

Math - Grade 5

Instructional Unit Addition and Subtraction of Fractions

Fifth Grade Math

Unit Content

Using Data; Addition and Subtraction of Fractions
 Organizing Data
 Natural Measures of Length
 Stem-and-Leaf Plots for Hand and Finger Measures
 Mystery Plots
 Sample Size and Good Conclusions
 Analysis of Sample Data
 American Tour: Climate
 Using a Slide Rule to Add and Subtract Fractions
 Clock Fractions and Common Denominators
 Quick Common Denominators
 Review and Assessment

Objective

The students will be able to create a variety of techniques to display and interpret data from surveys, stem-and-leaf plots, and sample size.
 -review methods for organizing data
 -use metric and U.S. customary units of length
 -use stem-and-leaf plots to organize data
 -interpret data in line plots and stem-and-leaf plots
 -investigate the relationship between sample size and reliability of predictions
 -display and analyze data from a repeated experiment
 -display and analyze data from a student survey

Performance Indicator

-Construct stem-and-leaf plots. (Beginning/Developing Skill)
 -Read and interpret stem-and-leaf plots. (Beginning/Developing Skill)
 -Understand how sample size affects results. (Developing Skill)
 -Find and use data landmarks. (Secure Skill)

Performance Task

-math message
 -mental math
 -math boxes
 -math journal pages
 -math masters
 -study links
 -calculator tasks (required and/or optional)
 -games (optional): First to 21
 -statistical landmark review
 -stem-and-leaf plot construction
 -line plot interpretation
 -sample size comparisons
 -circle graph construction to display data
 -sample data analysis
 -study guides (optional)
 -quizzes (optional)
 -unit tests

State Standards Code:

2.1.5.A,2.2.5.I,2.4.5.A,2.4.5.B,2.4.5.C,2.4.5.D,2.4.5.E,2.4.5.F,2.5.A,2.5.5.B,2.5.5.C,2.5.5.D,2.5.5.E,2.5.5.F,2.8.5.F,2.8.5.G,2.8.5.I,2.11.5.A,2.10.5.A,2.9.5.B,2.1.5.C,2.2.5.A,2.2.5.E,2.2.5.F,2.1.5.D,2.3.5.D,2.3.5.E

Instructional Unit *Addition and Subtraction of Fractions*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Using Data; Addition and Subtraction of Fractions
Organizing Data
Natural Measures of Length
Stem-and-Leaf Plots for Hand and Finger Measures
Mystery Plots
Sample Size and Good Conclusions
Analysis of Sample Data
American Tour: Climate
Using a Slide Rule to Add and Subtract Fractions
Clock Fractions and Common Denominators
Quick Common Denominators
Review and Assessment

The students will be able to demonstrate the ability to add and subtract fractions using one or more procedures.
-use various procedures to add and subtract fractions
-review equivalent fractions
-add and subtract fractions with unlike denominators
-find and use common denominators to compare, add, and subtract fractions

-Add and subtract fractions with common denominators. (Developing Skill)
-Add and subtract fractions with unlike denominators. (Developing Skill)
-Find a common denominator. (Developing Skill)
-Convert among fractions, decimals, and percents. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional):
Frac-Tac-Toe
-fractional parts of a whole
-whole sets from fractions
-slide rule usage to solve fraction addition and subtraction problems
-fraction stick usage to solve fraction addition and subtraction problems
-clock face usage to solve fraction addition and subtraction problems
-common denominators to find equivalent fractions
-fractions stick usage to find common denominators

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F,2.5.
.5.A,2.5.5.B,2.5.
5.C,2.5.5.D,2.5.
5.E,2.5.5.F,2.8.5.
.F,2.8.5.G,2.8.5.I
,2.11.5.A,2.2.5.
C,2.2.5.D,2.2.5.
E,2.6.5.B,2.6.5.
A,2.6.5.D,2.6.5.
E

Instructional Unit
Fifth Grade Math
Unit Content

Addition and Subtraction of Fractions

Objective

Performance Indicator

Performance Task

State Standards Code:

-common denominators
used to add, subtract,
and compare fractions
-study guides (optional)

-quizzes (optional)
-unit tests

Instructional Unit Algebra Concepts and Skills

Fifth Grade Math

Unit Content

Algebra Concepts and Skills
Pan-Balance Problems
Pan-Balance Problems with Two Balances
Algebraic Expressions
Rules, Tables, and Graphs: Part 1
American Tour: Predicting Old Faithful's Next Eruption
Rules, Tables, and Graphs: Part 2
Reading Graphs
Circumference of a Circle
Areas of Circles
Review and Assessment

Objective

The students will be able to distinguish between circumference and area formulas.
-relate the circumference to the diameter of a circle
-find an approximate value for pi by measuring round objects of various objects
-measure the area of a circle by counting squares
-use a formula to calculate the area of a circle

Performance Indicator

-Use formulas to find circumference and area of a circle. (Developing Skill)
-Distinguish between circumference and area of circle problems. (Developing Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-circumference related to the diameter of a circle
-discovery of approximate value of pi
-Unit Tests
-pi key on calculators used to calculate circumference of circles
-Quizzes
-centimeter grids used to measure the area of a circle
-formula used to calculate the area of a circle
-study guides (optional)

State Standards Code:

Instructional Unit *Algebra Concepts and Skills*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Algebra Concepts and Skills
Pan-Balance Problems
Pan-Balance Problems with Two Balances
Algebraic Expressions
Rules, Tables, and Graphs: Part 1
American Tour: Predicting Old Faithful's
Next Eruption
Rules, Tables, and Graphs: Part 2
Reading Graphs
Circumference of a Circle
Areas of Circles
Review and Assessment

The students will be able to create algebraic expressions to solve a variety of problems.
-translate word descriptions into algebraic expressions

