by a one-digit number. g. Multiply a whole number by a multiple of ten. V. Divide Multi-Digit Numbers a. Divide a four digit dividend by a one digit divisor. b. Represent answers as whole numbers and remainders. c. Recall division facts up to 144 (ex. 144/12). d. Use basic facts and patterns to divide mentally by multiples of 10,100, and 1000.		

2.1 Numbers & Operations–Numbers & Operations–Fractions

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.1.4.C.1–Extend the understanding of fractions to show	I. Representing Fractions II. Equivalent Fractions	I. Representing Fractions	PA Math Connects Macmillan McGraw–Hill, Resource Book,	Chapter Quizzes, Chapters Tests, Teacher Observations

| 4 | equivalence and ordering.

4.NF.1, 4.NF.2 | III. Comparing Fractions

IV. Comparing Decimals | a. Identifying, writing, and reading fractions as part of a whole.
b. Identifying, writing, reading, and modeling fractions as parts of a set.
c. Write mixed numbers and improper fractions.
d. Change mixed numbers to improper fractions.
e. change improper fractions to mixed numbers.
f. Reduce fractions to simplest form.

II. Equivalent Fractions
a. Recognize equivalent fractions.
b. Generate equivalent fractions.

III. Comparing Fractions
a. Compare and order simple fractions with unlike denominators (denominators of 2,3,4,5,6,8,10,12, and 100) using less than, greater | Fraction Models, Fraction Strips, Study Island, Smart Board | 80% Accuracy |

			than, or equal to symbols.		
			IV. Compare Decimals a. Order decimals from least to greatest and greatest to least to hundredths place value.		
	CC.2.1.4.C.2–Build fractions by applying and extending previous understandings of operations on whole numbers. 4.NF.3, 4.NF.4	I. Add & Subtract Like Fractions II. Add & Subtract Mixed Numbers III. Decomposing Fractions & Mixed Numbers IV. Multiplying Whole Numbers & Fractions	I. Add & Subtract Like Fractions a. Add & subtract like fractions (same denominators). II. Add & Subtract Mixed Numbers a. Add & subtract mixed numbers with common denominators. III. Decomposing Fractions & Mixed Numbers a. Break apart fractions with the same denominators to show as addition problems. b. Break apart mixed numbers to show as the addition problem of whole numbers and fractional parts.	PA Math Connects Macmillan McGraw–Hill, Resource Book, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

4			IV. Multiplying Whole Numbers & Fractions a. Multiply a whole number by a fraction.		
	CC.2.1.4.C.3–Connect decimal notation to fractions, and compare decimal fractions (base 10 denominators, e.g, 19/100).

4.NF.5, 4.NF.6, 4.NF.7 | I. Add with Unlike Denominators

II. Representing Decimals

III. Comparing Decimals

IV. Rounding Decimals

V. Adding/Subtracting Decimals | I. Add with Unlike Denominators a. Add two fractions with denominators of 10 or 100.

II. Representing Decimals a. Identifying, reading, and writing tenths and hundredths as decimals and fractions. b. Identifying, reading, and writing decimals greater than one. c. Solve problems by making a decimal model.

III. Comparing Decimals a. Locate fractions and decimals on a number line (tenths and hundredths). b. Compare and order decimals to the hundredths place value | PA Math Connects Macmillan McGraw–Hill, Resource Book, Study Island, Smart Board | Chapter Quizzes, Chapter Tests, Teacher Observation

80% Accuracy |

4			using less than, greater than, or equal to. c. Find fraction and decimal equivalents. d. Compare and order decimals, fractions, and mixed numbers. IV. Rounding Decimals a. Round decimals to the nearest whole number. b. Estimate sums and differences with decimals. V. Adding & Subtracting Decimals a. Add decimals to the hundredths. b. Subtract decimals to the hundredths.		

4					

4					

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
4	CC.2.2.4.A.1–Represent and solve problems involving the four operations 4.OA.1, 4.OA.2, 4.OA.3	I. Difference between Multiplication and Division II. Multi-Step Problems III. Interpret the Remainder IV. Choose an Operation	I. Difference between Multiplication and Division a. Distinguish between multiplication and addition by looking for key words. II. Multi-Step Problems a. Solve multi-step word problems using whole numbers and remainders. III. Interpret the Remainder a. Interpret remainders in word problems. IV. Choose an Operations a. Choose an appropriate operation to solve a problem. b. Identify the missing operation or symbol	PA Math Connects Macmillan McGraw-Hill, Resource Book, Study Island, Smart Board, Flashcards	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

			that makes a number sentence true.		
	CC.2.2.4.A.2–Develop and/or apply number theory concepts to find factors and multiples

4.OA.4 | I. Relationship between Multiplication & Division

II. Factors

III. Multiples

IV. Prime & Composite Numbers | I. Relationship between Multiplication & Division
a. Understand how multiplication and division are related.

II. Factors
a. Find factors between the interval of 1–144.

III. Multiples
a. Find multiples of whole numbers up to 12x12.

III. Prime & Composite Numbers
a. Identify prime and composite numbers. | PA Math Connects Macmillan McGraw-Hill, Resource Book, Study Island, Smart Board, Flashcards | Chapter Quizzes, Chapter Tests, Teacher Observation

80% Accuracy |
| | CC.2.2.4.A.4–Generate and analyze patterns using one rule.

