Curriculum Map: 4th Grade Math 2019

Course: MATH 4 Sub-topic: General

Grade(s): None specified

Course Description:

Students at this level will exhibit the following:

Make sense of problems and persevere in solving them

- Know that doing mathematics involves solving problems and discussing how they solved them
- Explain to themselves the meaning of a problem and look for ways to solve it
- Use concrete objects or pictures to help them conceptualize and solve problems
- Check their thinking by asking themselves, "Does this make sense?"
- Listen to the strategies of others and will try different approaches
- Use another method to check their answers

Reason abstractly and quantitatively

- Recognize that a number represents a specific quantity
- Connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities
- Extend this understanding from whole numbers to their work with fractions and decimals
- Write simple expressions, record calculations with numbers, and represent or round numbers using place value concepts

Construct viable arguments and critique the reasoning of others

- Construct arguments using concrete referents, such as objects, pictures, and drawings
- Explain their thinking and make connections between models and equations
- Refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?"
- Explain their thinking to others and respond to others' thinking

Model with mathematics

- Experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc.
- Need opportunities to connect the different representations and explain the connections
- Use all of these representations as needed
- Evaluate their results in the context of the situation and reflect on whether the results make sense

Use appropriate tools strategically

- Consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful
- Use graph paper or a number line to represent and compare decimals and protractors to measure angles
- Use other measurement tools to understand the relative size of units within a system
- Express measurements given in larger units in terms of smaller units

Attend to precision

- Develop their mathematical communication skills
- Use clear and precise language in their discussions with others and in their own reasoning
- Specify units of measure and state the meaning of the symbols they choose. For instance, they use appropriate labels when creating a line plot

Look for and make use of structure

- Look closely to discover a pattern or structure
- Use properties of operations to explain calculations (partial products model)
- Relate representations of counting problems such as tree diagrams and arrays to the

multiplication principal of counting
- Generate number or shape patterns that follow a given rule

Look for and express regularity in repeated reasoning

- Notice repetitive actions in computation to make generalizations
- Use models to explain calculations and understand how algorithms work
- Use models to examine patterns and generate their own algorithms. For example, students use visual fraction models to write equivalent fractions

Unit: Place Value and Properties of Operations

Month: September- 20 days

October- 20 days

November- 22 days

Skills: 1. Demonstrate an understanding of multi-digit whole numbers

2. Compare and round multi-digit numbers

3. Perform multi-digit arithmetic

Essential Questions: 1. How is mathematics used to quantify, compare, represent, and model numbers?

2. How can mathematics support effective communication?

3. How are relationships represented mathematically?

4. What does it mean to estimate or analyze numerical quantities?

5. When is it appropriate to estimate versus calculate?

6. What makes a tool and/or strategy appropriate for a given task?

7. How can patterns be used to describe relationships in mathematical situations?

Content: 1. Mathematical relationships among numbers can be represented, compared and communicated.

2. Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.

3. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.

4. Patterns exhibit relationships that can be extended, described, and generalized.

Vocabulary: Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.1.4.B.1 (Advanced)	Apply place-value concepts to show an understanding of multi-digit whole numbers.
CC.2.1.4.B.2 (Advanced)	Use place-value understanding and properties of operations to perform multi-digit arithmetic.

STATE: PA Core Anchors and Eligible Content (2014)

M04.A-T.1.1.1 (Advanced)	Demonstrate an understanding that in a multi-digit whole number (through 1,000,000), a digit in one place represents ten times what it represents in the place to its right. Example: Recognize that in the number 770, the 7 in the hundreds place is ten times the 7 in the tens place. Alternate Eligible Content Code M04AT1.1.1a: Model relationships between adjacent digits in a multi-digit whole number
M04.A-T.1.1.2 (Advanced)	Read and write whole numbers in expanded, standard, and word form through 1,000,000.
M04.A-T.1.1.3 (Advanced)	Compare two multi-digit numbers through 1,000,000 based on meanings of the digits in each place, using >, =, and < symbols. Alternate Eligible Content Code M04AT1.1.3a: Compare to determine if a value is greater than, less than, or equal to another value
M04.A-T.1.1.4 (Advanced)	Round multi-digit whole numbers (through 1,000,000) to any place.
M04.A-T.2.1.1 (Advanced)	Add and subtract multi-digit whole numbers (limit sums and subtrahends up to and including 1,000,000). Alternate Eligible Content Code M04AT2.1.1a: Add or subtract whole numbers with sums and differences <1000
M04.A-T.2.1.2 (Advanced)	Multiply a whole number of up to four digits by a one-digit whole number and multiply 2 two-digit numbers. Alternate Eligible Content Code M04AT2.1.2a: Demonstrate understanding of multiplication or division with small sets
M04.A-T.2.1.3 (Advanced)	Divide up to four-digit dividends by one-digit divisors with answers written as whole-number quotients and

	remainders.
M04.A-T.2.1.4 (Advanced)	Estimate the answer to addition, subtraction, and multiplication problems using whole numbers through six digits (for multiplication, no more than 2 digits × 1 digit, excluding powers of 10). Alternate Eligible Content Code M04AT2.1.4a: Assess the plausibility of results from addition or subtraction

(* standards consolidated from Topic level)

Topic: Lesson 1

Core Lesson Description: Model Place Value Relationships

Core Lesson Student Learning Objectives: Student will be able to describe the value of a digit.

Core Lesson Essential Questions: How can you describe the value of a digit? (E)

STANDARDS

STATE: PA Core Standards (2014)

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CC.2.1.4.B.2 (Advanced)	Use place-value understanding and properties of operations to perform multi-digit arithmetic.

