Mathletics Missouri Program of Studies Skill Quests



Grades 3 – 6



July, 2022

Mathletics

Missouri Program of Studies Skill Quests July 2022

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Grade 3

1 Number Sense and Operations in Base Ten

1.1 Use place value understanding and properties of operations to perform multidigit arithmetic

Outcome	Quests	Content
3.NBT.A.1 Round whole numbers to the nearest 10 or 100.	Round to the nearest 10 or 100	Rounding numbers up to 1000 to the nearest 100
		Rounding numbers up to 1000 to the nearest 10
3.NBT.A.2 Read, write and identify whole numbers within one hundred	Read, write & partition 5-digit numbers	Reading & writing numbers to 5 digits
thousand using base ten numerals, number names and expanded form.		Partitioning 5-digit numbers
3.NBT.A.3 Demonstrate fluency with addition and subtraction	Add & subtract within 1000	Add & subtract up to 3-digits: number line
within 1000.		Add & subtract up to 3-digits: jump strategy
		Add & subtract two 2-digits: place value blocks
		Add & subtract up to 3-digits: expanded form
		Add & subtract two 2-digits: compensation
3.NBT.A.4 Multiply whole numbers by multiples of 10 in the range 10- 90.	Multiply by a multiple of 10	Multiplying by a multiple of 10

2 Number Sense and Operations in Fractions

2.1 Develop understanding of fractions as numbers

Outcome	Quests	Content
3.NF.A.1 Understand a unit fraction	Introduction to	Introducing eighths
as the quantity formed by one part	fractions	Halves, quarters & eighths of
when a whole is partitioned into		objects or shapes
equal parts.		Halves, thirds or quarters of
		shapes: partitioning
		Introducing sixths
		Thirds & sixths of objects,
		shapes & sets
3.NF.A.2.a Describe the numerator	The numerator &	Introducing the numerator &
as representing the number of	denominator	denominator
pieces being considered.		
3.NF.A.3.a Understand the whole is	Locate unit fractions on	Locating unit fractions on a
the interval from 0 to 1.	a number line	number line
3.NF.A.4 Demonstrate that two	Investigate equivalent	Investigating equivalent
fractions are equivalent if they are	fractions	fractions
the same size or the same point on		
a number line.		
3.NF.A.5 Recognize and generate	Find simple equivalent	Recognize & generate simple
equivalent fractions using visual	fractions	equivalent fractions
models, and justify why the		
fractions are equivalent.		
3.NF.A.6 Compare two fractions	Compare fractions	Comparing fractions: same
with the same numerator or		numerator or denominator
denominator using the symbols >, =		
or <, and justify the solution.		

3 Relationships and Algebraic Thinking

3.1 Represent and solve problems involving multiplication and division

Outcome	Quests	Content
3.RA.A.1 Interpret products of	Introduction to	Multiplying using arrays &
whole numbers.	multiplication	repeated addition
3.RA.A.2 Interpret quotients of	Introduction to division	Dividing by sharing (up to 50)
whole numbers.		Dividing by grouping (up to
		50)
		Creating & solving problems
		involving equal groups
		Using repeated subtraction to
		divide
3.RA.A.4 Use multiplication and	Multiplication & division	Multiplication problems: fair
division within 100 to solve	problems	share/equal grouping
problems.		Multiplication/division
		problems: arrays
3.RA.A.5 Determine the unknown	Multiply & divide:	Multiplying & dividing: finding
number in a multiplication or	finding the unknown	the unknown
division equation relating three		
whole numbers.		

3.2 Understand properties of multiplication and the relationship between multiplication and division

Outcome	Quests	Content
3.RA.B.6 Apply properties of operations as strategies to multiply	Multiplication properties	Multiplication properties

3.3 Multiply and divide within 100

Outcome	Quests	Content
3.RA.C.7 Multiply and divide with	Multiplication & division	Multiplication facts: 2, 4, 8
numbers and results within 100	facts	Multiplication facts: 5, 10
using strategies such as the		Multiplication facts: 3, 6, 9
relationship between multiplication		Multiplication facts: 7
and division or properties of		Recalling multiplication facts
operations. Know all products of		to 5 x 5
two one-digit numbers.		Recalling multiplication facts
		to 10 x 10

	Division facts: 2, 4, 8
	Division facts: 5, 10
	Division facts: 3, 6, 9
	Division facts: 7

3.4 Use the four operations to solve word problems

Outcome	Quests	Content
3.RA.D.9 Write and solve two-step	2-step word problems:	2-step word problems with
problems involving variables using	4 operations	the 4 operations
any of the four operations.		