4.OA.5 | I. Finding Values

II. Addition & Subtraction Equations

III. Patterns | I. Finding Values
Find the value of an expression.

II. Addition & Subtraction Equations
a. Solve addition and subtraction equations. | PA Math Connects Macmillan McGraw-Hill, Resource Book, Study Island, Smart Board | Chapter Quizzes, Chapter Tests, Teacher Observation

80% Accuracy |

4		IV. Multiplication & Division Expressions V. Function Tables	b. Find and use rules to write addition and subtraction equations. III. Patterns a. Identify, describe, and extend numeric and nonnumeric patterns. IV. Multiplication & Division Expressions a. Write and find the value of multiplication and division expressions. b. Find and use rules to write multiplication and division equations. V. Function Tables a. Identify the rule being applied in a function table. b. Determine the missing elements in a function table.		

4				

	2.3 Geometry-Geometry				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.3.4.A.1–Draw lines and angles and identify these in two-dimensional figures. 4.G.1, 4.G.2, 4.G.3	I. Terminology II. Ordered Pairs	Terminology a. Identify and draw points, lines, line segments, rays, and angles. b. Identify and draw right, acute, and obtuse angles.	PA Math Connects Macmillan McGraw-Hill, Resource Book, Models of two and three dimensional figures, Study Island, Smart	*Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

| 4 | | | c. Identify and draw perpendicular and parallel lines.

II. Ordered Pairs
a. Use ordered pairs to find and locate points on a grid. | Board, Protractor, Ruler, Grid Paper | |
| 4 | CC.2.3.4.A.2–Classify two–dimensional figures by properties of their lines and angles.
4.G.1, 4.G.2, 4.G.3 | I. Two Dimensional Figures
II. Three Dimensional Figures
III. Triangles
IV. Quadrilaterals | I. Two Dimensional Figures
a. Identify and draw points, lines, line segments, rays, and angles.
b. Identify and draw right, acute, and obtuse angles.
c. Identify and draw perpendicular and parallel lines.
d. Classify two dimensional figures based on lines and angles.

II. Three Dimensional Figures
a. Identify and describe three dimensional figures and identify and draw nets.

II. Triangles | PA Math Connects Macmillan McGraw-Hill, Resource Book, Models of two and three dimensional figures, Study Island, Smart Board | *Chapter Quizzes, Chapter Tests, Teacher Observation

80% Accuracy |

			a. Identify, describe, and classify triangles. III. Quadrilaterals a. Identify, describe, and classify quadrilaterals.		
	CC.2.3.4.A.3–Recognize symmetric shapes and draw lines of symmetry. 4.G.1, 4.G.2, 4.G.3	I. Transformations II. Congruency III. Symmetry	I. Transformations a. Demonstrate rotations, reflections, and translations using concrete models. II. Congruency a. Identify congruent figures. III. Symmetry a. Identify figures with lines of symmetry (2).	PA Math Connects Macmillan McGraw-Hill, Resource Book, Models of two and three dimensional figures, Study Island, Smart Board	*Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

2.4 Measurement, Data, and Probability–Measurement & Data					
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	CC.2.4.4.A.1–Solve problems involving measurement and conversions from a larger unit to a smaller unit. 4.MD.1, 4.MD.2, 4.MD.3	I. Measurement Units II. Expressing Measurements III. Area IV. Perimeter V. Time	I. Measurement Units a. Know relative sizes of measurement units within one system of units including standard units (in., ft, yd, mi; oz., lb; and c, pt, qt, gal), metric units	Rulers, yard sticks, scale, measuring cups, pint, quart, gallon, mL, liter, digital and analog clocks, Judy student clocks, calendar	Book assessments, informal observations 80% Accuracy

| 4 | | | (cm, m, km; g, kg; and mL, L), and time (sec, min, hr, day, wk, mo, and yr). Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. A table of equivalencies will be provided. | | |
| 4 | | | II. Expressing Measurements a. Use the four operations to solve word problems involving distances, intervals of time (such as elapsed time), liquid volumes, masses of objects; money, including problems involving simple fractions or decimals; and problems that require expressing measurements given in a larger unit in | | |

			terms of a smaller unit. III. Area a. Calculate the area of a rectangle. A formula table will be provided. IV. Perimeter a. Calculate the perimeter of a rectangle. A formula table will be provided. V. Time a. Identify time (analog or digital) as the amount of minutes before or after the hour.		
4	CC.2.4.4.A.2–Translate information from one type of data display to another. 4.MD.4	I. Tally Charts & Frequency Tables II. Mode, Median, & Outliers III. Making a Table IV. Bar Graphs	I. Tally Charts & Frequency Tables a. Collect and organize data into tally charts and frequency tables. II. Mode, Median, & Outliers a. Identify the mode, median, and outlier of a set of data. III. Making a Table a. Organize information in problems by making a table.	PA Math Connects Macmillan McGraw-Hill, Resource Book, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

			IV. Bar Graphs a. Interpret a bar graph. b. Display data in double bar graphs.		
4	CC.2.4.4.A.4–Represent and interpret data involving fractions using information provided in a line plot. 4.MD.4	I. Line Plots II. Outcomes III. Describing Probability	I. Line Plots a. Represent measurement data in a line plot. b. Represent and interpret data in a line plot (intervals of ½, ¼, and 1/8). II. Outcomes a. Determine the possible outcomes of an experiment. III. Describing Probability a. Describe probability with words and numbers.	PA Math Connects Macmillan McGraw–Hill, Resource Book, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy
	CC.2.4.4.A.6–Measures angles and uses properties of adjacent angles to solve problems. 4.MD.6, 4.MD.7	I. Measuring Angles	I. Measuring Angles a. Measuring angles using a protractor (whole numbers only). b. Sketch angles of specified measurements.	PA Math Connects Macmillan McGraw–Hill, Resource Book, Study Island, Smart Board	Chapter Quizzes, Chapter Tests, Teacher Observation 80% Accuracy

			c. Find unknown angles.		