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M04.A-T.1.1.2 (Advanced)	Read and write whole numbers in expanded, standard, and word form through 1,000,000.
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M04.A-T.2.1.2 (Advanced)	Multiply a whole number of up to four digits by a one-digit whole number and multiply 2 two-digit numbers. Alternate Eligible Content Code M04AT2.1.2a: Demonstrate understanding of multiplication or division with small sets
M04.A-T.2.1.3 (Advanced)	Divide up to four-digit dividends by one-digit divisors with answers written as whole-number quotients and remainders.
M04.A-T.2.1.4 (Advanced)	Estimate the answer to addition, subtraction, and multiplication problems using whole numbers through six digits (for multiplication, no more than 2 digits × 1 digit, excluding powers of 10). Alternate Eligible Content Code M04AT2.1.4a: Assess the plausibility of results from addition or subtraction

Topic: Lesson 2

Minutes for Topic: 60

Core Lesson Description:	Read and Write Numbers
Core Lesson Student Learning Objectives:	Students will be able to read and write numbers through hundred thousands.
Core Lesson Essential Questions:	How can you read and write numbers through hundred thousand? (E)

Topic: Lesson 3

Minutes for Topic: 60

Core Lesson Description:	Compare and Order Numbers
Core Lesson Student Learning Objectives:	The student will be able to compare and order numbers.
Core Lesson Essential Questions:	How can you compare and order numbers? (E)

Topic: Lesson 4

Minutes for Topic: 60

Core Lesson Description:	Round numbers
Core Lesson Student Learning Objectives:	The student will be able to round numbers through the hundred thousands place.
Core Lesson Essential Questions:	How can you round numbers? (E)

Topic: Lesson 5

Minutes for Topic: 60

Core Lesson Description:	Rename numbers
Core Lesson Student Learning Objectives:	The student will be able to rename numbers. For example, 500 is the same as 50 tens.
Core Lesson Essential Questions:	How can you rename a while number? (E)

Topic: Lesson 6 and 7

Minutes for Topic: 60

Core Lesson Description: Adding and Subtracting Whole Numbers

Core Lesson Student Learning Objectives: The student will be able to add and subtract whole numbers up to and including 1,000,000.

Core Lesson Essential Questions: How can you add and subtract whole numbers? (E)

Topic: Lesson 8

Minutes for Topic: 60

Core Lesson Description: Comparison Problems with addition and subtraction.

Core Lesson Student Learning Objectives: The student will be able to solve comparison problems with addition and subtraction. Use strategy of draw a diagram.

Core Lesson Essential Questions: How can you use the strategy draw a diagram to solve comparison problems with addition and subtraction? (E)

Topic: Lesson 9 and 10

Minutes for Topic: 120

Core Lesson Description: Chapter 1 Review

Topic: Lesson 11 and 12

Minutes for Topic: 120

Core Lesson Description: Chapter 1 Test

Topic: Lesson 13

Minutes for Topic: 60

Core Lesson Description: Multiplication comparisons (15 is 5 times as many as 3).

Core Lesson Student Learning Objectives: Student will be able to model multiplication comparisons.

Core Lesson Essential Questions: How can you model multiplication comparisons? (E)

Topic: Lesson 14

Minutes for Topic: 60

Core Lesson Description: Comparison Problems

Core Lesson Student Learning Objectives: The student will be able to solve a comparison problem by using a model.

Core Lesson Essential Questions: How does a model help you solve a comparison problem? (E)

Topic: Lesson 15 and 16

Minutes for Topic: 60

Core Lesson Description:	Multiply tens, hundreds, and thousands and estimate products.
Core Lesson Student Learning Objectives:	The student will be able to multiply tens, hundreds, and thousands. The student will be able to estimate products by rounding and determine if exact answers are reasonable.
Core Lesson Essential Questions:	How does understanding place value help you multiply tens, hundreds, and thousands? (E)

Topic: Lesson 17

Minutes for Topic: 60

Core Lesson Description:	Multiply using the distributive property
Core Lesson Student Learning Objectives:	The student will be able to use the distributive property to multiply a 2 digit number by a 1 digit number.
Core Lesson Essential Questions:	How can you use the Distributive Property to multiply a 2-digit number by a 1-digit number? (E)

Topic: Lesson 18

Minutes for Topic: 60

Core Lesson Description:	Multiply using expanded form
Core Lesson Student Learning Objectives:	The student will be able to use expanded form to multiply a multi digit number by 1 digit.
Core Lesson Essential Questions:	How can you use expanded form to multiply a multi-digit number by a 1-digit number? (E)

Topic: Lesson 19 and 20

Minutes for Topic: 60

Core Lesson Description:	Multiply Using Partial Products and Multiply Using Mental Math
Core Lesson Student Learning Objectives:	The student will be able to use place value and partial products to multiply by a 1 digit number. The student will be able to use mental math and properties to help multiply numbers.
Core Lesson Essential Questions:	How can you use place value and partial products to multiply by a 1-digit number? (I) How can you use mental math and properties to help you multiply numbers? (I)

Topic: Lesson 21

Minutes for Topic: 60

Core Lesson	Multistep Multiplication Problems

Description:

Core Lesson Student Learning Objectives: The student will be able to solve a multistep multiplication problems with more than one operation. Students can use the draw a diagram strategy.

Core Lesson Essential Questions: When can you use the draw a diagram strategy to solve a multistep multiplication problem? (E)

Topic: Lesson 22

Minutes for Topic: 60

Core Lesson Description: Multiply 2 digit numbers with regrouping

Core Lesson Student Learning Objectives: The student will be able to use regrouping to multiply a 2 digit number by a 1 digit number.

Core Lesson Essential Questions: How can you use regrouping to multiply a 2-digit number by a 1-digit number? (E)

Topic: Lesson 23

Minutes for Topic: 60

Core Lesson Description: Multiply 3 and 4 Digit Numbers with Regrouping

Core Lesson Student Learning Objectives: The student will be able to use place value to regroup in multiplication of 3 and 4 digit numbers by 1 digit number.

Core Lesson Essential Questions: How can you use regrouping to multiply? (E)

Topic: Lesson 24

Minutes for Topic: 60

Core Lesson Description: Solving Multistep Problems Using Equations

Core Lesson Student Learning Objectives: The student will be able to represent and solve multistep problems using equations.

Core Lesson Essential Questions: How can you represent and solve multistep problems using equations? (E)

Topic: Lesson 25 and 26

Minutes for Topic: 120

Core Lesson Description: Chapter 2 Review

Topic: Lesson 27 and 28

Minutes for Topic: 120

Core Lesson Description: Chapter 2 Test

Topic: Lesson 29

Minutes for Topic: 60

Core Lesson Description: Multiply by Tens

Core Lesson Student Learning Objectives: The student will use understanding of place value to multiply by tens.