3.5 Identify and explain arithmetic patterns

Outcome	Quests	Content
3.RA.E.11 Identify arithmetic	Number patterns	Identifying & creating number
using properties of operations.		Identifying odd & even number patterns
		Exploring number patterns in tables & charts

4 Geometry and Measurement

4.1 Reason with shapes and their attributes

Outcome	Quests	Content
3.GM.A.1 Understand that shapes	Shapes & their	Sorting & naming
in different categories may share	attributes	quadrilaterals
attributes and that the shared		Comparing & describing two-
attributes can define a larger		dimensional shapes
category.		
3.GM.A.2 Distinguish rhombuses	Recognize different	Recognizing between different
and rectangles as examples of	quadrilaterals	quadrilaterals
quadrilaterals, and draw examples		
of quadrilaterals that do not belong		
to these subcategories.		
3.GM.A.3 Partition shapes into	Partition shapes	Partitioning shapes into parts
parts with equal areas, and express		with equal areas
the area of each part as a unit		
fraction of the whole.		

4.2 Solve problems involving the measurement of time, liquid volumes and weights of objects

Outcome	Quests	Content
3.GM.B.4 Tell and write time to the	Tell & write time to the	Telling time to the minute,
nearest minute.	minute	digital & analog
		Using timetables
3.GM.B.5 Estimate time intervals in minutes.	Calculate elapsed time	Calculating elapsed time
3.GM.B.7 Measure or estimate length, liquid volume and weight of	Length	Estimating & measuring in centimeters
objects.		Estimating & measuring in centimeters & meters
	Liquid volume	Estimating, comparing &
		measuring in liters
		Liquid volume: milliliters
	Mass	Mass: kilograms
		Mass: grams
		Mass: measuring in grams &
		kilograms
3.GM.B.8 Use the four operations to	Length, volume &	Solving measurement-related
solve problems involving lengths,	weight word problems	word problems
liquid volumes or weights given in		Solving word problems
the same units.		involving liquid volume

	Solving 1-step word problems involving mass
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4.3 Understand concepts of area

Outcome	Quests	Content
3.GM.C.9 Calculate area by using	Measure area with unit	Measuring area with unit
unit squares to cover a plane figure	squares	squares
with no gaps of overlaps.		
3.GM.C.10 Label area	Measure area with	Introducing formal units for
measurements with squared units.	formal units	area
		Measuring the area of
		rectangles
3.GM.C.11 Demonstrate that tiling a	Estimate area with	Estimating area with tiling
rectangle to find the area and	tiling	
multiplying the side lengths result in	U U	
the same value.		
3.GM.C.12 Multiply whole-number	Find the area with	Finding the area of rectangles,
side lengths to solve problems	repeated addition	repeated addition
involving the area of rectangles.	1	'
3.GM.C.14 Decompose a rectangle	Find the area of	Finding the area of rectilinear
into smaller rectangles to find the	rectilinear figures	figures
area of the original rectangle.	5	, j

4.4 Understand concepts of perimeter

Outcome	Quests	Content
3.GM.D.15 Solve problems involving	Perimeter problems	Introducing perimeter
perimeters of polygons.		Finding the perimeter of
		rectangles
		Finding a missing side length
		given the perimeter
		Finding the perimeter of
		polygons
3.GM.D.16 Understand that	Perimeter & area	Finding the perimeter & area
rectangles can have equal		of rectangles
perimeters but different areas, or		Relating perimeter & area
rectangles can have equal areas		
but different perimeters.		

