Prairie-Hills Elementary School District 144
3RD Grade ~ MATH Curriculum Map

Quarter 1

Month: August/September/October

Domain(s):

- **Operations and Algebraic Thinking (OA)**
- **Numbers and Base Ten (NBT)**
- **Measurement & Data**

Cluster(s):

- **Solve problems involving addition and subtraction, and identify and explain patterns in arithmetic**
- **Multiplication (0, 1, 2, 5, and 10 facts), repeated addition, and arrays**
- **Add and subtract fluently within 1000**
- **Telling time to the nearest minute**

Standard(s):

Review 2.OA.1 - *Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem*. ****(Introduce and Support)**

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.OA.8 *Solve two-step word problems using the [two] operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding*. ****(Introduce and Support)**

3.OA.9 **Identify arithmetic patterns and explain using properties**. ***(Mastered)**

Use place value understanding and properties of operations to perform multi-digit arithmetic.

3.NBT.1 *Use place value understanding to round whole numbers to the nearest 10 or 100*. *****(Additional Standards)**

3NBT.2 *Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or relationship between addition and subtraction*. *****(Additional Standards)**

Solve problems involving measurement and estimation of intervals of time.

3.MD.1 **Tell time the nearest minute and solve problems involving elapsed time**. ***(Mastered)**

Represent and interpret data.

3.MD.3 *Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one and two step problems using information using information presented in scaled bar graphs*. ****(Introduce and Support)**

Introduction to multiplication.

3.MD.7 **Relate area to addition and multiplication (array)**. ***(Mastered)**

Perimeter and Area

3.MD.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*.

*****(Additional)**

ISBE KEY: *** (Mastered)** **** (Introduce and Support)** ***** (Additional Standards)**

Revised May 2018

Mathematical Practices Standards

- ☐ 1 Make sense of problems and persevere in solving them
- ☐ 2 Reason abstractly and quantitatively
- ☐ 3 Construct viable arguments and critique the reasoning of others
- ☐ 4 Model with mathematics
- ☐ 5 Use appropriate tools strategically
- ☐ 6 Attend to precision
- ☐ 7 Look for and make use of structure.
- ☐ 8 Look for an express regularity in repeated reasoning

Targeted Skills:

- Recognize and model whole numbers up to 1,000
- Read whole numbers up to 100,000
- Solve problems using a number line
- Write whole numbers in standard expanded and word forms
- Understand place value of whole numbers up to 1,000
- Order and compare whole numbers up to 1,000 using words and the symbols <, >, =
- Solve problems and number sentences involving addition and subtraction with regrouping
- Complete addition and subtraction fact families
- Round numbers to the nearest ten and hundred
- Determine a missing term in a pattern (sequence), describe a pattern (sequence), and extend a pattern (sequence) when given a description or pattern (sequence)
- Tell time to the nearest minute.
- Understand and use elapsed time.

Key Vocabulary:

Critical Terms:		**Supplemental Terms:**
place value	time	compare
whole number	hour	how many more/less
Model	minutes	
Sum	elapsed time	
add (addition)	array	
difference		
subtract (subtraction)		
round		
addend		

Prairie-Hills Elementary School District 144
3RD Grade ~ MATH Curriculum Map

Quarter 2

Month: October/November/December

Domain(s):

- **Operations and Algebraic Thinking (OA)**
- **Numbers and Base Ten (NBT)**
- **Measurement & Data (MD)**

Cluster(s):

- **Represent and solve problems involving multiplication and division.**
- **Understand properties of multiplication and the relationship between multiplication and division.**
- **Multiply and divide within 100.**
- **Solve problems involving the four operations and identify and explain patterns in arithmetic.**
- **Geometric measurement: Understand concepts of area as related to multiplication.**
- **Geometric measurement: Understand concepts of perimeter as it relates to addition.**
- **Calculating elapsed time.**

Standard(s):

Represent and solve problems involving multiplication and division

3.OA.1 **Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *(Mastered)**

3.OA.2 **Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *(Mastered)**

3.OA.3 **Use multiplication with 100 to solve word problems. *(Mastered)**

3.OA.4 **Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *(Mastered)**

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

3.OA.5 **Apply properties of operations as strategies to multiply and divide. *(Mastered)**

3.OA.6 **Understand division as an unknown-factor problem. *(Mastered)**

Multiply and divide within 100.