Core Lesson Essential Questions: What strategies can you use to multiply by tens? (E)

Topic: Lesson 30

Minutes for Topic: 60

Core Lesson Description: Estimate Products

Core Lesson Student Learning Objectives: The student will be able to estimate products.

Core Lesson Essential Questions: What strategies can you use to estimate products? (E)

Topic: Lesson 31 and 32

Minutes for Topic: 60

Core Lesson Description: Area Models and Partial Products and Multiply Using Partial Products

Core Lesson Student Learning Objectives: The student will be able to use area models and partial products to multiply 2 digit numbers.

Core Lesson Essential Questions: How can you use area models and partial products to multiply 2-digit numbers? (I)

How can you use place value and partial products to multiply 2-digit numbers? (I)

Topic: Lesson 33

Minutes for Topic: 60

Core Lesson Description: Multiply With Regrouping

Core Lesson Student Learning Objectives: The student will be able to use regrouping to multiply 2 digit numbers.

Core Lesson Essential Questions: How can you use regrouping to multiply 2-digit numbers? (E)

Topic: Lesson 34

Core Lesson Description: Problem Solving Using Multiplication of 2 Digit Numbers

Core Lesson Student Learning Objectives: The student will be able to solve multistep multiplication problems.

Core Lesson Essential Questions: How can you use the strategy draw a diagram to solve multistep multiplication problems? (E)

Topic: Lesson 35 and 36

Minutes for Topic: 120

Core Lesson Description: Chapter 3 - Review

Topic: Lesson 37 and 38

Minutes for Topic: 120

Core Lesson Description: Chapter 3 Test

Topic: Lesson 39 and 40

Minutes for Topic: 60

Core Lesson Description: Estimate quotients Using Multiples

Core Lesson Student Learning Objectives: The student will be able to use multiples to estimate quotients.

Core Lesson Essential Questions: How can you use multiples to estimate quotients? (E)

Topic: Lesson 41

Minutes for Topic: 60

Core Lesson Description: Investigate Remainders

Core Lesson Student Learning Objectives: The Student will be able to divide whole numbers that will produce a remainder.

Core Lesson Essential Questions: How can you use models to divide whole numbers that do not divide evenly?

Topic: Lesson 42

Minutes for Topic: 60

Core Lesson Description: Interpret the Remainder

Core Lesson Student Learning Objectives: The student will be able to determine how to use the quotient and remainder in a division word problem.

Core Lesson Essential Questions: How can you use remainders in division problems? (E)

Topic: Lesson 43

Minutes for Topic: 60

Core Lesson Description: Divide tens, hundreds, and thousands

Core Lesson Student Learning Objectives: The student will be able to divide numbers through the thousands by whole numbers through 10.

Core Lesson Essential Questions: How can you divide numbers through thousands by whole numbers through 10? (E)

Topic: Lesson 44

Minutes for Topic: 60

Core Lesson Description: Estimate Quotients Using Compatible Numbers

Core Lesson Student Learning Objectives: The student will be able to use compatible numbers to estimate quotients.

Core Lesson Essential Questions: How can you use compatible numbers to estimate quotients? (E)

Topic: Lesson 45

Minutes for Topic: 60

Core Lesson Description: Divide Using Partial Quotients

Core Lesson Student Learning Objectives: The student will be able to use partial quotients to divide by 1 digit divisors.

Core Lesson Essential Questions: How can you use partial quotients to divide by 1-digit divisors? (I)

Topic: Lesson 46

Minutes for Topic: 60

Core Lesson Description: Model Division with Regrouping

Core Lesson Student Learning Objectives: The student will be able to use place value to model division with regrouping.

Core Lesson Essential Questions: How can you use base ten blocks to model division with regrouping? (E)

Topic: Lesson 47

Minutes for Topic: 60

Core Lesson Description: Place the First Digit

Core Lesson Student Learning Objectives: The student will be able to use place value to know where to place the first digit in the quotient.

Core Lesson Essential Questions: How can you use base ten blocks to model division with regrouping? (E)

Topic: Lesson 48

Minutes for Topic: 60

Core Lesson Description: Divide by 1 Digit Numbers

Core Lesson Student Learning Objectives: The student will be able to divide multidigit numbers by 1 digit.

Core Lesson Essential Questions: How can you divide multi-digit numbers and check your answers? (E)

Topic: Lesson 49

Minutes for Topic: 60

Core Lesson Description: Multistep Division Problems

Core Lesson Student Learning Objectives: The student will be able to solve multistep division problems. Use the draw a diagram strategy.

Core Lesson Essential Questions: How can you use the strategy draw a diagram to solve multistep division problems? (E)

Topic: Lesson 50 and 51

Minutes for Topic: 120

Core Lesson Description: Chapter 4 Review

Topic: Lesson 52 and 53

Minutes for Topic: 120

Core Lesson Description: Chapter 4 Test

Topic: Lesson 54

Minutes for Topic: 60

Core Lesson Description: Model Factors and Factors and Divisibility

Core Lesson Student Learning Objectives: The student will be able to tell if one number is a factor of another number.

Core Lesson Essential Questions: How can you use models to find factors? (E)

How can you tell whether one number is a factor of another number? (E)

Topic: Lesson 55

Minutes for Topic: 60

Core Lesson Description: Common Factors

Core Lesson Student Learning Objectives: The student will be able to make a list of factors to solve problems with common factors.

Core Lesson Essential Questions: How can you use the make a list strategy to solve problems with common factors? (E)

Topic: Lesson 56

Minutes for Topic: 60

Core Lesson Description: Factors and Multiples

Core Lesson Student Learning Objectives: The student will be able to relate factors to multiples.

Core Lesson Essential Questions: How are factors and multiples related? (E)

Topic: Lesson 57

Minutes for Topic: 60

Core Lesson Description: Prime and Composite Numbers

Core Lesson Student Learning Objectives: The student will be able to tell whether a number is prime or composite.