Rockwood Area Elementary School

Mathematics

Grade Level: S

	2.1 Numbers & Operations—Counting & Cardinality				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

2.1 Numbers & Operations–Numbers & Operations in Base Ten				
PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.1.5.B.1–Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals. 5.NBT.1, 5.NBT.2, 5.NBT.3, 5.NBT.4	I. Place Value II. Comparing Numbers III. Representing Decimals IV. Comparing Decimals V. Rounding	I. Place Value a. Name place value through billions. b. Understand that any digit is 1/10 the value of the digit to the left. c. Use whole-number exponents to denote powers of 10. II. Comparing Numbers a. Compare whole numbers through hundred millions using less than, greater than, or equal to symbols. III. Representing Decimals a. Name place value through thousandths. IV. Comparing Decimals a. Compare decimals through thousandths using less than, greater than, equal to symbols. b. Order whole numbers and decimals. V. Rounding	Place Value chart, Place Value caterpillar, Place Value dice, Graphical organizers for PV, PV Power Point, PV Smart Board, Jeopardy Review, Foldable, Teacher Tube PV Song	Place Value Quiz–oral–label, vocabulary note cards, Mid Chapter check 80% Accuracy

5

			a. Round whole numbers and decimals. b. Estimate sums and differences. c. Determine when to estimate and when it is necessary to find the exact answer-key words.		
5	CC.2.1.5.B.2–Extend an understanding of operations with whole numbers to perform operations including decimals. S.NBT.6, S.NBT.7	I. Adding/Subtracting Whole Numbers III. Adding/Subtracting Decimals IV. Properties V. Mental Addition & Subtraction VI. Multiplication VII. Division	I. Adding/Subtracting Whole Numbers a. Add/Subtract whole numbers through hundred billions. III. Adding/Subtracting Decimals a. Add/Subtract decimals through thousandths. III. Multiplying/Dividing Decimals a. Multiply/Divide decimals through thousandths (not using decimal as a divisor). IV. Properties a. Apply addition properties–commutative, associative, identity. b. Apply multiplication properties–commutative, associative, identity, and distributive.	Chart paper, money, store items, PV Smart Board, PV Power Point, Smart Board demonstrations, sample items, index cards to demonstrate properties, previous years student books on properties of addition, base-ten blocks, Multiplication song, calculators, number lines, Place Value chart-workmat 4, two-color counters, rulers, centimeter grid paper	Summative and Formative Assessments, Mid Chapter Check, Vocabulary note cards, pretest, end of unit test 80% Accuracy

			V. Mental Addition & Subtraction a. Add/Subtract mentally through compensation. VI. Multiplication a. Multiply up to a three digit by a three digit number. c. Extend multiplication patterns. VII. Division a. Recognize and extend division Patterns. b. Divide up to a four digit dividend with a two digit divisor.		
	2.1 Numbers & Operations–Numbers & Operations–Fractions				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
S	CC.2.1.5.C.1–Use the understanding of equivalency to add and subtract fractions. S.NF.1, S.NF.2	I. Representing Fractions II. Round Fractions III. Equivalent Fractions IV. Reduce Fractions V. Adding & Subtracting Fractions	I. Representing Fractions a. Explain how fractions can be represented as division. b. Describe and represent improper fractions through a picture. c. Describe and represent mixed numbers through a picture.	Fraction circles, counters, rulers, fraction tiles, PV Power Point, paper strips, rulers, dry erase boards, dry erase markers, clocks, fraction models	Pretest, vocabulary note cards, mid chapter check, centers, checklist, study guide, chapter test 80% Accuracy

| | | VI. Adding & Subtracting Mixed Numbers

VII. Decimals & Fractions

VIII. Factors | d. Change improper to mixed and mixed to improper fractions.
e. Show fractions on a number line.

II. Round Fractions
a. Round fractions to the nearest whole number.

III. Equivalent Fractions
a. Create equivalent fractions.

IV. Reduce Fractions
a. Simplify fractions.

V. Adding & Subtracting Fractions
a. Add like fractions.
b. Subtract like fractions.
c. Add unlike fractions (different denominators).
d. Subtract unlike fractions (different denominators).

VI. Adding & Subtracting Mixed Numbers
a. Add mixed numbers.
b. Subtract mixed numbers. | | |

5			c. Add/Subtract together mixed numbers and fractions (ex. 4 4/5 –2 2/3). d. Add/Subtract mixed numbers with like denominators. e. Add/Subtract mixed numbers with unlike denominators. f. Subtract fractions with renaming. VII. Decimals & Fractions a. Convert decimals to fractions and fractions to decimals (to thousandths place value). VIII. Factors a. List factors of numbers up to one hundred. b. Identify greatest common factors of numbers up to one hundred.		
	CC.2.1.5.C.2–Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	I. Multiplying Fractions II. Dividing Fractions II. Prime & Composite Numbers	I. Multiplying Fractions a. Multiply a fraction by a fraction. b. Multiply fractions with whole numbers.	Division Poster, student division steps handout, counters, factor tree project–note cards and string	Observation of student work, pretest, unit test, quiz, vocabulary note cards 80% Accuracy

S	S.NF.3, S.NF.4, S.NF.5, S.NF.7	III. Multiples	II. Dividing Fractions a. Multiply fractions by whole numbers. b. Multiply fractions by fractions. II. Prime & Composite Numbers a. Use a factor tree to identify prime and composite numbers. b. Mentally recognize prime and composite numbers without completing a factor tree. III. Multiples a. List at least ten multiples of numbers up to twelve. b. Identifythlecommon multiple.		