-extend the "What's My Rule?" routine to rules with algebraic expressions
-review the concept of rates
-represent rates with formulas, tables, and graphs
-use a table and graph to solve and interpret a problem based on a real-world situation
-interpret line graphs

-Write algebraic expressions to describe situations. (Developing Skill)
-Represent rate problems as formulas, graphs, and tables. (Developing Skill)
-Interpret mystery line plots and graphs. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-number stories matched with number expressions
-word descriptions translated into algebraic expressions
-"What's My Rule?" table for algebraic expressions
-students model situations using algebraic expressions
-study guides (optional)
-quizzes (optional)
-unit tests

2.8.5.E,2.9.5.C

Instructional Unit *Algebra Concepts and Skills*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Algebra Concepts and Skills	The students will be	-Solve two-step pan-balance	-math message	2.1.5.A,2.2.5.1,2.
Pan-Balance Problems	able to solve	problems. (Beginning Skill)	-mental math	4.5.A,2.4.5.B,2.
Pan-Balance Problems with Two Balances	pan-balance problems.	-Solve one-step pan-balance	-math boxes	4.5.C,2.4.5.D,2.
Algebraic Expressions		problems. (Developing/Secure	-math journal pages	4.5.E,2.4.5.F,2.5
Rules, Tables, and Graphs: Part 1	-introduce a	Skill)	-math masters	.5.A,2.5.5.B,2.5.
American Tour: Predicting Old Faithful's	pan-balance approach		-study links	5.C,2.5.5.D,2.5.
Next Eruption	for solving simple		-calculator tasks	5.E,2.5.5.F,2.8.5
Rules, Tables, and Graphs: Part 2	equations		(required and/or	.F,2.8.5.G,2.8.5.I
Reading Graphs	-extend a pan-balance		optional)	,2.11.5.A,2.11.5
Circumference of a Circle	approach for solving		-pan-balance used to	.E,2.11.5.F,2.9.5
Areas of Circles	equations to problems		find the weight of a	.H,2.6.5.A,2.8.5.
Review and Assessment	with two balances		given object	A,2.8.5.D
			-pan-balance problems	
			-pan-balance problems	
			that model sets of two	
			equations in two	
			unknowns	
			-study guides (optional)	
			-quizzes (optional)	
			-unit tests	

Instructional Unit *Coordinates, Area, Volume, and Capacity*

Fifth Grade Math

Unit Content

Coordinates, Area, Volume, and Capacity
Hidden Treasure: A Coordinate Game
Coordinate Graphs: Part 1
Coordinate Graphs: Part 2
Areas of Rectangles
The Rectangle Method for Finding Area
Formulas for the Area of Triangles and
Parallelograms
Earth's Water Surface and the School's
Land Area
Volume of Rectangular Prisms
Volume of Prisms
Capacity: Liter, Milliliter, and Cubic
Centimeter
Review and Assessment

Objective

The students will be able to develop a formula to determine the volume of a figure.

-develop and use a formula for the volume of a rectangular prism

-calculate the volume of any prism by multiplying the area of its base by its height

-examine the relationships among the liter, milliliter, and cubic centimeter

Performance Indicator

-Understand the concept of volume of a figure. (Developing Skill)
-Use a formula to find the volume of prisms. (Developing Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-volume and area comparison
-formula for volume developed
-volume formula for nonrectangular prism verified and practiced
-conversion between metric units of volume and capacity and U.S. customary units
-centimeter grid paper used to find greatest possible volume
-study guides (optional)
-quizzes (optional)
-unit tests

State Standards Code:

Instructional Unit *Coordinates, Area, Volume, and Capacity*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Coordinates, Area, Volume, and Capacity
Hidden Treasure: A Coordinate Game
Coordinate Graphs: Part 1
Coordinate Graphs: Part 2
Areas of Rectangles
The Rectangle Method for Finding Area
Formulas for the Area of Triangles and Parallelograms
Earth's Water Surface and the School's Land Area
Volume of Rectangular Prisms
Volume of Prisms
Capacity: Liter, Milliliter, and Cubic Centimeter
Review and Assessment

The students will be able to determine the area of triangles and parallelograms.
-review area concepts and units of area
-discuss and use the formula for the area of a rectangle
-identify personal references for common units of area
-explore the rectangle method for finding areas of polygons
-develop and use formulas for the area of a triangle and the area of a parallelogram

-use sampling to estimate the percent of Earth's surface covered by water
-estimate the land area of the school

-Identify the base and height of triangles and parallelograms. (Developing/Secure Skill)
-Use a formula to find the area of triangles and parallelograms. (Developing/Secure Skill)
-Understand the concept of area of a figure. (Secure Skill)
-Use a formula to find the area of rectangles. (Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-area unit review
-formula for area of rectangle
-area identification
-rectangle method to find area of triangles and parallelograms on a grid
-base and height of parallelograms and triangles identified
-formulas for the area of a triangle and parallelogram developed and utilized
-study guides (optional)

-quizzes (optional)
-unit tests

2.9.5.F,2.9.5.H,2.9.5.I,2.9.5.J,2.9.5.L,2.3.5.A,2.3.5.B,2.3.5.C,2.6.5.A,2.8.5.H,2.9.5.A

Instructional Unit *Coordinates, Area, Volume, and Capacity*

Fifth Grade Math

Unit Content

Coordinates, Area, Volume, and Capacity
Hidden Treasure: A Coordinate Game
Coordinate Graphs: Part 1
Coordinate Graphs: Part 2
Areas of Rectangles
The Rectangle Method for Finding Area
Formulas for the Area of Triangles and
Parallelograms
Earth's Water Surface and the School's
Land Area
Volume of Rectangular Prisms
Volume of Prisms
Capacity: Liter, Milliliter, and Cubic
Centimeter
Review and Assessment

Objective

The students will be able to create and interpret a coordinate grid plane.
-review coordinate grids, ordered number pairs, and coordinates

