3rd Grade Math Skills Unit

Content Area: Mathematics

Course(s): Generic Course, TAG Mathematics 3

Time Period: Generic Time Period
Length: Length of unit
Status: Published

Unit Overview

This unit extends students problem solving skills on specific topics in order to make connections to using math in the real world. Students are taught above level math skills and then are asked to create thier own puzzles using those skills. Puzzles can be kept for the end of the 4th grade unit.

Transfer

Students will be able to independently use their learning to...

- -What kinds of long term, independent accomplilshments are desired?
- -persevere to solve problems.
- -have confidence in thier ability to solve problems.
- -identify a variety of ways to solve problems
- -make connections to the real world in math

Meaning

Understandings

Students will understand that...

-What specifically do you want students to understand?

-What in	ferences should they make/grasp/realize?
-Apply m	nath skills to real-world situations.
-they can	follow a series of steps to solve problems.
-math is i	in the world around them.
Essanti	al Questions
	will keep considering
-What the	ought provoking questions will foster inquiry, meaning making and transfer?
-Where a	and how do your parents use math?
-Are ther	re easier ways to solve math problems?
-What sk	rills will help you solve math problems?
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Applica	tion of Knowledge and Skill
	ts will know
Students	will know
What fac	ets and basic concepts should students know and be able to recall?
-how to i	dentify patterns and sequencing
-how to s	solve coin riddles
-how to t	ase logical reasoning
-how to f	find area and perimeter of polygons

-how to solve algebraic expressions and equations.
-how to find probability

Students will be skilled at...

Students will be skilled at...

What discrete skills and processes should students be able to use?

- -problem solve
- -think outside the box
- -relate math to the real world
- -work collaboratively

Academic Vocabulary

Multiply

Product

Divide

Quotient

Remainder

Array

Unknown

Equal shares

Factor

Variable

Pattern

Even

Odd

Round

Unit fraction

Equivalent

Whole number

Fraction bar

Numerator

Denominator

Elapsed time

Open number line

Gram

Kilogram

Liter

Scale (of graph)

Unit square

Area

Perimeter

Rhombus

Quadrilaterals

Formula

Estimation

Factor pairs

Multiples

Prime

Composite

Sequence

Area model

Equation

Equivalent fractions

Mixed number

Improper fraction

Decimal

Hundredths

Tenths

Pound

Ounce

Conversion

Table

Line plot

Angle

Ray

Endpoint

Degrees

Protractor

Points

Lines

Line segments

Right angle

Acute angle

Obtuse angle

Perpendicular lines

Parallel lines

Right triangle

Line of symmetry

Parentheses

Brackets

Braces

Numerical expression

Evaluate

Powers of 10

Decimal point

Thousandths

Volume

Origin

formula

Ratio diagram Percent

Greatest Common Factor Least Common Multiple Distributive Property Positive Number Negative Number

Opposite Inequality Exponents

Order of operations

Substitution

variable Median Mode Range Mean

Learning Goal 1

MA.2.MD.C.8

Apply critical thinking and problem-solving skills.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.A-SSE.A	Interpret the structure of expressions
MA.5.OA.A.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MA.K-12.2	Reason abstractly and quantitatively.
MA.5.OA.A.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.4	Model with mathematics.
MA.5.OA.B.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
MA.4.OA.C.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.K-12.8	Look for and express regularity in repeated reasoning.
MA.2.MD.C	Work with time and money.

Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$

and ¢ symbols appropriately.

MA.7.G.B Solve real-life and mathematical problems involving angle measure, area, surface area,

and volume.

MA.G-GPE Expressing Geometric Properties with Equations

MA.4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time,

liquid volumes, masses of objects, and 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. Represent measurement quantities using diagrams

such as number line diagrams that feature a measurement scale.

MA.4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical

problems.

MA.3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including

finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area

and different perimeters.

MA.6.G.A Solve real-world and mathematical problems involving area, surface area, and volume.

MA.7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process

that produces it and observing its long-run relative frequency, and predict the

approximate relative frequency given the probability.

MA.7.SP.C.7a Develop a uniform probability model by assigning equal probability to all outcomes, and

use the model to determine probabilities of events.

MA.7.SP.C.7b Develop a probability model (which may not be uniform) by observing frequencies in data

generated from a chance process.

MA.G-MG.A Apply geometric concepts in modeling situations

Target 1

Generate and test patterns and sequeces.

Target 2

Solve and Create coin riddles.

Target 3

Design logical reasoning puzzles.

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Create a zoo using area and perimeter.

Target 5

Predict and test probability models.

Target 6

Solve algebraic expressions and equations.

Summative Assessment

Student created puzzles

21st Century Life and CareersSelect all applicable standards from the applicable standards

CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Formative Assessment and Performance Opportunities

Teacher observation

Class Participation

Class Discussion

Classwork

Differentiation/Enrichment
As this is a TAG class, rigor is already increased. Students have the opportunity to participate in:
invention convention
Math night
Noetic Math Compeition
Creating their own math problems
Brainsteasers
Unit Resources

Debate/Defend Work

Partner work