5 Data and Statistics

5.1 Represent and analyze data

Outcome	Quests	Content
3.DS.A.1 Create frequency tables,	Scaled picture & bar	Reading & representing data:
scaled picture graphs and bar	graphs	scaled picture graph
graphs to represent a data set with		Reading & representing data:
several categories.		scaled bar graph
3.DS.A.3 Create a line plot to	Create line plots	Creating line plots
represent data.		
3.DS.A.4 Use data shown in a line	Represent & read data	Representing & reading data
plot to answer questions.	in a line plot	in a line plot

Grade 4

1 Number Sense and Operations in Base Ten

1.1 Use place value understanding and properties of operations to perform multidigit arithmetic with numbers up to one million

Outcome	Quests	Content
4.NBT.A.1 Round multi-digit whole numbers to any place.	Round 6-digit numbers	Rounding 6-digit numbers to any place value
4.NBT.A.2 Read, write and identify multi-digit whole numbers up to one million using number names, base ten numerals and expanded form.	Read & write multi- digit numbers	Reading & writing multi-digit numbers
4.NBT.A.3 Compare two multi-digit numbers using the symbols >, = or <, and justify the solution.	Compare two 6-digit numbers	Comparing two 6-digit numbers
4.NBT.A.4 Understand that in a multi-digit whole number, a digit represents 10 times what it would represent in the place to its right.	Place value for multi- digit numbers	Generalizing place value understanding
4.NBT.A.5 Demonstrate fluency with addition and subtraction of	Add multi-digit numbers	Adding multi-digit numbers, no regrouping
whole numbers.		Adding multi-digit numbers, regrouping
	Subtract multi-digit numbers	Subtracting multi-digit numbers, no regrouping
		Subtracting multi-digit numbers, regrouping
4.NBT.A.6 Multiply a whole number of up to four digits by a one-digit	Multiply multi-digit numbers	Multiplying multi-digit numbers, algorithm
whole number and multiply two two-digit numbers, and justify the		Multiplying multi-digit numbers using place value
solution.		Multiplying multi-digit numbers, area model
4.NBT.A.7 Find whole-number quotients and remainders with up	Divide multi-digit numbers	Dividing numbers, place value blocks
to four-digit dividends and one-		Dividing numbers, area model
digit divisors, and justify the solution.		Dividing numbers, place value strategy
		Introducing remainders in

2 Number Sense and Operations in Fractions

2.1 Extend understanding of fraction equivalence and ordering

Outcome	Quests	Content
4.NF.A.1 Explain and/or illustrate	Fraction equivalence	Equivalent fractions with
why two fractions are equivalent.		models
4.NF.A.2 Recognize and generate	Generate equivalent	Equivalent fractions with
equivalent fractions.	fractions	multiplication
4.NF.A.3 Compare two fractions	Compare fractions	Compare fractions using
using the symbols >, = or <, and		models
justify the solution.		Compare fractions, different
		numerator/denominator
		Compare fractions using
		common denominators

2.2 Extend understanding of operations on whole numbers to fraction operations

Outcome	Quests	Content
4.NF.B.4 Understand addition and	Understand	Adding unit fractions, same
ioining/composing and	fractions	Adding fractions same
separating/decomposing parts		denominator
referring to the same whole.		Subtracting fractions, same denominator
		Adding & subtracting fractions, same denominator
4.NF.B.5 Decompose a fraction into	Decompose fractions	Decomposing fractions
a sum of fractions with the same		
denominator and record each		
aecomposition with an equation and justification.		
4.NF.B.6 Solve problems involving	Add & subtract mixed	Adding mixed numbers, same
adding and subtracting fractions	numbers	denominator
and mixed numbers with like		Subtracting mixed numbers,
denominators.		same denominator
4.NF.B.7 Apply and extend previous	Multiply a fraction by a	Multiplying a fraction by a
understandings of multiplication to	whole number	whole number
multiply a fraction by a whole		
number.		

2.3 Understand decimal notation for fractions, and compare decimal fractions (denominators of 10 or 100)

Outcome	Quests	Content
4.NF.C.9 Use decimal notation for	Fractions as decimals	Introducing tenths
fractions with denominators of 10		Introducing hundredths
or 100.		
4.NF.C.10 Understand that	Know fraction &	Knowing common fraction &
fractions and decimals are	decimal equivalence	decimal equivalences
equivalent representations of the		
same quantity.		
4.NF.C.11 Read, write and identify	Introduce decimal	Introducing decimal notation
decimals to the hundredths place	notation	
using number names, base ten		
numerals and expanded form.		
4.NF.C.12 Compare two decimals to	Compare decimals to	Comparing & ordering
the hundredths place using the	hundredths	decimals to hundredths
symbols $>$, = or $<$, and justify the		
solution.		