-use a coordinate grid

-plot and read ordered number pairs
-transform ordered number pairs
-explore transformation of figures in a plane

Performance Indicator

-Plot ordered pairs on a four-quadrant coordinate grid. (Developing Skill)
-Plot ordered pairs on a one-quadrant coordinate grid. (Developing/Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional):
Hidden Treasure,
Advanced Hidden Treasure
-coordinate grids, ordered number pairs, and coordinates review
-plot and number pair location (orally)
-transformation of ordered number pairs to explore changes of figures
-latitude and longitude grid used to estimate the percent of Earth's surface covered by water and to estimate the land area of the school
-study guides (optional)
-quizzes (optional)
-unit tests

State Standards Code:

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F
2.5.5.A,2.5.5.B,
2.5.5.C,2.5.5.D,
2.5.5.E,2.5.5.F,2.
.8.5.F,2.8.5.G,2.
8.5.I,2.11.5.A,2.
9.5.B,2.9.5.D,2.
11.5.E,2.11.5.F,
2.10.5.A,2.9.5.E

Instructional Unit Division

Fifth Grade Math

Unit Content

Division
Division Facts and Extensions
The Partial-Quotients Division Algorithm
American Tour: Finding Distances on a Map
Division of Decimal Numbers
Interpreting the Remainder
Skills Review with First to 100
Review and Assessment

Objective

The students will be able to apply one or more division algorithms for whole numbers and decimals.

-review division facts

-mentally divide two digit numbers by one digit numbers

-review and practice partial-quotients division algorithm for dividing a whole number by a whole number

-make magnitude estimates for quotients

-use partial-quotients division algorithm to divide decimals by whole numbers

-solve division number stories and interpret remainders within the context of the stories

Performance Indicator

-Divide decimal numbers by whole numbers with no remainders. (Beginning Skill)

-Write and solve number sentences with variables for division number stories. (Beginning Skill)

-Find the quotient and remainder of a whole number divided by a one digit whole number. (Developing Skill)

-Make magnitude estimates for quotients of whole and decimal numbers divided by whole numbers. (Developing Skill)

-Interpret the remainder in division number stories. (Developing Skill)

-Determine the value of a variable; use this value to complete a number sentence. (Developing Skill)

-Know place value to hundredths. (Secure Skill)

Performance Task

-math message

-mental math

-math boxes

-math journal pages

-math masters

-study links

-calculator tasks (required and/or optional)

-games (optional):
Division Dash, First to 100,

-links between multiplication and division

-"friendly" numbers

-place value skills

-partial-quotients division algorithm

-"easy" multiples

-estimation techniques from tenths to the hundreds

-magnitude bar skills

-fact triangles

-number sentences to represent division number stories

-remainder interpretation within the context of number stories

-study guides (optional)

-quizzes (optional)

-unit tests

State Standards Code:

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F,2.5.
.5.A,2.5.5.B,2.5.
5.C,2.5.5.D,2.5.
5.E,2.5.5.F,2.8.5.
.F,2.8.5.G,2.8.5.I
,2.11.5.A,2.2.5.
H,2.2.5.1,2.3.8.F

Instructional Unit *Estimation and Computation*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Estimation and Computation
Estimation Challenge
Procedures for Addition of Whole Numbers and Decimals
Procedures for Subtraction of Whole Numbers and Decimals
Addition and Subtraction Number Stories
Estimate Your Reaction Time
Chance Events
Estimating Products
Multiplication of Whole Numbers and Decimals
The Lattice Method of Multiplication
Comparing Millions, Billions, and Trillions
Review and Assessment

The students will be able to develop and apply algorithms for addition, subtraction, and multiplication of decimals.
-review place value concepts for whole numbers and decimals

-use partial-sums and column-addition methods
-subtract multidigit whole numbers by using the trade-first and partial-differences methods
-use a guide for solving number stories

-use open sentences as aids in solving number stories
-make magnitude estimates for products of whole numbers and decimals
-use partial-products method to multiply multidigit whole numbers
-introduce products of

-Write and solve open sentences for number stories. (Beginning Skill)
-Find the product of multidigit whole numbers and decimals. (Developing/Secure Skill)
-Find the sum and difference of multidigit whole numbers and decimals. (Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Beat the Calculator, Baseball Multiplication, Addition Top-It, Subtraction Target Practice, High-Number Toss, Multiplication Bull's-Eye,

-place value charts (optional)
-partial-sums and column-addition methods

-trade-first and partial-differences methods
-open number sentences
-lattice method for whole numbers and decimals
-partial-products method

-magnitude estimates

2.1.5.A,2.1.5.B,
2.2.5.I,2.4.5.A,2.
4.5.B,2.4.5.C,2.
4.5.D,2.4.5.E,2.4
.5.F,2.5.5.A,2.5.
5.B,2.5.5.C,2.5.
5.D,2.5.5.E,2.5.5
.F,2.8.5.F,2.8.5.
G,2.8.5.I,2.11.5.
A,2.11.5.C,2.8.5
.D,2.8.5.A,2.8.5.
C,2.7.5.E,2.6.5.
D,2.2.5.G,
2.2.5.H,2.2.5.I

Instructional Unit
Fifth Grade Math
Unit Content

Estimation and Computation

Objective

decimals
-review and practice
the lattice method for
multiplication of whole
numbers and decimals

Performance Indicator

Performance Task

-magnitude bar
estimations
-study guides (optional)

-quizzes (optional)
-unit tests

State Standards Code:

Instructional Unit *Estimation and Computation*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Estimation and Computation

Estimation Challenge

Procedures for Addition of Whole Numbers and Decimals

Procedures for Subtraction of Whole Numbers and Decimals

Addition and Subtraction Number Stories

Estimate Your Reaction Time

Chance Events

Estimating Products

Multiplication of Whole Numbers and Decimals

The Lattice Method of Multiplication

Comparing Millions, Billions, and Trillions

Review and Assessment

The students will be able to perform experiments, gather and analyze data, make predictions, and draw conclusions.