Core Lesson Essential Questions: How can you tell whether a number is prime or composite? (E)

Topic: Lesson 58

Minutes for Topic: 60

Core Lesson Description: Number Patterns

Core Lesson Student Learning Objectives: The student will be able to make and describe patterns.

Core Lesson Essential Questions: How can you make and describe patterns? (E)

Topic: Lesson 59 and 60

Minutes for Topic: 120

Core Lesson Description: Chapter 5 Review

Topic: Lesson 61 and 62

Minutes for Topic: 120

Core Lesson Description: Chapter 5 Test

Unit: Fractions

Month: December- 12 days

January- 20 days

Skills:

1. Demonstrate an understanding of fraction equivalence
2. Compare and order fractions
3. Solve problems involving fractions and mixed numbers

Essential Questions:

1. How is mathematics used to quantify, compare, represent, and model numbers?
2. How can mathematics support effective communication?
3. How are relationships represented mathematically?
4. What does it mean to estimate or analyze numerical quantities?
5. what makes a tool and/or strategy appropriate for a given task?

Content:

1. Mathematical relationships among numbers an be represented, compared, and communicated.
2. Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.
3. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.

Vocabulary:

Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

Topic: Lesson 63

Minutes for Topic: 60

Core Lesson Description: Equivalent Fractions

Core Lesson Student Learning Objectives: The student will be able to read, use, and create models to show equivalent fractions.

Core Lesson Essential Questions: How can you use models to show equivalent fractions? (E)

Topic: Lesson 64

Minutes for Topic: 60

Core Lesson Description: Generate Equivalent Fractions

Core Lesson Student Learning Objectives: The student will be able to use multiplication to find equivalent fractions.

Core Lesson Essential Questions: How can you use multiplication to find equivalent fractions? (E)

Topic: Lesson 65

Minutes for Topic: 60

Core Lesson Description: Common Denominators

Core Lesson Student Learning Objectives: The student will be able to write a pair of fractions with a common denominator.

Core Lesson Essential Questions: How can you write a pair of fractions as fractions with a common denominator? (I)

Topic: Lesson 66

Minutes for Topic: 60

Core Lesson Description: Find Equivalent Fractions

Core Lesson Student Learning Objectives: The student will be able to solve problems using equivalent fractions. Use the make a table strategy to solve.

Core Lesson Essential Questions: How can you use the strategy make a table to solve problems using equivalent fractions? (E)

Topic: Lesson 67

Minutes for Topic: 60

Core Lesson Description:	Compare Fractions using Benchmarks
Core Lesson Student Learning Objectives:	The student will be able to use benchmarks to compare fractions. (Use the 1/2 benchmark to compare fractions)
Core Lesson Essential Questions:	How can you use benchmarks to compare fractions? (E)

Topic: Lesson 68

Minutes for Topic: 60

Core Lesson Description:	Comparing Fractions
Core Lesson Student Learning Objectives:	The student will be able to compare fractions.
Core Lesson Essential Questions:	How can you compare fractions? (E)

Topic: Lesson 69

Minutes for Topic: 60

Core Lesson Description:	Compare and Order Fractions
Core Lesson Student Learning Objectives:	The student will be able to order fractions. (including fractions with unlike denominators)
Core Lesson Essential Questions:	How can you order fractions? (E)

Topic: Lesson 70 and 71

Minutes for Topic: 120

Core Lesson Description:	Chapter 6 review

Topic: Lesson 72 and 73

Minutes for Topic: 120

Core Lesson Description:	Chapter 6 Test

Topic: Lesson 74

Minutes for Topic: 60

Core Lesson Description:	Add and Subtract Parts of a Whole
Core Lesson	The student will be able to add and subtract parts of a whole.

Student Learning Objectives:

Core Lesson Essential Questions: When can you add or subtract parts of a whole? (E)

Topic: Lesson 75

Minutes for Topic: 60

Core Lesson Description: Write Fractions as Sums (Unit Fractions)

Core Lesson Student Learning Objectives: The student will be able to write fractions as sums of fractions with the same denominator. Ex: 3/4 = 1/4+1/4+1/4

Core Lesson Essential Questions: How can you write a fraction as a sum of fractions with the same denominators? (E)

Topic: Lesson 76 and 77

Minutes for Topic: 60

Core Lesson Description: Add Fractions Using Models and Subtract Fractions Using Models.

Core Lesson Student Learning Objectives: The Student will be able to add and subtract fractions with like denominators using models.

Core Lesson Essential Questions: How can you add fractions with like denominators using models? (E)

How can you subtract fractions with like denominators using models? (E)

Topic: Lesson 78

Minutes for Topic: 60

Core Lesson Description: Add and Subtract Fractions

Core Lesson Student Learning Objectives: The student will be able to add and subtract fractions with like denominators.

Mid-Chapter Checkpoint

Topic: Lesson 79

Minutes for Topic: 60

Core Lesson Description: Rename Fractions and Mixed Numbers

Core Lesson Student Learning Objectives: The student will be able to rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as mixed numbers.

Core Lesson Essential Questions: How can you rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as mixed numbers? (I)

Topic: Lesson 80

Minutes for Topic: 60

Core Lesson Description: Adding and Subtracting Mixed Numbers with Like Denominators

Core Lesson Student Learning Objectives: The student should be able to add and subtract mixed numbers with like denominators.

Core Lesson Essential Questions: How can you add and subtract mixed numbers with like denominators? (E)

Topic: Lesson 81

Minutes for Topic: 60

Core Lesson Description: Fractions and Properties of Addition

Core Lesson Student Learning Objectives: The student will be able to add fractions with like denominators using the properties of addition.

Core Lesson Essential Questions: How can you add fractions with like denominators using the properties of addition? (E)

Topic: Lesson 82

Minutes for Topic: 60

Core Lesson Description: Multistep Fraction Problems

Core Lesson Student Learning Objectives: The student will be able to solve multistep problems with fractions. Use the act it out strategy.