S

S

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation

S	CC.2.2.5.A.1–Interpret and evaluate numerical expressions using order of operations. S.OA.1, S.OA.2	I. Order of Operations	I. Order of Operations a. Evaluate numerical expressions using order of operations (include all-parenthesis, exponents, multiplication/division, addition/subtraction). b. Solve addition expressions. c. Solve multiplication expressions.	Counters, base-ten blocks, work mat 2-place value chart, Smart Board demonstrations, Smart Board videos, ruler, money, two color counters, multiplication song, calculators, number lines, centimeter grid paper, Function Table Power Point, large chart paper to construct function tables, fraction tiles, fraction circles, blocks, hundreds chart, crayons/markers, connecting cubes	Vocabulary note cards, study guide, unit test, pretest, Jeopardy Review, chart paper, money, store items 80% Accuracy
	CC.2.2.5.A.4–Analyze patterns and relationships using two rules. S.OA.3	I. Patterns II. Function Tables III. Equations	I. Patterns a. Identify two different rules in a pattern. b. Create patterns based on two different rules. II. Function Tables	Algebra mat, cups, counters, play coins, Smart Board demonstrations, balance, connecting cubes	Vocabulary note cards, pretest 80% Accuracy

5			a. Complete input and output of function tables. b. Determine the rule being used in function tables. III. Equations a. Model addition equations. b. Complete addition & subtraction equations. c. Explain why an equation is an inequality and how to make both sides equal. d. Complete multiplication equations.		

	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
S	CC.2.3.5.A.1–Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems. S.G.1, S.G.2	I. Ordered Pairs II. Graph Functions	I. Ordered Pairs a. Draw a coordinate grid using an x and y axis. b. Label x and y axes (positive only) and origin. c. Identify first quadrant of a coordinate grid. d. Locate and write an ordered pair as an (x,y) relationship, working only within the first quadrant. e. Use ordered pairs to determine the exact point being described, working only within the first quadrant. f. Interpret coordinate values of points in the context of the situation. II. Graph Functions a. Use a function table (input and output) to graph points on a coordinate grid.	Grid paper, Smart Board videos, ruler, demonstration Smart Board grid paper	Vocabulary note cards, study guide, chapter test 80% Accuracy

			b. Describe the pattern from a function table and graph. c. Predict and extend the pattern from a function table and graph.		
5	CC.2.3.5.A.2—Classify two dimensional figures into categories based on an understanding of their properties. 5.G.4	I. Geometry Vocabulary II. Angles III. Triangles IV. Quadrilaterals	I. Geometry Vocabulary a. Define Geometry terms. II. Classification of Two-Dimensional Figures a. Classify two-dimensional figures based on properties. II. Angles a. Identify angles and characteristics—acute, obtuse, and right. III. Triangles a. Identify triangles and characteristics. IV. Quadrilaterals a. Identify quadrilaterals and characteristics.	Index cards, rulers, paper circles, scissors, glue, drawing paper, protractor, previous years examples of student created Geometry books, Geometry poster displayed in room	Mid Chapter check, note cards, project—Geometry book created for third graders being introduced to geometry 80% Accuracy

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	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
S	CC.2.4.5.A.1–Solve problems using conversions within a given measurement system. S.MD.1	I. Forms of Measurement II. Conversions III. Length IV. Weight V. Capacity VI. Time	I. Forms of Measurement a. Use nonstandard forms of measurement. b. Measure with a ruler–customary. c. Measure with a ruler–metric. II. Conversions a. Convert between different–sized measurement units within a given measurement system. A table of equivalencies will be provided. III. Length	Index cards, rulers, art paper, premade ruler on Smart Board, capacity containers, chart paper, water, demonstration clock, YouTube song, ruler, meter stick, scales, bottles of varying sizes, roles for centers, thermometers, Smart Board thermometer	Mid Chapter check, note cards, review/unit test, centers, checklist 80% Accuracy

S			a. Measure length to the nearest sixteenth of an inch. b. Identify how many inches are in a foot, inches are in a yard, feet in a yard, feet in a mile, and yards in a mile. IV. Weight a. Measure weight using a scale-standard and metric. b. Identify how many ounces are in a pound and pounds in a ton. V. Capacity a. Measure capacity-standard and metric. b. Identify how many pints in a quart, quarts in a gallon, pints in a gallon. VI. Time a. Read and write time to the nearest minute. b. Use key words when describing time (quarter of, past, until, etc). c. Determine elapsed time between events.		

			d. Represent time and elapsed time as fractions or mixed numbers.		
S	CC.2.4.S.A.2–Represent and interpret data using appropriate scale. S.MD.2	I. Mean, Median, Mode, Range II. Frequency Tables III. Scales & Intervals IV. Bar Graphs V. Line Graphs VI. Use Appropriate Graph VII. Number Lines	I. Mean, Median, Mode, Range a. Calculate the mean, including an odd set of numbers. b. Calculate the median, including an odd set of numbers. c. Calculate the mode of a set of data. d. Calculate the range of a set of data. II. Frequency Tables a. Create frequency tables by referring to a set of data. b. Determine the mode while completing a frequency table. c. Identify outliers in a frequency table. III. Scales & Intervals a. Determine a scale and intervals based upon a set of data. b. Use appropriate title, scale, and labels. IV. Bar Graphs	Multiplication song, Smart Board demonstrations, meter stick, number lines, newspapers, grid paper, sticky notes, reference materials	Vocabulary note cards, pretest, learning centers, end of chapter study guide, unit test 80% Accuracy