3.OA.7 **Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. *(Mastered)**

ISBE KEY: * (Mastered) ** (Introduce and Support) *** (Additional Standards)

Revised 2018

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.OA.8 *Solve two-step word problems using the [two] operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding*. ****(Support)**

3.OA.9 Identify arithmetic patterns and explain them using properties of operations. ***(Mastered)**

Multiplication and Division Applications

3.NBT.3 *Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 x 80, 5 x 60) using strategies based on place value and properties of operations*. *****(Additional Standards)**

Geometric Measurement: understand concepts of area and relate area to multiplication and addition

3.MD.5 **Area is measured in square units**. ***(Mastered)**

3.MD.6 **Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).** ***(Mastered)**

3.MD.7 **Relate area to the operations of multiplication and addition**. ***(Mastered)**

ISBE KEY: *** (Mastered)** **** (Introduce and Support)** ***** (Additional Standards)**

Mathematical Practices Standards
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Targeted Skills:

- Multiply one digit numbers by a multiple of 10 up to 100
- Memorize multiplication facts 0-5
- Understand the commutative, associative and distributive property
- Know equal groups, arrays
- Know what each number in the equation represents e.g. 5x7 = 5 groups of 7 objects
- Know how multiplication and division relate

- Know how multiplication and addition relate
- Multiply one digit numbers by a multiple of 10 up to 100
- Understand the patterns and their relationships .
- Finding the unknown in an equation
- Show an understanding of the area of a polygon

KEY VOCABULARY **Critical Terms:** Multiplication division fact family/related facts equal groups equal shares decomposing multiple product factor divisor dividend quotient remainder array Area Inverse operation	Distributive property Commutative property Zero property Identity property Equation

Prairie-Hills Elementary School District 144
3RD Grade ~ MATH Curriculum Map
Quarter 3

Month: January/ February/ March

Domain(s):

- **Operations & Algebraic Thinking (OA)**
- **Measurement & Data**
- **Number – Fractions (NF)**
- **Geometry**

Cluster(s):

- **Geometric measurement: understand concepts of area/perimeter and relate area to multiplication and to addition.**
- **Understanding of fractions as numbers.**

Standard(s):

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.OA.8 Solve two-step word problems using the four operations (+, -, x, ÷.) Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. *(Mastered)

Perimeter and Area

3.MD.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. *(Additional Standard)**

Develop understanding of fractions as numbers.

3.NF.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. ***(Mastered)**

ISBE KEY: * (Mastered) ** (Introduce and Support) *** (Additional Standards)

3.NF.2 **Understand fractions as number on number line. Represent fractions on number line diagram. *(Mastered)**

a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.

b. Represent a fraction *a/b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line.

3.NF.3 **Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. *(Mastered)**

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

b. Recognize and generate simple equivalent fractions, e.g., ½ = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.

c.* Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.

d. **Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparison with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.**

Reason with shapes and their attributes.

3.G.2 *Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.* ****(Introduce and Support)**

ISBE KEY: *** (Mastered)** **** (Introduce and Support)** ***** (Additional Standards)**

Mathematical Practices Standards
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Targeted Skills:

- Recognize and generate equivalent fractions
- Understand fractions as being a part of a whole
- Know how fractions can be written in more than one way
- Understand fractions on a number line
- Solve problems with fractions
- Show how fractions can be written in more than one way
- Represent problems involving fractions using models
- Divide shapes into equal parts and name the fraction

Critical Terms:		
Partition	fraction	eighth
equal parts	justify	sixth
Equivalent	numerator	
Equivalence	reasonable	
Denominator	unit fraction	
equal distance (intervals)		

Supplemental Terms:		
Line plot	fraction	half
Third	fourth	comparison
part – part - whole		
linear measurement		
(using a unit fraction to show distance		

Prairie-Hills Elementary School District 144
3RD Grade ~ MATH Curriculum Map

Quarter 4

Month: **April/May/June**

Domain(s):

- **Geometry (G)**
- **Measurement & Data (MD)**

Cluster(s):

- **Reason with shapes and their attributes.**
- **Solve problems involving measurement and estimation of liquid volumes, and masses of objects**
- **Represent data with picture graph and bar graph**
- **Draw and identify lines and angles, and classify shapes by properties of their lines and angles.**

Standard(s):

Represent and interpret data.

3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one and two step problems using information using information presented in scaled bar graphs. *(Mastered)

Solve problems involving measurement and estimation of liquid volumes, and masses of objects.

3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. *(Mastered)

3.MD.4 *Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.* ****(Introduce and Support)**

Reason with shapes and their attributes.

3.G.1 *Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.* ****(Introduce and Support)**

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.1 *Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.*
****(Additional Standard)**

ISBE KEY: * (Mastered) ** (Introduce and Support) *** (Additional Standards)

Mathematical Practices Standards

- ☐ 1 Make sense of problems and persevere in solving them
- ☐ 2 Reason abstractly and quantitatively
- ☐ 3 Construct viable arguments and critique the reasoning of others
- ☐ 4 Model with mathematics
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Targeted Skills:

- Tell how shapes are alike and different
- Measure length with ruler: ¼, ½, 1 inch
- Know how measuring length, perimeter, capacity, and weight can be useful
- Complete measurement using area, square units and write answers in square in, cm, m, ft
- Understand units, grams, kilograms, liters (liquid and masses)
- Use picture graphs, bar graphs and line plots to solve problems.
- Identify lines and angles.

KEY VOCABULARY:

Critical Terms:	**p**erpendicular	
Quadrilateral Rhombus	lines	
Rectangle Square	parallel Lines	
Attribute Geometric	degree	
2-dimensional Plane	compare	
Kilogram	flat	
liter gram		
angles (right, acute, obtuse)		
Solid		
3-dimensional		
Milliliter		

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