-devise an estimation strategy to solve a problem

-review statistical landmarks for a set of data

-estimate the probability of an event

-Make magnitude estimates. (Developing/Secure Skill)
-Identify the maximum, minimum, median, mode, and mean for a data set. (Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (optional)
-games (optional): Beat the Calculator, Baseball Multiplication
-Grab-It Gauge
-statistical landmarks
-individual reaction times

2.7.5.D,2.4.5.A,
2.1.5.C,2.2.5.A,
2.6.5.B,2.2.5.H,
2.2.5.B,2.2.5.E

-data interpretation
-Probability Meter Poster
-thumb tack toss
-conversion factors for units of time
-study guides (optional)
-quizzes (optional)
-unit tests

Instructional Unit *Estimation and Computation*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Estimation and Computation
Estimation Challenge
Procedures for Addition of Whole Numbers and Decimals
Procedures for Subtraction of Whole Numbers and Decimals
Addition and Subtraction Number Stories
Estimate Your Reaction Time
Chance Events
Estimating Products
Multiplication of Whole Numbers and Decimals

The Lattice Method of Multiplication
Comparing Millions, Billions, and Trillions
Review and Assessment

The students will be able to demonstrate their understanding of millions, billions, and trillions.

-Round numbers to designated places. (Developing Skill)
-Know place value to billions. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (optional)
-place value chart (optional)
-magnitude bars
-estimation techniques
-study guides (optional)

-quizzes (optional)
-unit tests

Instructional Unit *Exponents and Negative Numbers*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Exponents and Negative Numbers
Exponential Notation
Exponential Notation for Powers of 10
Scientific Notation
Parentheses in Number Sentences
Order of Operations
Using Negative Numbers
Addition of Positive and Negative Numbers
Subtraction of Positive and Negative Numbers

Using a Slide Rule to Add and Subtract
Calculator Practice: Working with Negative Numbers
Review and Assessment

The students will be able to demonstrate the use of scientific notation.
-introduce exponential notation
-introduce number-and-word notation for large numbers
-use exponential notation for positive powers of 10
-introduce scientific notation for large numbers

-Understand and apply scientific notation. (Beginning/Developing Skill)
-Understand and apply powers of 10. (Developing Skill)
-Understand and apply exponential notation. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Exponent Ball, Scientific-Notation Toss

-exponential notation as repeated-factors expressions
-exponential notation into standard notation
-standard notation, number-and-word notation, and exponential notation to represent large numbers

-exponential notation to represent positive powers of ten
-scientific notation into standard and number-and-word notation
-study guides (optional)
-quizzes (optional)
-unit tests

2.8.5.D,2.10.5.A
,2.11.5.B,2.1.8.B,2.1.8.E

Instructional Unit *Exponents and Negative Numbers*

Fifth Grade Math

Unit Content

Exponents and Negative Numbers
Exponential Notation
Exponential Notation for Powers of 10
Scientific Notation
Parentheses in Number Sentences
Order of Operations
Using Negative Numbers
Addition of Positive and Negative Numbers
Subtraction of Positive and Negative Numbers
Using a Slide Rule to Add and Subtract
Calculator Practice: Working with Negative Numbers
Review and Assessment

Objective

The students will be able to utilize the order of operations to evaluate expressions and solve number sentences.
-review the use of parentheses
-practice translating number stories into arithmetic expressions

-introduce the rules for order of operations

Performance Indicator

-Understand and apply order of operations to evaluate expressions and solve number sentences. (Developing Skill)
-Understand and apply the use of parentheses in number sentences. (Developing/Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Name That Number, High Number Toss
-parentheses in number sentences involving more than one operation
-number stories into expressions inserting parentheses in proper places
-order of operation rules
-study guides (optional)
-quizzes (optional)
-Unit tests

State Standards Code:

2.1.5.A,2.2.5.I,2.4.5.A
2.4.5.B,2.4.5.C,2.4.5.D,2.4.5.E,2.4.5.F,2.5.5.A,2.5.5.B,2.5.5.C,2.5.5.D,2.5.5.E,2.5.5.F,2.8.5.F,2.8.5.G,2.8.5.I,2.11.5.A,2.1.5.F,2.2.5.A,2.2.5.E

Instructional Unit Exponents and Negative Numbers

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Exponents and Negative Numbers
Exponential Notation
Exponential Notation for Powers of 10
Scientific Notation
Parentheses in Number Sentences
Order of Operations
Using Negative Numbers
Addition of Positive and Negative Numbers
Subtraction of Positive and Negative Numbers
Using a Slide Rule to Add and Subtract
Calculator Practice: Working with Negative Numbers
Review and Assessment

The students will be able to recognize the need for negative numbers in certain situations and develop methods for comparing, adding, and subtracting positive and negative numbers.

-review uses of negative numbers
-compare and order positive and negative numbers
-develop rules for adding positive and negative numbers
-develop a rule for subtracting positive and negative numbers

-add and subtract positive and negative numbers using a calculator

-Add and subtract positive and negative numbers. (Developing Skill)
-Understand and apply the use of parentheses in number sentences. (Developing/Secure Skill)
-Order and compare positive and negative numbers. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Name That Number, Top-It (with positive and negative numbers)
-number line to graph, compare, and order positive and negative numbers
-counters to explore addition or positive and negative numbers
-rule for adding positive and negative numbers
-counters to develop a rule for subtracting positive and negative numbers
-positive and negative number subtraction
-slide rule skills to solve positive and negative addition and subtraction problems
-negative numbers

Instructional Unit
Fifth Grade Math
Unit Content

Exponents and Negative Numbers

Objective

Performance Indicator

Performance Task

State Standards Code:

entered in calculators
-calculator skills to add
and subtract positive
and negative numbers
-number stories
involving addition and
subtraction of positive
and negative numbers
-study guides (optional)
-quizzes (optional)
-unit tests