S			a. Create single bar graphs, using appropriate scales and intervals. b. Create double bar graphs, using appropriate scales and intervals. c. Compare and contrast data in a double bar graph. V. Line Graphs a. Create line graphs based upon a set of data. b. Interpret line graphs. VI. Use Appropriate Graph a. Decide which type of graph to use for certain situations or data. VII. Numbers Lines a. Integers and graphing on number lines—positive numbers.		
	CC.2.4.5.A.4—Solve problems involving computation of fractions using information provided in a line plot. S.MD.2	I. Line Plots	I. Line plots a. Create line plots using a set of data. b. Determine the mode by referring to a line plot. c. Answer fraction questions based upon the information represented in a line plot.	Student Examples of Line Plots, Power Point on line plots, Teacher Tube line plot video	Observation of student work, homework, formal and informal assessments, pretest, posttest 80% Accuracy

	CC.2.4.5.A.5–Apply concepts of volume to solve problems and relate volume to multiplication and division. 5.MD.5	I. Volume	I. Volume a. Calculate the volume of a three dimensional figure by multiplying length x width x height. b. Explain when to use perimeter, area, or volume. c. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms. Formulas will be provided. d. Find volumes of solid figures composed of two non-overlapping right rectangular prisms.	Pictures of three dimensional figures, real life objects of three dimensional figures	Observation, pretest, unit test 80% Accuracy

S					

Rockwood Area Elementary School

Mathematics

Grade Level: 6

	2.1 Numbers & Operations-(D)-Ratios & Proportional Relationships				
	PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
6	CC.2.1.6.D.1-Understand ratio concepts and use ratio reasoning to solve problems. 6.NS.7, 6.NS.8	I. Ratios & Rates II. Proportions III. Similar Figures IV. Scale Drawings & Maps V. Decimals & Fractions VI. Percents	I. Ratios & Rates a. Write ratios. b. Write equivalent ratios. c. Use tables to explore equivalent ratios and rates. d. Write, interpret, and explain statements of order for rational numbers in real-world contexts. II. Proportions a. Model proportions. b. Use cross products to complete proportions. III. Similar Figures a. Find missing measures in	Student hardback book, math journal, math workbook, Challenge, Teasers, Twisters, word problems, and reading strategies, real-world connections	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Math Journal, Extension, Hands-On-Lab (Explore Proportions), Hands-On-Lab (Sketch Scale Drawings: Model Percents), Hands-On Lab (Explore Fraction Measurement), Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Hands-On Lab (Model Percents), cumulative test, pretest 80% Accuracy

6		VII. Metric System VIII. Customary System IX. Absolute Value X. Coordinate Plane	similar figures. b. Determine indirect measurements using proportions and similar figures to find unknown measurements. IV. Scale Drawings & Maps a. Find actual distances. V. Decimals & Fractions a. Write decimals to the ten-thousandths place value as fractions or mixed numbers in simplest form. b. Write fractions as decimals c. Compare and order fractions, decimals, and mixed numbers. VI. Percents a. Create percents. b. Write percents as fractions c. Write percents as decimals d. Write decimals as percents e. Write fractions as percents f. Complete a real life application with both consumer math and technology. g. Multiply to find a percent of a number. h. Find discounts. i. Find tips.		

6			j. Find sales tax. k. Calculate unit rate. VII. Metric System a. Use powers of ten to convert metric units of measure. b. Convert metric units of measure. c. Choose appropriate unites of length—millimeter, centimeter, decimeter, meter, and kilometer. d. Choose appropriate units of mass—milligram, gram, and kilogram. e. Choose appropriate units of capacity—milliliter and liter. f. Find measurements within the metric system. VIII. Customary System a. Use a conversion factor. b. Convert units of measure by using proportions. c. Choose appropriate units of length—inch, foot, yard, and mile. d. Choose appropriate units of weight—pounds and tons. e. Choose appropriate units of capacity—fluid ounce, cup, pint, quart, and gallon. f. Find measurements within the customary system. IX. Absolute Value		

			a. Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation. X. Coordinate Plane a. Identify quadrants I, II, III, and IV. b. Locate points in a coordinate plane. c. Graph points on a coordinate plane. d. Locate and plot integers and other rational numbers on a horizontal or vertical number line. e. Locate and plot pairs of integers and other rational numbers on a coordinate plane.		
2.1 Numbers & Operations-(E)-The Number System					
PA Common Core Standards	**Learning Objectives**	**Description of Specific Skills Taught**	**Resources**	**Evaluation**	
CC.2.1.6.E.1-Apply and extend previous understandings of multiplication and division	I. Multiplying Fractions II. Multiplying Mixed Numbers	I. Multiplying Fractions a. Multiply fractions and reduce to simplest form. b. Evaluate fraction expressions. II. Multiplying Mixed Numbers a. Multiply fractions and mixed numbers.	Hardback book, workbooks, math journals	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C) 80% Accuracy	