Core Lesson Essential Questions: How can you use the strategy act it out to solve multistep problems with fractions? (E)

Topic: Lesson 83 and 84

Minutes for Topic: 120

Core Lesson Description: Chapter 7 Review

Topic: Lesson 85 and 86

Minutes for Topic: 120

Core Lesson Description: Chapter 7 Test

Topic: Lesson 87

Minutes for Topic: 60

Core Lesson Description: Multiples of Unit Fractions

Core Lesson Student Learning Objectives: The student will be able to write a fraction as a product of a whole number and a unit fraction. ex: 5/6=5x1/6

Core Lesson

Essential Questions: How can you write a fraction as a product of a whole number and a unit fraction? (E)

Topic: Lesson 88

Minutes for Topic: 60

Core Lesson Description: Multiples of Fractions

Core Lesson Student Learning Objectives: The student will be able to write a product of a whole number and a unit fraction.

Core Lesson Essential Questions: How can you write a product of a whole number and a unit fraction? (I)

Topic: Lesson 89

Minutes for Topic: 60

Core Lesson Description: Multiply a Fraction by a Whole Number Using Models

Core Lesson Student Learning Objectives: The student will be able to use models to multiply a fraction by a whole number.

Core Lesson Essential Questions: How can you use a model to multiply a fraction by a whole number? (E)

Topic: Lesson 90

Minutes for Topic: 60

Core Lesson Description: Multiply a Fraction or Mixed Number by a Whole Number

Core Lesson Student Learning Objectives: The student will be able to multiply a fraction by a whole number to solve a problem.

Core Lesson Essential Questions: How can you multiply a fraction by a whole number to solve a problem? (E)

Topic: Lesson 91

Minutes for Topic: 60

Core Lesson Description: Comparison Problems with Fractions

Core Lesson Student Learning Objectives: The student will be able to solve comparison problems with fractions. Use draw a diagram strategy.

Core Lesson Essential Questions: How can you use the strategy draw a diagram to solve comparison problems with fractions? (E)

Topic: Lesson 92 and 93

Minutes for Topic: 120

Core Lesson Description: Chapter 8 Review

Topic: Lesson 94 and 95

Minutes for Topic: 120

Core Lesson Description: Chapter 8 Test

Unit: Decimals

Month: February- 11 days

Skills:

1. Use decimal notation for decimal fractions
2. Compare decimal fractions
3. Compare decimals

Essential Questions:

1. How is mathematics used to quantify, compare, represent, and model numbers?
2. How can mathematics support effective communication?
3. How are relationships represented mathematically?
4. What does it mean to estimate or analyze numerical quantities?
5. What makes a tool and/or strategy appropriate for a given task?

Content:

1. Mathematical relationships among numbers can be represented, compared and communicated.
2. Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.
3. Numerical quantities, calculations and measurements can be estimated or analyzed by using appropriate strategies and tools.

Vocabulary:

Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

STANDARDS: **STANDARDS**

STATE: PA Core Standards (2014)

CC.2.1.4.C.3 (Advanced)	Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g., 19/100).

STATE: PA Core Anchors and Eligible Content (2014)

M04.A-F.3.1.1 (Advanced)	Add two fractions with respective denominators 10 and 100. Example: Express 3/10 as 30/100, and add 3/10 + 4/100 = 30/100 + 4/100 = 34/100.
M04.A-F.3.1.2 (Advanced)	Use decimal notation for fractions with denominators 10 or 100. Example: Rewrite 0.62 as 62/100 and vice versa. Alternate Eligible Content Code M04AF3.1.2a: Identify equivalent values in decimal or fraction form (limited to denominator of 10)
M04.A-F.3.1.3 (Advanced)	Compare two decimals to hundredths using the symbols >, =, or <, and justify the conclusions.

(* standards consolidated from Topic level)

Topic: Lesson 96

Minutes for Topic: 60

Core Lesson Description: Relate Tenths and Decimals

Core Lesson Student Learning Objectives: The student will be able to write a fraction as a decimal. (.7 = 7/10)

Core Lesson Essential Questions: How can you record tenths as fractions and decimals? (E)

STANDARDS

STATE: PA Core Standards (2014)

CC.2.1.4.C.3 (Advanced)	Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g., 19/100).

STATE: PA Core Anchors and Eligible Content (2014)

M04.A-F.3.1.1 (Advanced)	Add two fractions with respective denominators 10 and 100. Example: Express 3/10 as 30/100, and add 3/10 + 4/100 = 30/100 + 4/100 = 34/100.
M04.A-F.3.1.2 (Advanced)	Use decimal notation for fractions with denominators 10 or 100. Example: Rewrite 0.62 as 62/100 and vice versa. Alternate Eligible Content Code M04AF3.1.2a: Identify equivalent values in decimal or fraction form (limited to denominator of 10)
M04.A-F.3.1.3 (Advanced)	Compare two decimals to hundredths using the symbols >, =, or <, and justify the conclusions.

Topic: Lesson 97

Minutes for Topic: 60

Core Lesson Description: Relate Hundredths and Decimals

Core Lesson Student Learning Objectives: The student will be able to write hundredths as fractions and decimals.

Core Lesson Essential Questions: How can you record hundredths as fractions and decimals? (E)

Topic: Lesson 98

Minutes for Topic: 60

Core Lesson Description:	Equivalent Fractions and Decimals
Core Lesson Student Learning Objectives:	The student will be able to write tenths and hundredths as fractions and decimals. (.6=.60)
Core Lesson Essential Questions:	How can you record tenths and hundredths as fractions and decimals? (E)

Topic: Lesson 99

Minutes for Topic: 60

Core Lesson Description:	Relate Fractions, Decimals, and Money
Core Lesson Student Learning Objectives:	The student will be able to relate fractions, decimals, and money.
Core Lesson Essential Questions:	How can you relate fractions, decimals, and money? (E)

Topic: Lesson 100

Minutes for Topic: 60

Core Lesson Description:	Problem Solving - Money
Core Lesson Student Learning Objectives:	The student will be able to solve problems that use money. Use the act it out strategy.
Core Lesson Essential Questions:	How can you use act it out to solve problems that use money? (E)

Topic: Lesson 101

Minutes for Topic: 60

Core Lesson Description:	Add Fractional Parts of 10 and 100
Core Lesson Student Learning Objectives:	The student will be able to add fractions when the denominators are 10 or 100.
Core Lesson Essential Questions:	How can you add fractions when the denominators are 10 or 100? (E)

Topic: Lesson 102

Minutes for Topic: 60

Core Lesson Description:	Compare Decimals
Core Lesson	

Student Learning Objectives: The student will be able to compare decimals in the tenths and hundredths.