Instructional Unit *Fractions and Ratios*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Fractions and Ratios
Review: Comparing Fractions
Adding Mixed Numbers
Subtracting Mixed Numbers
Calculator Fractions: Fraction Action,
Fraction Friction
Fractions of Fractions
An Area Model for Fraction Multiplication
Multiplication of Fractions and Whole
Numbers
Multiplication of Mixed Numbers
Finding a Percent of a Number
Using Unit Fractions and Unit Percents
to Find the Whole
American Tour: Rural and Urban
Fraction Division
Review and Assessment

The students will be able to use equivalent names for fractions and mixed numbers to then order, add, subtract, and divide fractions and mixed numbers.
-review renaming fractions as equivalent fractions
-compare fractions by using a common denominator
-review adding fractions
-introduce addition of mixed numbers
-introduce subtraction of mixed numbers with like denominators
-explore using the calculator to solve fraction problems
-practice adding fractions with unlike denominators
-introduce a common denominator method for division of fractions

-Use an algorithm to subtract mixed numbers with like denominators. (Developing Skill)
-Use an algorithm to add mixed numbers. (Developing/Secure Skill)
-Order and compare fractions. (Developing/Secure Skill)
-Convert between fractions and mixed or whole numbers. (Secure Skill)
-Find common denominators. (Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional):
Build-It, Fraction Action, Fraction Friction, Fraction Spin, Frac-Tac-Toe
-fractions renamed as equivalent fractions
-fractions compared by renaming as equivalent fractions with a common denominator
-mixed number addition with like and unlike denominators
-simplest form
-ruler skills to compare fractions
-subtracting mixed numbers with like denominators
-patterns from adding and subtracting fractions
-fraction of a whole

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F,2.5.
.5.A,2.5.5.B,2.5.
5.C,2.5.5.D,2.5.
5.E,2.5.5.F,2.8.5.
.F,2.8.5.G,2.8.5.I
,2.11.5.A,2.8.5.
E,2.7.5.C,2.6.5.
D,2.1.5.B,2.1.5.
G,2.2.5.F,2.2.5.
H,2.1.5.D,
2.1.8.D

Instructional Unit
Fifth Grade Math
Unit Content

Fractions and Ratios

Objective

Performance Indicator

Performance Task

State Standards Code:

number
-diagrams to divide
fractions
-common denominator
method for dividing
fractions and mixed
numbers
-study guides (optional)
-quizzes (optional)
-unit tests

Instructional Unit *Fractions and Ratios*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Fractions and Ratios
Review: Comparing Fractions
Adding Mixed Numbers
Subtracting Mixed Numbers
Calculator Fractions: Fraction Action,
Fraction Friction
Fractions of Fractions
An Area Model for Fraction Multiplication
Multiplication of Fractions and
Whole Numbers
Multiplication of Mixed Numbers
Finding a Percent of a Number
Using Unit Fractions and Unit Percents
to Find the Whole
American Tour: Rural and Urban
Fraction Division
Review and Assessment

The students will be able to utilize one or more procedures to multiply fractions and mixed numbers.
-model finding a fraction of a fraction by folding paper
-use an area model to show fraction multiplication
-develop a fraction multiplication algorithm

-use an area model and the fraction algorithm to find the product of a whole number and a fraction

-introduce two algorithms for multiplication with mixed numbers: partial products and converting mixed numbers to fractions

-Use an algorithm to multiply mixed numbers. (Beginning Skill)
-Use an algorithm to multiply fractions. (Developing Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Fraction Spin, Frac-Tac-Toe
-folding techniques to find fractions of fractions
-area model for fraction multiplication
-standard algorithm for fraction multiplication
-conversions from mixed numbers to fractions and fractions to mixed numbers before multiplying
-partial products and addition to multiply mixed numbers
-study guides (optional)
-quizzes (optional)
-unit tests

2.6.5.E,2.2.5.D,2.2.5.E,
.2.5.E,2.6.5.A,2.6.5.B

Instructional Unit Fractions and Ratios

Fifth Grade Math

Unit Content

Fractions and Ratios
Review: Comparing Fractions
Adding Mixed Numbers
Subtracting Mixed Numbers
Calculator Fractions: Fraction Action,
Fraction Friction
Fractions of Fractions
An Area Model for Fraction Multiplication
Multiplication of Fractions and Whole
Numbers
Multiplication of Mixed Numbers
Finding a Percent of a Number
Using Unit Fractions and Unit Percents
to Find the Whole
American Tour: Rural and Urban
Fraction Division
Review and Assessment

Objective

The students will be able to demonstrate the ability to estimate and calculate the percent of a number and practice using unit fractions and unit percents to find a whole when a part is given.

Performance Indicator

-Find a percent of a number. (Developing Skill)
-Convert among fractions, decimals, and percents. (Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-estimation to find percents
-calculator and paper-pencil skills to find percents
-unit fraction or unit percent to find the whole number
-percents to estimate
-study guides (optional)
-quizzes (optional)
-unit tests

State Standards Code:

Instructional Unit *Fractions, Decimals, and Percents*

Fifth Grade Math

Unit Content

Fractions, Decimals, and Percents
Fraction Review
Mixed Numbers
Ordering Fractions
Two Rules for Finding Equivalent Fractions
Fractions and Decimals: Part 1
Fractions and Decimals: Part 2
Fractions and Decimals: Part 3
Using a Calculator to Convert Fractions to Percents
Bar and Circle Graphs
The Percent Circle: Reading Circle Graphs
The Percent Circle: Making Circle Graphs
American Tour: School Days
Review and Assessment

Objective

The students will be able to construct and label bar and circle graphs.