6	to divide fractions by fractions. 6.NS.1	III. Dividing Fractions & Mixed Numbers	b. Multiply mixed numbers with mixed numbers. III. Dividing Fractions & Mixed Numbers a. Find reciprocals. b. Use reciprocals to divide fractions and mixed numbers.		
	CC.2.1.6.E.2–Identify and choose appropriate processes to compute fluently with multi-digit numbers. 6.NS.2, 6.NS.3	I. Adding & Subtracting Fractions with Like Denominators II. Estimating Fractions Sums & Differences III. Adding & Subtracting with Unlike Denominators IV. Adding & Subtracting Mixed Numbers V. Estimating Decimals	I. Adding & Subtracting Fractions with Like Denominators a. Add/Subtract fractions with like denominators. b. Evaluate expressions with fractions. II. Estimating Fraction Sums & Differences a. Estimate fractions to the nearest whole number. III. Adding & Subtracting with Unlike Denominators a. Add/Subtract fractions with unlike denominators. IV. Adding & Subtracting Mixed Numbers a. Add/Subtract mixed numbers with like denominators. b. Add/Subtract mixed numbers with un like denominators.	Hardback book, workbooks, math journals	I Do–We Do–You Do, Support Buddy Work, Know–It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Hands–On Lab (Model Subtraction with Regrouping) 80% Accuracy

| 6 | | VI, Adding & Subtracting Decimals

VII. Multiplying Decimals

VIII. Dividing Decimals by Whole Numbers

IX. Dividing Decimals by Decimals

X. Representing, Comparing, and Ordering Decimals

XI. Divisibility Rules

XII. Estimating with Whole Numbers

XIII. Choosing a Method of Computation

XIV. Interpreting the Quotient | c. Regroup to subtract mixed numbers.

V. Estimating Decimals
a. Round decimals to the nearest whole number to estimate sums & differences.
b. Use compatible numbers to estimate products & quotients.
c. Use front-end estimation.

VI. Adding & Subtracting Decimals
a. Use mental math to add & subtract decimals.
b. Evaluate decimal expressions.

VII. Multiplying Decimals
a. Multiply a decimal by a decimal to the ten-thousandths place value.
b. Evaluate decimal expressions.

VIII. Dividing Decimals by Whole Numbers
a. Divide a decimal by a whole number.
b. Evaluate decimal expressions.

IX. Dividing Decimals by Decimals
a. Divide a decimal by a decimal.

X. Representing, Comparing, and Ordering Decimals | | |

| 6 | | | a. Read and write decimals to the ten-thousandths place value.
b. Compare and order decimals.
c. Complete an Earth science application with decimals.

XI. Divisibility Rules
a. Check divisibility by knowing and memorizing the divisibility rules.

XII. Estimating with Whole Numbers
a. Estimate a sum or difference by rounding.
b. Estimate a product by rounding.
c. Estimate a quotient using compatible numbers.

XIII. Choosing a Method of Computation
a. Choose an appropriate methods of computation and justifying your choice (mental math, paper and pencil, calculator).

XIV. Interpreting the Quotient and Remainder
a. Complete a measurement application with interpreting the quotient and remainder.
b. Complete a photography application with interpreting the quotient and remainder. | | |

			c. Complete a Social Studies application with interpreting the quotient and remainder.		
6	CC.2.1.6.E.3-Develop and/or apply number theory concepts to find common factors and multiples. 6.NS.4	I. Factors & Prime Factorization II. Greatest Common Factor III. Least Common Multiple IV. Patterns & Sequences V. Scientific Notation	I. Factors & Prime Factorization a. Identify prime and composite numbers up to 100. b. Find factors of any number based on divisibility rules. c. Write prime factorizations. II. Greatest Common Factor a. Find the greatest common factor III. Least Common Multiple a. Use multiples to find the least common multiple. IV. Patterns & Sequences a. Extend arithmetic sequences using whole numbers. b. Complete other sequences such as shapes or pictures. V. Scientific Notation a. Multiply by powers of ten. b. Write numbers in scientific notation. c. Write numbers in standard form.	Hardback book, workbooks, math journals	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Hands-On Lab 80% Accuracy

| 6 | CC.2.1.6.E.4–Apply and extend previous understandings of numbers to the system of rational numbers.

6.NS.5, 6.NS.6 | I. Temperature

II. Integers & Absolute Value

III. Adding Integers

IV. Subtracting Integers

V. Multiplying Integers

VI. Dividing Integers

VII. Solving Integer Equations

VIII. Transformations

IX. Transformations in the Coordinate Plane | I. Temperature
a. Estimate temperatures
b. Convert temperatures from Fahrenheit degrees to Celsius degrees.
c. Convert temperatures from Celsius degrees to Fahrenheit degrees.
d. Explain the difference between positive and negative temperatures.

II. Integers & Absolute Value
a. Identify positive and negative numbers in the real world.
b. Graph integers in all four quadrants.
c. Find absolute value and opposites of a number.
d. Compare and order integers.