3 Relationships and Algebraic Thinking

3.1 Use the four operations with whole numbers to solve problems

Outcome	Quests	Content
4.RA.A.1 Multiply or divide to solve problems involving a multiplicative comparison.	Comparison word problems	Solving comparison word problems
4.RA.A.2 Solve multi-step whole number problems involving the four operations and variables and using estimation to interpret the reasonableness of the answer.	Word problems: 4 operations	Multi-step multiplication/division word problems Solving multiplication word problems 2-step addition & subtraction
		word problems
4.RA.A.3 Solve whole number division problems involving variables in which remainders need to be interpreted, and justify the solution.	Solve division word problems	Solving division word problems

3.2 Work with factors and multiples

Quests	Content
Factors & multiples	Finding multiples: whole
	Finding factors: whole
	numbers up to 100
Prime & composite	Prime & composite numbers
numbers	
	Quests Factors & multiples Prime & composite numbers

3.3 Generate and analyze patterns

Outcome	Quests	Content
4.RA.C.6 Generate a number	Number & shape	Generate shape patterns from
pattern that follows a given rule.	patterns	a given rule
		Generate addition patterns
		from a given rule
		Generate subtraction patterns
		from a given rule

Generate multiplication
patterns from a given rule

4 Geometry and Measurement

4.1 Classi	fv 2-dimensiona	l shapes b	v properties	of their lines	and anales
					and angles

Outcome	Quests	Content
4.GM.A.1 Draw and identify points,	Spatial features in 2-D	Classifying angles
lines, line segments, rays, angles,	figures	Labeling points & lines
perpendicular lines and parallel		Identifying spatial features in
lines.		2-D shapes
4.GM.A.2 Classify two-dimensional	Classify 2-D figures	Classifying plane shapes by
shapes by their sides and/or angles.		their spatial features
		Classifying triangles by their
		sides & angles
4.GM.A.3 Construct lines of	Lines of symmetry	Lines of symmetry
symmetry for a two-dimensional		
figure.		

4.2 Understand the concepts of angle and measure angles

Outcome	Quests	Content
4.GM.B.5 Draw and measure	Measure & estimate	Measuring & estimating
angles in whole-number degrees	angles	angles
using a protractor.		

4.3 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit

Outcome	Quests	Content
4.GM.C.6 Know relative sizes of	Convert units of	Units of length: mm/cm/m/km
measurement units within one	measure	Units of mass: g/kg & oz/lb
system of units.		Units of time: sec/min/hr & day/week/year
		Units of volume & capacity: mL/L
4.GM.C.7 Use the four operations to	Word problems: units	Length word problems
solve problems involving distances,	of measure	Mass word problems
intervals of time, liquid volume,		Elapsed time word problems
weight of objects and money.		Volume & capacity word problems
		Money word problems
	Area & perimeter	Finding the area of a rectangle, formula

4.GM.C.8 Apply the area and	Finding the perimeter of a
perimeter formulas for rectangles to	rectangle, formula
solve problems.	

5 Data and Statistics

5.1 Represent and analyze data

Outcome	Quests	Content
4.DS.A.1 Create a frequency table	Create line plots	Creating line plots
and/or line plot to display		
measurement data.		
4.DS.A.2 Solve problems involving	Create & analyze data	Creating & analyzing data
addition and subtraction by using	displays	displays
information presented in a data		
display.		
4.DS.A.3 Analyze the data in a	Analyze data	Analyzing data in tables &
frequency table, line plot, bar graph		picture graphs
or picture graph.		