Performance Indicator

-Draw a circle graph for a set of data. (Developing Skill)
-Measure pieces of a circle graph; interpret a circle graph. (Developing Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional):
Factor Captor,
Multiplication Bull's-Eye,
Estimation Squeeze,
Frac-Tac-Toe,
Frac-Tac-Toe (Percent Version),
Frac-Tac-Toe (Bingo Version)
-fractional parts of large whole numbers
-ruler skills with fractions
-pattern blocks
-mixed-number concepts
-"improper" fractions
-Fraction-Stick Chart
-equivalent fraction exploration
-equivalent fraction rules of multiplication and division
-fractions as decimals
-decimals rounding

State Standards Code:

Instructional Unit
Fifth Grade Math
Unit Content

Fractions, Decimals, and Percents

Objective

Performance Indicator

Performance Task

State Standards Code:

- decimal equivalents
- decimals to percents
with a calculator
- one-digit divisors
- Table of Decimal
Equivalents
- circle graph
construction using a
Percent Circle
- study guides (optional)
- quizzes (optional)
- unit tests

Instructional Unit *Fractions, Decimals, and Percents*

Fifth Grade Math

Unit Content

Fractions, Decimals, and Percents
Fraction Review
Mixed Numbers
Ordering Fractions
Two Rules for Finding Equivalent Fractions
Fractions and Decimals: Part 1
Fractions and Decimals: Part 2
Fractions and Decimals: Part 3
Using a Calculator to Convert Fractions to Percents
Bar and Circle Graphs
The Percent Circle: Reading Circle Graphs
The Percent Circle: Making Circle Graphs
American Tour: School Days
Review and Assessment

Objective

The students will be able to compare fractions, decimals, and percent notations by using one or more procedures.
-find fractional parts of large whole numbers
-explore mixed numbers concepts
-convert between mixed numbers and improper fractions
-compare and order fractions
-review equivalent fractions
-explore fraction addition
-use fraction sticks to find equivalent fractions
-use fraction sticks to formulate multiplication and division rules for finding equivalent fractions
-rename simple fractions as decimals
-reviewing rounding decimals
-find decimals between pairs of numbers

Performance Indicator

-Add fractions with like denominators. (Beginning/Developing Skill)
-Order and compare fractions. (Developing Skill)
-Convert between fractions and percents. (Developing Skill)

-Convert between fractions and mixed numbers. (Developing/Secure Skill)
-Find equivalent fractions. (Developing/Secure)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links

(required and/or optional)
-games (optional):
Factor Captor,
Multiplication Bull's-Eye,
Estimation Squeeze,
Frac-Tac-Toe,
Frac-Tac-Toe (Percent Version),
Frac-Tac-Toe (Bingo Version)
-fractional parts of large whole numbers
-ruler skills with fractions
-pattern blocks
-mixed-number concepts
-"improper" fractions
-Fraction-Stick Chart
-equivalent fraction exploration
-equivalent fraction rules of multiplication and division
-fractions as decimals
-decimals rounding

State Standards Code:

2.1.5.A, 2.2.5.I, 2.4.5.A, 2.4.5.B, 2.4.5.C, 2.4.5.D, 2.4.5.E, 2.4.5.F, 2.5.5.A, 2.5.5.B, 2.5.5.C, 2.5.5.D, 2.5.5.E, 2.5.5.F, 2.8.5.G, 2.8.5.H, 2.11.5.A, 2.9.5.F, 2.3.5.B, 2.3.5.C, 2.11.5.C, 2.11.5.B, 2.8.5.E, 2.7.5.C

Instructional Unit *Fractions, Decimals, and Percents*

Fifth Grade Math

Unit Content

Objective

- use a calculator to find decimal equivalent for fractions
- use a fraction to convert decimals to percents

Performance Indicator

Performance Task

- decimal equivalents
- decimals to percents with a calculator
- one-digit divisors
- Table of Decimal Equivalents
- circle graph construction using a Percent Circle
- study guides (optional)
- quizzes (optional)
- unit tests

State Standards Code:

Instructional Unit *Geometry Explorations*

Fifth Grade Math

Unit Content

Geometry Explorations
Introduction to the American Tour
American Tour: Population Estimates
Exploring Angle Measures
Using a Protractor
Using a Compass
Congruent Triangles
Properties of Polygons
Regular Tessellations
Angles of Polygons
Solving Problems Using the Geometry
Template
Review and Assessment

Objective

The students will be able to recognize and create tessellations.

Performance Indicator

-Define and create tessellations. (Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Angle Tangle
-history and concept of tessellations
-tessellation exploration
-study guides (optional)
-quizzes (optional)
-Unit tests

State Standards Code:

2.11.5.B,2.9.5.L,
2.9.5.J,2.9.5.D,2
.9.5.B,2.9.5.G,2.
9.5.C,2.9.5.K,2.
9.5.A,2.9.5.E,2.
8.5.C,2.8.5.B,2.
6.5.B,2.6.5.E,2.1
.5.C,2.3.5.D,2.2.
5.D,2.2.5.E

Instructional Unit *Geometry Explorations*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Geometry Explorations
Introduction to the American Tour
American Tour: Population Estimates
Exploring Angle Measures
Using a Protractor
Using a Compass
Congruent Triangles
Properties of Polygons
Regular Tessellations
Angles of Polygons
Solving Problems Using the Geometry
Template
Review and Assessment

The students will be able to distinguish the various properties of basic plane figures by utilizing a variety of geometric tools
-find the degree measures of angles using relationships between angles and circles
-review types of angles
-use a protractor to measure and draw angles
-use a compass to draw a circle and copy a line segment
-use a compass to measure and investigate angles formed by intersecting lines
-classify and sort geometric shapes
-find the sum of the measures of the angles in any polygon
-use the Geometry Template for problem solving