III. Adding Integers
a. Write integer addition problems.
b. Add integers.
c. Evaluate integer expressions.

IV. Subtracting Integers
a. Write integer subtraction problems.
b. Subtract integers.
c. Evaluate integer expressions.

V. Multiplying Integers | Hardback book, workbooks, math journals | Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Hands-On Lab

80% Accuracy |

			a. Multiply integers. b. Evaluate integer expressions. VI. Dividing Integers a. Divide integers. b. Evaluate integer expressions. VII. Solving Integer Equations a. Add and subtract to solve equations. b. Multiply and divide to solve equations. VIII. Transformations a. Identify transformations. b. Draw transformations-reflections, rotations, and translations. IX. Transformations in the Coordinate Plane a. Translate figures in the coordinate plane b. Reflect figures in the coordinate plane c. Rotate figures in the coordinate plane up to 360 degrees.		
6	==2.2-Algebraic Concepts-(B)-Expressions and Equations==				
	==PA Common Core Standards==	==Learning Objectives==	==Description of Specific Skills Taught==	==Resources==	==Evaluation==
	CC.2.2.6.B.1- Apply and	I. Addition Equations	I. Addition Equations a. Solve addition equations.	Hardback, Workbooks, Math Journals	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal,

	extend previous understandings of arithmetic to algebraic expressions. 6.EE.1, 6.EE.2, 6.EE.3	II. Subtraction Equations III. Fraction Equations IV. Decimal Equations V. Function Tables VI. Graphing Functions VII. Exponents VIII. Properties of Mental Math	II. Subtraction Equations a. Solve subtraction equations. III. Fraction Equations a. Solve fraction equations: Addition & Subtraction b. Evaluate fraction expressions. IV. Decimal Equations a. Solve one-step equations with decimals. V. Function Tables a. Write equations from function tables. b. Translate words into math. VI. Graphing Functions a. Find solutions to equations with two variables. b. Check solutions of equations with two variables. c. Graph linear functions. d. Use a table to identify rates of change. VII. Exponents a. Write numbers in exponential form. b. Find the value of numbers in exponential form. VIII. Properties of Mental Math		Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Math Journal, Hands-On Lab (Model Fraction Addition & Subtraction) 80% Accuracy

6			a. Use properties to add and multiply whole numbers. b. Use the distributive property to multiply.		
	CC.2.2.6.B.2 –Understand the process of solving a one-variable equation or inequality and apply it to real world and mathematical problems. 6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8	I. Translating Between Words & Math II. Translating Between Tables & Expressions III. Equations & Solutions IV. Addition Equations V. Subtraction Equations VI. Multiplication Equations VII. Division Equations VIII. Solving Two-Step Equations IX. Inequalities	I. Translating Between Words & Math a. Translate words into math. b. Translate math into words. II. Translating Between Tables & Expressions a. Write an algebraic expression to represent a real-life example. b. Write an expression for a sequence. c. Write an expression for the area of a figure. III. Equations & Solutions a. Determine solutions of equations. b. Use substitution to determine whether a given number in a specified set makes an equation or inequality true. IV. Addition Equations a. Solve addition equations. V. Subtraction Equations a. Solve subtraction equations. VI. Multiplication Equations a. Solve multiplication equations.	Hardback, Workbooks, Math Journals	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Math Journal, Hands-On Lab 80% Accuracy

| 6 | | X. Solving Two-Step Inequalities

XI. Solving Fraction Equations: Multiplication & Division | VII. Division Equations
a. Solve division equations.

VIII. Solving Two-Step Equations
a. Solve two-step equations.

IX. Inequalities
a. Graph inequalities.
b. Solve inequalities with addition or subtraction.
c. Solve inequalities with multiplication or division.
d. Write inequalities based on real-life examples.

X. Solving Two-Step Inequalities
a. Solve two-step inequalities.

XI. Solving Fraction Equations: Multiplication & Division
a. Solve equations by multiplying and dividing. | | |
| | CC.2.2.6.B.3 –Represent and analyze quantitative relationships between dependent and | I. Variables & Expressions

II. Tables & Functions

III. Graphing Functions | I. Variables & Expressions
a. Evaluate algebraic expressions.
b. Evaluate expressions with two variables.

II. Tables & Functions
a. Write equations from function tables.
b. Translate words into math. | Hardback, Workbooks, Math Journals | I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Math Journal, Hands-On Lab

80% Accuracy |

| 6 | independent variables. 6.EE.9 | IV. Relationship Between Dependent & Independent Variables | III. Graphing Functions a. Find solutions of equations with two variables. b. Check solutions of equations with two variables. c. Graph linear functions. IV. Relationship Between Dependent & Independent Variables a. Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation. | | |

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2.2 Algebraic Concepts–(C)–Functions

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

2.3 Geometry–(A)Geometry

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.3.6.A.1–Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume. 6.G.1, 6.G.2, 6.G.3, 6.G.4	I. Ordered Pairs II. Identifying Geometric Vocabulary III. Angles IV. Triangles V. Quadrilaterals VI. Polygons VII. Geometric Patterns VIII. Congruent Polygons IX. Symmetry	I. Ordered Pairs a. Identify ordered pairs. b. Graph ordered pairs in quadrants I, II, III, and IV. II. Identify Geometric Vocabulary a. Identify points, lines, planes, line segments, and rays. III. Angles a. Measure an angle with a protractor. b. Draw an angle with a protractor.	Graphing paper, protractors, pictures of shapes, math journals	I Do–We Do–You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Hands-On Labs (Triangle Inequality) and (Angles in Triangles) and (Exploring Intersecting Polygons), Study Guide and Review, Hands-On Lab (Explore Area of Circles and Draw Views of Three-Dimensional Figures), Cumulative

	X. Finding Angle Measures in Polygons XI. Perimeter XII. Circles/Circumference XIII. Areas of Rectangles & Parallelograms XIV. Areas of Triangles & Trapezoids XV. Area of Composite Figures XVI. Changing Dimensions XVII. Areas of Circles XVIII. Three Dimensional Figures XIX. Volume of Prisms XX. Volume of Cylinders XXI. Surface Area	c. Classify angles as straight, acute, obtuse, or right. d. Identify types of angle pairs. e. Identify an unknown angle measure. IV. Triangles a. Classify pairs of lines as perpendicular, parallel, or intersecting. b. Use properties of angles to label triangles. c. Classify triangles by lengths of sides—equilateral, isosceles, or scalene. V. Quadrilaterals a. Name quadrilaterals. b. Classify quadrilaterals as parallelogram, rectangle, rhombus, square, or trapezoid. VI. Polygons a. Identify polygons. VII. Geometric Patterns a. Extend geometric patterns. b. Complete geometric patterns. VIII. Congruent Polygons a. Identify congruent figures. IX. Symmetry a. Identify lines of symmetry		test, Hands-On Lab (Explore Volumes of Prisms and Cylinders and Model Three-Dimensional Figures) 80% Accuracy

b. Find multiple lines of symmetry.
c. Identify rotational symmetry.