Grade 5

1 Number Sense and Operations in Base Ten

1.1 Use place value system understanding to perform operations with multi-digit whole numbers to billions and decimals to thousandths

Outcome	Quests	Content
5.NBT.A.1 Read, write and identify numbers from billions to thousandths using number names, base ten numerals and expanded form.	Read, write & identify numbers: any size	Reading, writing & identifying numbers: any size
5.NBT.A.2 Compare two numbers from billions to thousandths using the symbols >, = or <, and justify the solution.	Compare & order numbers	Comparing & ordering numbers of any size
5.NBT.A.3 Understand that in a multi-digit number, a digit represents 1/10 times what it	The place value system	Identifying the place value of a digit in a number Understanding the place value
would represent in the place to its left.		system: powers of 10
5.NBT.A.4 Evaluate the value of powers of 10 and understand the	Multiply & divide by powers of 10	Multiplying decimals by powers of 10
relationship to the place value system.		Dividing decimals by powers of 10
		Finding numbers before & after using powers of 10
		Writing numbers using powers of 10
5.NBT.A.5 Round numbers from billions to thousandths place.	Round numbers	Rounding whole numbers
5.NBT.A.6 Add and subtract multi- digit whole numbers and decimals	Operations with decimals	Adding decimals to hundredths, algorithm
to the thousandths place, and justify the solution.		Subtracting decimals using mental strategies
		Subtracting decimals to hundredths, algorithm
5.NBT.A.7 Multiply multi-digit whole numbers and decimals to the	Multiply decimals & whole numbers	Multiplying decimals & whole numbers
hundredths place, and justify the solution.		Multiplying decimals to hundredths, algorithm
		Multiplying decimals using mental strategies
		Multiplicative relationships with decimals

5.NBT.A.8 Divide multi-digit whole	Divide whole numbers	Divide whole numbers &
numbers and decimals to the	& decimals	decimals, mental strategies
hundredths place using up to two-		Dividing whole numbers &
digit divisors and four-digit		decimals, algorithm
dividends, and justify the solution.		

2 Number Sense and Operations in Fractions

2.1 Understand the relationship between fractions and decimals (denominators that are factors of 100)

Outcome	Quests	Content
5.NF.A.2 Convert decimals to	Convert between	Converting between fractions
fractions and fractions to decimals.	fractions & decimals	& decimals
5.NF.A.3 Compare and order	Compare decimals to	Comparing & ordering
fractions and/or decimals to the	thousandths	decimals to thousandths
thousandths place using the		
symbols >, = or <, and justify the		
solution.		

2.2 Perform operations and solve problems with fractions and decimals

Outcome	Quests	Content
5.NF.B.5.b Explain why multiplying a given number by a fraction greater than 1 results in a product larger than the given number.	Effects of multiplying fractions	Interpreting multiplying fractions as scaling
5.NF.B.6 Solve problems involving addition and subtraction of	Add & subtract fractions	Adding fractions & mixed numbers
fractions and mixed numbers with unlike denominators, and justify the		Subtracting fractions & mixed numbers
solution.		Adding & subtracting fractions & mixed numbers
		Adding fractions, proper & improper
		Adding mixed numbers
		Subtracting fractions, proper & improper
		Subtracting mixed numbers
5.NF.B.7.a Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths.	Area of a rectangle, fractional sides	Find the area of a rectangle with fractional sides
5.NF.B.7.b Calculate and interpret the product of a fraction by a whole	Multiply fractions	Multiplying a fraction by a whole number
number and a whole number by a fraction.		Multiplying a fraction by a fraction
5.NF.B.8.a Calculate and interpret the quotient of a unit fraction by a non-zero whole number.	Divide unit fractions by whole numbers	Dividing unit fractions by whole numbers, models

5.NF.B.8.b Calculate and interpret	Divide whole numbers	Dividing whole numbers by
the quotient of a whole number by	by unit fractions	unit fractions, models
a unit fraction.		

3 Relationships and Algebraic Thinking

3.1 Represent and analyze patterns and relationships

Outcome	Quests	Content
5.RA.A.1.a Generate two numeric	Numerical patterns	Comparing 2 numerical
patterns given two rules.		
		Interpreting & creating a
		number pattern table
5.RA.A.1.b Translate two numeric	Graph numerical	Graphing ordered pairs from
patterns into two sets of ordered	patterns	numerical patterns
pairs.		
5.RA.A.2 Write a rule to describe or	Write pattern rules	Writing increasing &
explain a given numeric pattern.		decreasing pattern rules

3.2 Write and interpret numerical expressions

Outcome	Quests	Content
5.RA.B.3 Write, evaluate and	Write & interpret	Writing & interpreting
interpret numeric expressions using	expressions	expressions without solving
the order of operations.		
5.RA.B.4 Translate written	Write algebraic	Writing algebraic expressions
expressions into algebraic	expressions	
expressions.		