Core Lesson Essential Questions: How can you compare decimals? (E)

Topic: Lesson 103 and 104

Minutes for Topic: 120

Core Lesson Description: Chapter 9 Review

Topic: Lesson 105 and 106

Minutes for Topic: 120

Core Lesson Description: Chapter 9 Test

Unit: Number Theory

Month: February- 4 days

Skills:

1. Represent and solve problems verbally as equations
2. Use factors to represent numbers in various ways
3. Recognize that a whole number is a multiple of each of its factors

Essential Questions:

1. How is mathematics used to quantify, compare, represent, and model numbers?
2. How can mathematics support effective communication?
3. How are relationships represented mathematically?
4. How can patterns be used to describe relationships in mathematical situations?

Content:

1. Mathematical relationships among numbers can be represented, compared, and communicated.
2. Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.
3. Patterns exhibit relationships that can be extended, described, and generalized.

Vocabulary:

Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

This Curriculum Map Unit has no Topics to display

Unit: Patterns

Month: February- 6 days

Skills: 1. Generate and analyze patterns that follow a single rule

Essential Questions:

1. How is mathematics used to quantify, compare, represent, and model numbers?
2. How can mathematics support effective communication?
3. How can patterns be use to describe relationships in mathematical situations?
4. How can recognizing repetition or regularity assist in solving problems more efficiently?
5. How can data be organized and represented to provide insight into the relationship between quantities?
6. How can probability and data analysis be used to make predictions?

Content:

1. Mathematical relationships among numbers can be represented, compared, and communicated.
2. Patterns exhibit relationships that can be extended, described and generalized.
3. Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
4. Data can be modeled and used to make inferences.

Vocabulary: Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

Topic: PA-5

Minutes for Topic: 60

Core Lesson Description: Function Tables

Core Lesson Student Learning Objectives: Students will be able to write a rule for a function table.

Unit: Geometric Shapes and Figures

Month: March- 11 days

Skills:

1. Draw and identify lines and angles
2. Classify shapes by properties of their lines and angles
3. Recognize symmetric shapes and draw lines of symmetry

Essential Questions:

1. How can patterns be used to describe relationships in mathematical situations?
2. How can recognizing repetition or regularity assist in solving problems more efficiently?
3. How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?
4. How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?
5. How can geometric properties and theorems be used to describe, model and analyze situations?

Content:

1. Patterns exhibit relationships that can be extended, described, and generalized.
2. Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.

Vocabulary:

Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.3.4.A.1 (Advanced)	Draw lines and angles and identify these in two-dimensional figures.
CC.2.3.4.A.2 (Advanced)	Classify two-dimensional figures by properties of their lines and angles.
CC.2.3.4.A.3 (Advanced)	Recognize symmetric shapes and draw lines of symmetry.

STATE: PA Core Anchors and Eligible Content (2014)

M04.C-G.1.1.1 (Advanced)	Draw points, lines, line segments, rays, angles (right, acute, and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
M04.C-G.1.1.2 (Advanced)	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. Alternate Eligible Content Code M04CG1.1.2a: Classify two-dimensional shapes based on attributes
M04.C-G.1.1.3 (Advanced)	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-symmetric figures and draw lines of symmetry (up to two lines of symmetry). Alternate Eligible Content Code M04CG1.1.3a: Recognize a line of symmetry in a two-dimensional figure

(* standards consolidated from Topic level)

Topic: Lesson 107

Minutes for Topic: 60

Core Lesson Description: Lines, Rays, and Angles

Core Lesson Student Learning Objectives: The student will be able to identify and draw points, lines, line segments, rays, and angles.

Core Lesson Essential Questions: How can you identify and draw points, lines, line segments, rays, and angles? (E)

STANDARDS

STATE: PA Core Standards (2014)

CC.2.3.4.A.1 (Advanced)	Draw lines and angles and identify these in two-dimensional figures.
CC.2.3.4.A.2 (Advanced)	Classify two-dimensional figures by properties of their lines and angles.
CC.2.3.4.A.3 (Advanced)	Recognize symmetric shapes and draw lines of symmetry.

STATE: PA Core Anchors and Eligible Content (2014)

M04.C-G.1.1.1 (Advanced)	Draw points, lines, line segments, rays, angles (right, acute, and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
M04.C-G.1.1.2 (Advanced)	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. Alternate Eligible Content Code M04CG1.1.2a: Classify two-dimensional shapes based on attributes
M04.C-G.1.1.3 (Advanced)	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into mirroring parts. Identify line-

symmetric figures and draw lines of symmetry (up to two lines of symmetry).

Alternate Eligible Content Code M04CG1.1.3a: Recognize a line of symmetry in a two-dimensional figure

Topic: Lesson 108

Minutes for Topic: 60

Core Lesson Description: Classify Triangles

Core Lesson Student Learning Objectives: The student will be able to classify triangles by the size of their angles.

Core Lesson Essential Questions: How can you classify triangles by the size of their angles? (E)

Topic: Lesson 109

Minutes for Topic: 60

Core Lesson Description: Parallel Lines and Perpendicular Lines

Core Lesson Student Learning Objectives: The student will be able to identify and draw parallel lines and perpendicular lines.

Core Lesson Essential Questions: How can you identify and draw parallel lines and perpendicular lines? (E)

Topic: Lesson 110

Minutes for Topic: 60

Core Lesson Description: Classify Quadrilaterals

Core Lesson Student Learning Objectives: The student will be able to sort and classify quadrilaterals.

Core Lesson Essential Questions: How can you sort and classify quadrilaterals? (E)

Topic: Lesson 111

Minutes for Topic: 60

Core Lesson Description: Line Symmetry

Core Lesson Student Learning Objectives: The student will be able to check if a shape has line symmetry.