X. Finding Angle Measures in Polygons
a. Subtract to find angle measures.
b. Estimate angle measures.

XI. Perimeter
a. Find the perimeter of a polygon.
b. Using a formula (add up all of the sides) to find perimeter.
c. Find unknown side lengths and perimeter of a polygon.

XII. Circles/Circumference
a. Name parts of a circle.
b. Use the formula $C=\Pi d$ for the circumference of a circle.

XIII. Areas of Rectangles and Parallelograms
a. Estimate the area of an irregular figure.
b. Find the area of a rectangle.
c. Find the area of a parallelogram.

XIV. Areas of Triangles and Trapezoids
a. Find the area of a triangle.
b. Find the area of a trapezoid.

XV. Area of Composite Figures

		a. Find the area of composite figures. b. Find the area of special quadrilaterals. c. Find the area of an irregular or compound polygon. d. Determine the area of right rectangular prisms. XVI. Changing Dimensions a. Compare perimeters and areas. XVII. Area of Circles a. Estimate the area of a circle. b. Use the formula for the area of a circle. XVIII. Three-Dimensional Figures a. Identify faces, edges, and vertices. b. Name three-dimensional figures. c. Represent three-dimensional figures using nets. XIX. Volume of Prisms a. Find the volume of a rectangular prism. b. Find the volume of a triangular prism. XX. Volume of Cylinders a. Find the volume of a cylinder. b. Compare volumes of cylinders.		

| | | XXI. Surface Area
a. Find the surface area of a prism.
b. Find the surface area of a pyramid.
c. Find the surface area of a cylinder.
d. Find the surface area of rectangular and triangular prisms. | | |

2.4 Measurement, Data, and Probability-(B)-Statistics and Probability

PA Common Core Standards	Learning Objectives	Description of Specific Skills Taught	Resources	Evaluation
CC.2.4.6.B.1-Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. 6.SP.3, 6.SP.4, 6.SP.5	I. Mean, Median, Mode, Range II. Variability III. Bar Graphs IV. Frequency Tables V. Line Plots VI. Line Graphs VII. Stem & Leaf Plots VIII. Choosing Appropriate Data to Display IX. Time X. Introduction to Probability	I. Mean, Median, Mode, Range a. Organize data in a table. b. Find the mean, median, mode, and range. c. Describe a data set and its outliers. II. Variability a. Determine the range. b. Determine the interquartile range. c. Determine the mean absolute deviation. d. Relate the choice of measures of center and variability to the shape of the data distribution and	Calculators, data for tables/graphs, student journals	I Do-We Do-You Do, Support Buddy Work, Know-It! Notes, Math Journal, Ready to Go On? Lesson Quizzes with Test Prep and Spiral Review, Leveled Homework Practice Pages (A,B,C), Hands-On Lab (Collect Data to Explore Mean), Hands-On Lab (Create Bar Graphs), Hands-On Lab (Use a Survey to Collect Data), Game Time (Thousand Words, Spinnermeania), Center Work, Hands-On Lab (Select and Use Appropriate Measure Tools 80% Accuracy

| | XI. Experimental Probability
XII. Counting Methods of Sample Spaces
XIII. Theoretical Probability
XIV. Compound Events
XV. Making Predictions | the context in which the data were gathered.

III. Bar Graphs
a. Read a bar graph and double bar graph.
b. Construct a bar graph and double bar graph.
c. How to recognize misleading bar graphs.

IV. Frequency Tables
a. Use tally marks to make a frequency table.
b. Make a frequency table with intervals.
c. Describe a frequency distribution.
d. Make a cumulative frequency table.

V. Line Plots
a. Make a line plot

VI. Line Graphs
a. Make a line graph.
b. Read and interpret a line graph.
c. Construct a double line graph.
d. Recognize misleading line graphs.

VII. Stem & Leaf Plots
a. Create stem and leaf plots.
b. Read stem and leaf plots. | | |

		VIII. Choosing Appropriate Data Display a. Choose an appropriate data display. IX. Time a. Convert time. b. Find elapsed time. X. Introduction to Probability a. Estimating the likelihood of an event b. Write probabilities. c. Compare probabilities. XI. Experimental Probability a. Identify outcomes. b. Find experimental probability. c. Compare experimental probability. XII. Counting Methods of Sample Spaces a. Make an organized list. b. Use the fundamental counting principle by multiplying the number of choices in each category. XIII. Theoretical Probability a. Find theoretical probability. b. Find the complement of an event. XIV. Compound Events		

		a. Find probabilities of compound events. XV. Making Predictions a. Use sample surveys to make predictions. b. Use theoretical probability to make predictions. XVI. Box-and-Whisker Plots a. Create box-and-whisker plots based on data. b. Interpret information displayed in box-and-whisker plots.		