4 Geometry and Measurement

4.1 Classify two- and three-dimensional geometric shapes

Outcome	Quests	Content
5.GM.A.1 Understand that	Attributes of 2-D	Sorting plane shapes
attributes belonging to a category	figures	
of figures also belong to all		
subcategories.		
5.GM.A.2 Classify figures in a	Classify 2-D figures,	Classifying 2-D figures in a
hierarchy based on properties.	properties	hierarchy
		Classifying quadrilaterals
5.GM.A.3 Analyze and describe the	Prisms & pyramids	Investigating properties of
properties of prisms and pyramids.		prisms & pyramids

4.2 Understand and compute volume

Outcome	Quests	Content
5.GM.B.4.b Understand that the	Volume: rectangular	Volume: additive &
volume of a right rectangular prism	prisms	multiplicative strategies
can be found by stacking multiple		
layers of the base.		
5.GM.B.5 Apply the formulas	Volume formulas:	
$V = I \times w \times h$ and $V = B \times h$ for	rectangular prism	
volume of right rectangular prisms		
with whole-number edge lengths.		

4.3 Graph points on the Cartesian coordinate plane within the first quadrant to solve problems

Outcome	Quests	Content
5.GM.C.6.a Represent the axes as scaled perpendicular number lines that both intersect at 0, the origin.	The coordinate plane	Introducing the coordinate plane
5.GM.C.6.b Identify any point on the Cartesian coordinate plane by its ordered pair coordinates.	Locate & plot points in the 1st quadrant	Locating & plotting points in the 1st quadrant
5.GM.C.7 Plot and interpret points in the first quadrant of the Cartesian coordinate plane.	Graph in the first quadrant	Graphing in the first quadrant

4.4 Solve problems involving measurement and conversions within a measurement system

Outcome	Ouests	Content
5.GM.D.8 Convert measurements of capacity, length and weight within	Convert measurement units	Converting between standard metric units of length
a given measurement system.		Converting between standard metric units of mass
		Converting metric units of volume & capacity
		Converting between customary units of length
		Converting customary units of volume & capacity
		Converting between customary units of mass
5.GM.D.9 Solve multi-step problems that require measurement conversions.	Multi-step conversion problems	Word problems: measurement conversions

5 Data and Statistics

5.1 Represent and analyze data

Outcome	Quests	Content
5.DS.A.1 Create a line graph to	Represent & read data	Representing & reading data
represent a data set, and analyze	in a line graph	in a line graph
the data to answer questions and		
solve problems.		
5.DS.A.2 Create a line plot to	Fraction problems: line	Represent & interpret
represent a given or generated data	plots	measurements: line plots
set, and analyze the data to answer		
questions and solve problems,		
recognizing the outliers and		
generating the median.		

Grade 6

1 Ratios and Proportional Relationships

1.1 Understand and use ratios to solve problems

Outcome	Quests	Content
6.RP.A.1 Understand a ratio as a comparison of two quantities and represent these comparisons.	Introduction to ratios	Defining, understanding & writing ratios
6.RP.A.2 Understand the concept of a unit rate associated with a ratio, and describe the meaning of unit rate.	Introduction to unit rate	Understanding unit rates & making comparisons
6.RP.A.3.a Create tables of equivalent ratios, find missing values in the tables and plot the pairs of values on the Cartesian coordinate plane.	Ratio tables	Creating tables of equivalent ratios
6.RP.A.3.b Solve unit rate problems.	Unit rate	Solving unit rate problems for given time periods
		Solving unit rate problems involving unit pricing
6.RP.A.3.c Solve percent problems.	Percent of a quantity	Expressing rates as a percent
		Solving percent problems: finding the whole
6.RP.A.3.d Convert measurement units within and between two systems of measurement.	Convert measurements using ratios	Converting measurement units using ratios

2 Number Sense and Operations

2.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions

Outcome	Quests	Content
6.NS.A.1.a Solve problems involving division of fractions by fractions.	Divide fractions	Dividing a fraction by a fraction
		Dividing fractions & mixed numbers