Core Lesson Essential Questions: How can you check if a shape has line symmetry? (E)

Topic: Lesson 112

Minutes for Topic: 60

Core Lesson Description: Find and Draw Lines of Symmetry

Core Lesson Student Learning Objectives: The student will be able to find lines symmetry.

Core Lesson Essential Questions: How do you find lines of symmetry? (E)

Topic: Lesson 113

Minutes for Topic: 60

Core Lesson Description: Problem Solving - Shape Patterns

Core Lesson Student Learning Objectives: The student will be able to solve pattern problems using the strategy act it out.

Core Lesson Essential Questions: How can you use the strategy ac it out to solve pattern problems? (E)

Topic: Lesson 114 and 115

Minutes for Topic: 120

Core Lesson Description: Chapter 12 Review

Topic: Lesson 116 and 117

Minutes for Topic: 120

Core Lesson Description: Chapter 10 Test

Unit: Measurement

Month: March- 8 days

April- 18 days

Skills:

1. Solve problems involving measurements
2. Convert larger unit to smaller unit
3. Measure and draw angles
4. Apply area and perimeter formulas

Essential Questions:

1. What does it mean to estimate or analyze numerical quantities?
2. When is it appropriate to estimate versus calculate?
3. what makes a tool and/or strategy appropriate for a given task?
4. Why does "what" we measure influence "how" we measure?
5. In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?
6. How precise do measurements and calculations need to be?

Content:

1. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.
2. Measurement attributes can be quantified and estimated using customary and non-customary units of measure.

Vocabulary:

Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

STANDARDS:

STANDARDS

STATE: PA Core Standards (2014)

CC.2.4.4.A.1 (Advanced)	Solve problems involving measurement and conversions from a larger unit to a smaller unit.
CC.2.4.4.A.6 (Advanced)	Measure angles and use properties of adjacent angles to solve problems.

STATE: PA Core Anchors and Eligible Content (2014)

M04.D-M.1.1.1 (Advanced)	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 (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. Alternate Eligible Content Code M04DM1.1.1a: Identify the appropriate unit of measurement in a real-world problem
M04.D-M.1.1.2 (Advanced)	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.
M04.D-M.1.1.3 (Advanced)	Apply the area and perimeter formulas for rectangles in real-world and mathematical problems (may include finding a missing side length). Whole numbers only. The formulas will be provided. Alternate Eligible Content Code M04DM1.1.3a: Identify the area or perimeter of a rectangle

M04.D-M.1.1.4 (Advanced)	Identify time (analog or digital) as the amount of minutes before or after the hour. Example 1: 2:50 is the same as 10 minutes before 3:00. Example 2: Quarter past six is the same as 6:15.
M04.D-M.3.1.1 (Advanced)	Measure angles in whole-number degrees using a protractor. With the aid of a protractor, sketch angles of specified measure.
M04.D-M.3.1.2 (Advanced)	Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems. (Angles must be adjacent and non-overlapping.)

(* standards consolidated from Topic level)

Topic: Lesson 118

Minutes for Topic: 60

Core Lesson Description: Angles and Fractional Parts of a Circle

Core Lesson Student Learning Objectives: The student will be able to relate angles and fractional parts of a circle.

Core Lesson Essential Questions: How can you relate angles and fractional parts of a circle? (I)

STANDARDS

STATE: PA Core Standards (2014)

CC.2.4.4.A.1 (Advanced)	Solve problems involving measurement and conversions from a larger unit to a smaller unit.
CC.2.4.4.A.6 (Advanced)	Measure angles and use properties of adjacent angles to solve problems.

STATE: PA Core Anchors and Eligible Content (2014)

M04.D-M.1.1.1 (Advanced)	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 (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. Alternate Eligible Content Code M04DM1.1.1a: Identify the appropriate unit of measurement in a real-world problem
M04.D-M.1.1.2 (Advanced)	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.
M04.D-M.1.1.3 (Advanced)	Apply the area and perimeter formulas for rectangles in real-world and mathematical problems (may include finding a missing side length). Whole numbers only. The formulas will be provided. Alternate Eligible Content Code M04DM1.1.3a: Identify the area or perimeter of a rectangle
M04.D-M.1.1.4 (Advanced)	Identify time (analog or digital) as the amount of minutes before or after the hour. Example 1: 2:50 is the same as 10 minutes before 3:00. Example 2: Quarter past six is the same as 6:15.
M04.D-M.3.1.1 (Advanced)	Measure angles in whole-number degrees using a protractor. With the aid of a protractor, sketch angles of specified measure.
M04.D-M.3.1.2 (Advanced)	Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems. (Angles must be adjacent and non-overlapping.)

Topic: Lesson 119

Minutes for Topic: 60

Core Lesson Description: Degrees

Core Lesson Student Learning Objectives: The student will be able to relate degrees to the fractional parts of a circle.

Core Lesson Essential Questions: How are degrees related to fractional parts of a circle? (E)

Topic: Lesson 120

Minutes for Topic: 60

Core Lesson Description: Measure and Draw Angles

Core Lesson Student Learning Objectives: The student will be able to use a protractor to draw and measure angles.

Core Lesson Essential Questions: How can you use a protractor to draw and measure angles? (E)

Topic: Lesson 121

Minutes for Topic: 60

Core Lesson Description: Investigate - Join and Separate Angles

Core Lesson Student Learning Objectives: The student will be able to determine the measure of an angle separated into parts.

Core Lesson Essential Questions: How can you determine the measure of an angle separated into parts? (E)

Topic: Lesson 122

Minutes for Topic: 60

Core Lesson Description: Problem Solving - Unknown Angle Measures

Core Lesson Student Learning Objectives: The student will be able to draw a diagram to solve angle measurement problems.

Core Lesson Essential Questions: How can you use the strategy draw a diagram to solve angle measurement problems? (E)

Topic: Lesson 123 and 124

Minutes for Topic: 120

Core Lesson Description: Chapter 11 Review

Topic: Lesson 125 and 126

Minutes for Topic: 120

Core Lesson Description: Chapter 11 Test

Topic: Lesson 127

Minutes for Topic: 60

Core Lesson Description: Measurement Benchmarks

Core Lesson Student Learning Objectives: The student will be able to use benchmarks to understand relative sizes of measurement. (School to home is about a mile, the width of pinky is a centimeter, etc.)