-Determine angle measures based on relationships between angles. (Developing Skill)
-Estimate the measure of an angle. (Developing/Secure Skill)
-Measure an angle to within 2 degrees. (Developing/Secure Skill)
-Identify types of angles. (Developing/Secure Skill)
-Identify types of triangles. (Developing/Secure Skill)
-Identify place value in numbers to billions. (Secure)
-Know properties of polygons. (Secure)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): Angle Tangle, Polygon Capture
-degrees in a circle
-relationships among angles
-algorithms and number models to solve number stories
-definitions for acute and obtuse angles
-geometry template skills

-protractor skills
-data landmarks
-bar graph
-compass skills
-angle measurements
-relationships between pairs of vertical angles and between pairs of adjacent angles
-definitions of equilateral, isosceles,

2.1.5.A, 2.2.5.I,
2.4.5.A, 2.4.5.B,
2.4.5.C,
2.4.5.D, 2.4.5.E,
2.4.5.F, 2.5.5.A,
2.5.5.B,
2.5.5.C, 2.5.5.D,
2.5.5.E, 2.5.5.F,
2.8.5.F,
2.8.5.G, 2.8.5.I,
2.11.5.A

Instructional Unit
Fifth Grade Math
Unit Content

Geometry Explorations

Objective

Performance Indicator

Performance Task

State Standards Code:

and scalene triangles
-ruler skills
-geometric shape
identification
-angle sums for
triangles, quadrangles,
pentagons, and
hexagons
-angle sum relationships
-attribute puzzles
-study guides (optional)
-quizzes (optional)
-unit tests

Instructional Unit *Number Theory*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Number Theory
Rectangular Arrays
Factors
The Factor Captor Game
Divisibility
Prime and Composite Numbers
Square Numbers
Unsquaring Numbers
Factor Strings and Prime Factorizations
Review and Assessment

The students will be able to relate number theory to factors and products, prime and composite numbers, square numbers, and square roots of numbers.
-review rectangular arrays and use multiplication number models to represent arrays
-review meanings of factor and product and find all factor pairs for a number
-find all factors of a given number and review divisibility rules

-test for divisibility
-classify whole numbers as prime or composite
-represent square numbers as square arrays and as exponents
-find the square root of a number

-Find the prime factorization of numbers. (Beginning Skill)
-Rename numbers written in exponential notation. (Beginning/Developing Skill)
-Use a divisibility test to determine if a number is divisible by another number. (Developing/Secure Skill)
-Identify prime and composite numbers. (Developing/Secure Skill)
-Understand how square numbers and their square roots are related. (Developing/Secure Skill)
-Draw arrays to model multiplication. (Secure Skill)
-Know basic multiplication facts. (Secure Skill)
-Identify even and odd numbers. (Secure Skill)
-List the factors of a number. (Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-divisibility test
-games: Factor Captor, Name That Number, Baseball Multiplication, Multiplication Top-It, Number Top-It, Beat the Calculator, Factor Top-It, Factor Bingo (optional)

-rectangular arrays
-factor rainbow
-factors of whole numbers
-patterns
-fact triangles
-square numbers
-exponential notation
-unsquaring numbers
-calculator tasks (optional)
-study guides (optional)

-quizzes (optional)
-unit tests

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F,2.5.
.5.A,2.5.5.B,2.5.
5.C,2.5.5.D,2.5.
5.E,2.5.F,2.8.5.F
,2.8.5.G,2.8.5.I,2.
.11.5.A,2.8.5.C,
2.8.5.D,2.9.5.F,2.
.8.5.A,2.7.5.I,2.1.
.5.G,2.1.5.B,2.1.
5.E,

Instructional Unit *Probability, Ratios, and Rates*

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Probability, Ratios, and Rates
Factor Trees
Choices, Tree Diagrams, and Probability
American Tour: Ratio Exploration
Ratios of Parts to Wholes
Number Models for Ratio Number Stories
Finding Your Heart Rate
Collecting, Graphing, and Interpreting
Exercise Data
Finding Your Cardiac Output
American Tour: End-of-Year Projects
Review and Assessment

The students will be able to utilize tree diagrams to represent and count combinations of choices and to find probabilities in situations where the combinations are equally likely.
-find the number of ways in which a sequence of choices can be made
-use tree diagrams
-find probabilities in "equally likely" situations

-Use tree diagrams to find all possible ways a sequence of choices can be made. (Beginning Skill)
-Compute the probability of outcomes when choices are equally likely. (Beginning Skill)
-Use the Multiplication Counting Principle to find the total number of possible outcomes of a sequence of choices. (Beginning/Developing Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-tree diagrams used to represent and count combinations of choices and to find probability "equally likely" situations
-study guides (optional)
-quizzes (optional)
-unit tests

2.6.5.E,2.7.5.E,2.6.5.A,2.6.5.D,2.7.5.A,2.7.5.B,2.7.5.D,2.7.5.F,2.7.5.G,2.7.5.H,2.7.5.I

Instructional Unit Probability, Ratios, and Rates

Fifth Grade Math

Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

Probability, Ratios, and Rates
Factor Trees
Choices, Tree Diagrams, and Probability
American Tour: Ratio Exploration
Ratios of Parts to Wholes
Number Models for Ratio Number Stories
Finding Your Heart Rate
Collecting, Graphing, and Interpreting
Exercise Data
Finding Your Cardiac Output
American Tour: End-of-Year Projects
Review and Assessment

The students will be able to develop ratios and rates.
-explore the uses of ratios and ways of expressing ratios
-model and solve problems using ratios of part of a set to the whole set
-write and solve number models for ratio number stories
-find students' heart rates
-graph personal and class heart rate data
-examine how the heart pumps blood throughout the body
-calculate cardiac output at rest and compare it with cardiac output after exercising

-Solve ratio and rate number stories. (Developing/Secure Skill)