2.2 Compute with non-negative multi-digit numbers, and find common factors and multiples

Outcome	Quests	Content
6.NS.B.2 Demonstrate fluency with	Divide multi-digit	Divide 4-digit by 2-digit
numbers	numbers, algorithm	Divide 4-digit by 2-digit
		numbers with remainders
		Divide 4-digit by 2-digit
		numbers
6.NS.B.3 Demonstrate fluency with	Operations with multi-	Adding decimals using the
addition, subtraction, multiplication	digit decimals	standard algorithm
and division of decimals.		Subtracting decimals using the
		standard algorithm
		Multiplying decimals using the
		standard algorithm
		Dividing decimals using the
		standard algorithm
		Word problems: adding &
		subtracting decimals
		Word problems: multiplying &
		dividing decimals
6.NS.B.4.a Find the greatest	GCF & LCM	Greatest common factor
common factor (GCF) and the least		Least common multiple
common multiple (LCM).		Solving word problems:
		factors & multiples
6.NS.B.4.b Use the distributive	Factor using the	Factoring using the distributive
property to express a sum of two	distributive property	property
whole numbers with a common		
factor as a multiple of a sum of two		
whole numbers.		

2.3 Apply and extend previous understandings of numbers to the system of rational numbers

Outcome	Quests	Content
6.NS.C.5 Use positive and negative	Positive & negative	Investigating & interpreting
numbers to represent quantities.	numbers	integers
6.NS.C.6.a Locate rational numbers	Graph rational	Placing rational numbers on
on a horizontal or vertical number	numbers	the number line
line.		Graphing rational numbers on
		the coordinate plane
6.NS.C.6.b Write, interpret and	Order rational numbers	Exploring the everyday
explain problems of ordering of		language of integers
rational numbers.		Statements of order: rational
		numbers
6.NS.C.7 Understand that the	Introduction to absolute	Introducing absolute value
absolute value of a rational number	value	
is its distance from 0 on the number		
line.		
6.NS.C.8 Extend prior knowledge to	Equivalent	Finding equivalent
generate equivalent	representations	representations
representations of rational numbers		
between fractions, decimals and		
percentages (limited to terminating		
decimals and/or benchmark		
fractions of 1/3 and 2/3).		

2.4 Apply and extend previous understandings of arithmetic to algebraic expressions

Outcome	Quests	Content
6.EEI.A.2.a Identify parts of an	Parts of an expression	Identifying parts of an
expression using mathematical		expression
terminology.		
6.EEI.A.2.b Evaluate expressions at	Evaluate algebraic	Evaluating algebraic
specific values of the variables.	expressions	expressions
		Evaluating expressions using
		order of operations
6.EEI.A.2.c Evaluate non-negative	Evaluate rational	Evaluating rational number
rational number expressions.	number expressions	expressions
6.EEI.A.2.d Write and evaluate	Write algebraic	Writing algebraic expressions
algebraic expressions.	expressions	
6.EEI.A.3 Identify and generate	Equivalent expressions	Identifying equivalent
equivalent algebraic expressions		expressions
using mathematical properties.		

2.5 Reason about and solve one-variable equations and inequalities

Outcome	Quests	Content
6.EEI.B.4 Use substitution to	Test solutions	Testing solutions: equations
determine whether a given number		Testing solutions: inequalities
in a specified set makes a one-		
variable equation or inequality true.		
6.EEI.B.6 Write and solve equations	Write & solve an	Writing & solving equations
using variables to represent	equation	
quantities, and understand the		
meaning of the variable in the		
context of the situation.		
6.EEI.B./ Solve one-step linear	Solve 1-step equations	Preserving equality in
equations in one variable involving		equations
non-negative rational numbers.		Solving simple linear
		equations using models
		1-step equations:
		add/subtract, positive integers
		1-step equations:
		add/subtract, rational
		numbers
		1-step equations: multiply,
		positive integers
		1-step equations: multiply,
		rational numbers
		1-step equations: division,
		rational numbers
		Writing & solving 1-step
		equations
6.EEI.B.8.a Write an inequality of	Write & represent	Writing inequalities
the form $x > c$, $x < c$, $x \ge c$, or $x \le c$ to	inequalities	Represent algebraic
represent a constraint or condition.		inequalities on a number line

2.6 Represent and analyze quantitative relationships between dependent and independent variables

Outcome	Quests	Content
6.EEI.C.9.a Write an equation to	Dependent &	Understanding dependent &
express one quantity, the	independent variables	independent variables
other quantity the independent		
variable.		