Core Lesson Essential Questions: How can you use benchmarks to understand the relative sizes of measurement units? (E)

Topic: Lesson 128

Minutes for Topic: 60

Core Lesson Description: Customary Units of Length

Core Lesson Student Learning Objectives: The student will be able to use models to compare customary units of length.

Core Lesson Essential Questions: How can you use models to compare customary units of length? (E)

Topic: Lesson 129

Minutes for Topic: 60

Core Lesson Description: Customary Units of Weight

Core Lesson Student Learning Objectives: The student will be able to use models to compare customary units of weight.

Core Lesson Essential Questions: How can you use models to compare customary units of weight? (E)

Topic: Lesson 130

Minutes for Topic: 60

Core Lesson Description: Customary Units of Liquid Volume

Core Lesson Student Learning Objectives: The student will be able to use models to compare customary units of liquid volume.

Core Lesson Essential Questions: How can you use models to compare customary units of liquid volume? (E)

Topic: Lesson 131

Minutes for Topic: 60

Core Lesson Description: Line Plots

Core Lesson Student Learning Objectives: The student will be able to make and interpret line plots with fractional data.

Core Lesson Essential Questions: How can you make and interpret line plots with fractional data? (E)

Topic: Lesson 132

Minutes for Topic: 60

Core Lesson Description: Investigate - Metric Units of Length

Core Lesson Student Learning Objectives: The student will be able to compare metric units of length.

Core Lesson Essential Questions: How can you use models to compare metric units of length? (E)

Topic: Lesson 133

Minutes for Topic: 60

Core Lesson Description: Metric Units of Mass

Core Lesson Student Learning Objectives: The student will be able to compare metric units of mass and liquid volume.

Core Lesson Essential Questions: How can you use models to compare metric units of mass and liquid volume? (E)

Topic: Lesson 134

Core Lesson Description: Units of Time

Core Lesson Student Learning Objectives: The student will be able to compare units of time.

Core Lesson Essential Questions: How can you use models to compare units of time? (E)

Topic: Lesson 135

Minutes for Topic: 60

Core Lesson Description: Problem Solving - Elapsed Time

Core Lesson Student Learning Objectives: The student will be able to solve elapsed time problems. Use draw a diagram strategy.

Core Lesson

Essential Questions: How can you use the strategy draw a diagram to solve elapsed time problems? (E)

Topic: Lesson 136

Minutes for Topic: 60

Core Lesson Description: Mixed Measures

Core Lesson Student Learning Objectives: The student will be able to solve problems involving mixed measures.

Core Lesson Essential Questions: How can you solve problems involving mixed measures? (E)

Topic: Lesson 137

Minutes for Topic: 60

Core Lesson Description: Patterns in Measurement Units

Core Lesson Student Learning Objectives: The student will be able to use patterns to write number pairs for measurement units.

Core Lesson Essential Questions: How can you use patterns to write number pairs for measurement units? (E)

Topic: Lesson 138

Minutes for Topic: 60

Core Lesson Description: Perimeter

Core Lesson Student Learning Objectives: The student will be able to use a formula to find the perimeter of a rectangle.

Core Lesson Essential Questions: How can you use a formula to find the perimeter of a rectangle? (E)

Topic: Lesson 139

Minutes for Topic: 60

Core Lesson Description: Area

Core Lesson Student Learning Objectives: The student will be able to use a formula to find the area of a rectangle.

Core Lesson Essential Questions: How can you find the are of combined rectangles? (E)

Topic: Lesson 140

Minutes for Topic: 60

Core Lesson Description: Area of combined rectangles

Core Lesson Student Learning Objectives: The student will be able to find the area of combined rectangles.

Core Lesson Essential Questions: How can you find the area of combined rectangles? (E)

Topic: Lesson 141

Minutes for Topic: 60

Core Lesson Description: FInd Unknown Measures

Core Lesson Student Learning Objectives: The student will be able to find an unknown measure of a rectangle given its area or perimeter.

Core Lesson Essential Questions: How can you find an unknown measure of a rectangle given its area or perimeter? (E)

Topic: Lesson 142

Minutes for Topic: 60

Core Lesson Description: Problem Solving - Find the Area

Core Lesson Student Learning Objectives: The student will be able to solve area problems using the strategy "solve a simpler problem."

Core Lesson Essential Questions: How can you use the strategy solve a simpler problem to solve area problems? (E)

Unit: Data Displays

Month: May

Skills:

1. Translate one type of data display to another
2. Represent and interpret data involving fractions

Essential Questions:

1. What does it mean to estimate or analyze numerical quantities?
2. What makes a tool and/or strategy appropriate for a given task?
3. How can data be organized and represented to provide insight into the relationship between quantities?
4. How does the type of data influence the choice of display?
5. How can probability and data analysis be used to make predictions?

Content:

1. Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.
2. Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
3. Data can be modeled and used to make inferences.

Vocabulary: Acute Angle

Angle

Decimal

Decimal Fractions

Equivalence

Factor

Line

Line of Symmetry

Line Segment

Mixed Number

Multiple

Obtuse Triangle

Point

Ray

Right Angle

Symmetry

Unit Fraction

Weight

Topic: Lesson PA-1

Minutes for Topic: 60

Core Lesson Description: Collect and Organize Data

Core Lesson Student Learning Objectives: Students will be able to collect and organize data by conducting a survey or making and observation.

Topic: Lesson PA-2

Minutes for Topic: 60

Core Lesson Description: Make Bar Graphs

Core Lesson Student Learning Objectives: Students will be able to display data on a bar graph.

Topic: Lesson PA-3

Minutes for Topic: 60

Core Lesson Description: Make Line Graphs

Core Lesson Student Learning Objectives: Students will be able to create and interpret line graphs

Topic: Lesson PA-4

Minutes for Topic: 60

Core Lesson Description: Choose an Appropriate Graph

Core Lesson
Student Learning Objectives: Students will be able to choose an appropriate graph to display data.