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-ratios used to examine trends in data
-ratio comparisons in the form "10 times more" and "1/10 of" construct
-study guides (optional)
-equivalent forms of ratios expressed
-ratio problems used to compare part of a set to a whole set
-number stories involving ratios of part of a set to a whole set
-meaning and uses of rate discussed
-resting heart rates compared to heart rates after strenuous exercise graphed
-cardiac output rates at rest compared with cardiac output after exercising graphed
-quizzes (optional)
-unit tests

2.1.5.A, 2.2.5.I,
2.4.5.A, 2.4.5.B,
2.4.5.C,
2.4.5.D, 2.4.5.E,
2.4.5.F, 2.5.5.A,
2.5.5.B,
2.5.5.C, 2.5.5.D,
2.5.5.E, 2.5.5.F,
2.8.5.F,
2.8.5.G, 2.8.5.I,
2.11.5.A

Instructional Unit *Probability, Ratios, and Rates*

Fifth Grade Math

Unit Content

Probability, Ratios, and Rates
Factor Trees
Choices, Tree Diagrams, and Probability
American Tour: Ratio Exploration
Ratios of Parts to Wholes
Number Models for Ratio Number Stories
Finding Your Heart Rate
Collecting, Graphing, and Interpreting
Exercise Data
Finding Your Cardiac Output
American Tour: End-of-Year Projects
Review and Assessment

Objective

The students will be able to use factor trees to find prime factorization, greatest common factors, and least common multiples.

-use a factor tree to find the prime factors of a number
-find the greatest common factor and the least common multiple of two numbers
common factors and least common multiples

Performance Indicator

-Find the greatest common factor of two numbers. (Developing Skill)
-Find the least common multiple of two numbers. (Developing Skill)
-Find the identify factors of numbers. (Secure Skill)
-Find the prime factorizations of numbers. (Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-factor trees used to find all prime factors of a number
-prime factorizations used to find greatest

-simplify fractions
-Multiplication Counting Principle used to find a variety of sequence of choices
-study guides (optional)
-quizzes (optional)

State Standards Code:

2.1.5.A,2.2.5.I,2.4.5.A,2.4.5.B,2.4.5.C,2.4.5.D,2.4.5.E,2.4.5.F,2.5.5.A,2.5.5.B,2.5.5.C,2.5.5.D,2.5.5.E,2.5.5.F,2.8.5.F,2.8.5.G,2.8.5.I,2.11.5.A,2.11.5.D,2.8.5.D,2.7.5.J,2.8.5.E,2.1.5.G,2.2.5.E,2.3.8.D

Instructional Unit Volume

Fifth Grade Math

Unit Content

Volume
Review of Geometric Solids: Part 1
Review of Geometric Solids: Part 2
Volume of Cylinders
Volume of Pyramids and Cones
Finding Volume by a Displacement
Method Capacity and Weight
Surface Area
Review and Assessment

Objective

The students will be able to develop formulas for finding the volume of prisms, cylinders, pyramids, and cones.
-review the names and properties of geometric solids
-review the meaning of bases of geometric solids
-compare the properties of prisms, pyramids, cylinders, and cones
-verify that the volume formula for prisms also applies to cylinders
-use the formula to solve volume problems for prisms and cylinders
-explore the relationship between the volume of prisms and pyramids, and between the volume of cylinders and cones
-find the volume of an irregular object by submerging it in water and measuring the

Performance Indicator

-Understand the relationship between the volume of pyramids and prisms as well as the volume of cones and cylinders. (Beginning Skill)
-Understand the concept of capacity and how to calculate it. (Beginning Skill)
-Use formulas to find the volume of prisms and cylinders (Developing/ Secure Skill)-
-Know the properties of geometric solids. (Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-games (optional): 3-D Shape Sort
-properties of geometric solids reviewed
-volume formula for prisms and cylinders applied and used
-"area of base and height" formula used to solve problems
-volume of pyramid and cone calculated
-volume of an irregular object measured via displacement
-students solve a capacity problem by converting a unit of liquid capacity to a volume in cubic units
-study guides (optional)

-quizzes (optional)
-unit tests

State Standards Code:

2.1.5.A,2.2.5.1,2.
4.5.A,2.4.5.B,2.
4.5.C,2.4.5.D,2.
4.5.E,2.4.5.F,2.5.
.5.A,2.5.5.B,2.5.
5.C,2.5.5.D,2.5.
5.E,2.5.5.F,2.8.5.
.F,2.8.5.G,2.8.5.I
,2.11.5.A,2.11.5.
.F,2.11.5.E,2.9.5.
.J,2.9.5.D,2.9.5.
L,2.9.5.H

Instructional Unit *Volume*
Fifth Grade Math
Unit Content

Objective

Performance Indicator

Performance Task

State Standards Code:

volume of water in
displaces
-review equivalencies
among units of
capacity
-convert
measurements among
units of weight,
capacity, and volume in
cubic units

Instructional Unit Volume

Fifth Grade Math

Unit Content

Volume
Review of Geometric Solids: Part 1
Review of Geometric Solids: Part 2
Volume of Cylinders
Volume of Pyramids and Cones
Finding Volume by a Displacement
Method Capacity and Weight
Surface Area
Review and Assessment

Objective

The students will be able to calculate the area of prisms, cylinders, pyramids, polygons, and circles.

Performance Indicator

-Find the surface area of prisms. (Beginning Skill)
-Understand how to find the surface area of cylinders. (Beginning Skill)
-Use formulas to find the area of polygons and circles. (Secure Skill)

Performance Task

-math message
-mental math
-math boxes
-math journal pages
-math masters
-study links
-calculator tasks (required and/or optional)
-problem solving involving the circumference and area of circles
-formulas used to find the area of various polygons
-surface area of prisms, cylinders, and pyramids calculated
-study guides (optional)
-quizzes (optional)
-unit tests

State Standards Code:

2.9.5.B,2.9.5.A,
2.9.5.E,2.9.5.C,2
.3.5.A,2.3.5.B,2.
3.5.C,2.6.5.A