Geometry and Measurement

3.1 Solve problems involving area, surface area and volume

Outcome	Quests	Content
6.GM.A.1 Find the area of polygons	Area: triangles &	Finding the area of a right
shapes into rectangles or triangles.	quuuniuteruis	Investigating the grea of
		special quadrilaterals
		Real-world area problems:
		special quadrilaterals
6.GM.A.2.a Understand that the	Volume: rectangular	Calculating the volume of a
volume of a right rectangular prism	prisms	rectangular prism
with multiple layers of the base		
6.GM.A.2.b Apply V = 1 * w * h and	Volume: rectangular	Volume: rectangular prisms,
V = Bh to find the volume of right	prisms, formula	fraction edge lengths
rectangular prisms.		
6.GM.A.3.a Understand signs of	Graph in the 4	Graphing coordinates in the 4
numbers in ordered pairs as	quadrants	quadrants
indicating locations in quadrants of		
6 GM A 3 b Recognize that when	Graph coordinates	Graphing coordinates across
two ordered pairs differ only by	across the x- & y-axis	the x-axis & y-axis
signs, the locations of the points are		
related by reflections across one or		
both axes.		
6.GM.A.3.c Find distances between	Find distances between	Finding distances between
points with the same first	points	points
coordinate or the same second		
6.GM.A.3.d Construct polygons in	Polygons in the	Drawing polygons in the
the Cartesian coordinate plane.	coordinate plane	coordinate plane
6.GM.A.4.a Represent three-	Connect 3-D objects	Connecting 3-D objects with
dimensional figures using nets	with their nets	their nets
made up of rectangles and		
triangles.		
6.GM.A.4.b Use nets to find the	Calculate surface area	Calculating surface area of
figures whose sides are made up of	by using nets	
rectangles and triangles.		

4 Data Analysis, Statistics and Probability

4.1 Develop understanding of statistical variability

Outcome	Quests	Content
6.DSP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the	Statistical questions	Evaluating statistical questions
answers.		
6.DSP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread and overall shape.	Shape of data distribution	Introducing the shape of data distribution
6.DSP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its	Measures of center & variation	Measures of center & variation Introducing the upper & lower
values with a single number, while a measure of variation describes		Introducing interquartile range Understanding the median
now its values vary from a single number.		Understanding the mean

4.2 Summarize and describe distributions

Outcome	Quests	Content
6.DSP.B.4.a Use dot plots,	Data displays	Constructing data displays
histograms and box plots to display		Reading & interpreting data in
and interpret numerical data.		a dot plot
		Reading & interpreting data in
		a histogram
		Reading & interpreting box
		plots
6.DSP.B.4.b Create and interpret	Create & interpret circle	Creating & interpreting circle
circle graphs.	graphs	graphs
6.DSP.B.5 Summarize numerical	Summarize numerical	Summarizing numerical data
data sets in relation to the context.	data	
6.DSP.B.5.a Report the number of	Report observations	Reporting observations in a
observations.		data display
6.DSP.B.5.b Describe the nature of	Attributes of data	Describing attributes of data
the attribute under investigation,		in data displays
including how it was measured and		
its units of measurement.		

6.DSP.B.5.c Give quantitative	Calculate measures of	Calculating the mean absolute
measures of center (median and/or	center & variation	deviation
mean) and variability (interquartile		Calculating the median
range and/or mean absolute		Calculating the mean
deviation), as well as describing		Identifying clusters, gaps &
any overall pattern and any striking		outliers
deviations from the overall pattern		Identifying skewed &
with reference to the context of the		symmetrical sets of data
data.		
6.DSP.B.5.d Analyze the choice of	Relate measures of	Choosing appropriate
measures of center and variability	center & variation	measures of center/variation
based on the shape of the data		Comparing measures of center
distribution and/or the context of		& variation
the data.		



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