**3rd Grade Mathematics – Benchmark #4**

**Curriculum Map – Expressions to Utah State Math Core**

**State Core Mathematical Language and Symbols for Third Grade:**

**Standard 1:** sum, difference, expanded form, factor, product, array, multiple, numerator, denominator, **halves,** **thirds, fourths, sixths, eighths**, divisor, dividend, quotient, greater than, less than, equal to, <, >, =

**Standard 2:** growing patterns, **expressions\*, equations\***, <, >, =

**Standard 3: polygon, attribute**, quadrilateral, equilateral triangle, isosceles triangle, right triangle, **pentagon\*, hexagon\*, octagon\***, parallel, right angle, **reflect\*, translate\*, rotate\***, slide, flip, turn, **congruent**

**Standard 4: measure\*, unit\*, metric system\*, customary system\***, length, pound, ounce, centimeter, meter, inch, foot, **yard**, capacity, **weight\***, perimeter.

**Standard 5:** data, table, **chart\***, **graph\*, frequency table\***, **line plot\***, **pictograph\***, **bar graph\***, likely, certain, outcome, **impossible outcomes\***

**\*Bold words are not emphasized in the Expressions Vocabulary and should be used regularly throughout the year.**

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| **Utah State Core Code** | **Text Book: Expressions**  ***Unit 9*** *14 Lessons in approx. 23 Days* | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **1.3.a**  **1.3.b**  **1.4.a**  **1.4.c** | Lesson 9.1   * Explore patterns in 6s count-bys, multiplications, and divisions. * Use a variety of strategies to solve multiplication problems. | **multiple**  *function table* |  |  |
| **See Utah Core:**  **1.4.a**  **1.4.c**  **(weak)** | Lesson 9.2   * Develop strategies for solving   real-world area problems. | **multiple**  ***length***  *width*  *area*  ***perimeter***  *Fast-Area Drawing* |  |  |
| **See Utah Core:**  **1.3.a**  **1.3.b**  **1.4.a**  **1.4.c** | Lesson 9.3   * Explore patterns in 8s count-bys, multiplications, and divisions. * Use a variety of strategies to solve multiplication problems. | **multiple**  *Fast-Array drawing* |  |  |
| **See Utah Core:**  **1.4.c**  **1.3.e** | Lesson 9.4   * Write multiplication and division word problems of various types. | **multiple**  *array problem*  *repeated-groups problem*  *area problem* |  |  |
| **See Utah Core:**  **1.3.a**  **1.3.b**  **1.4.a**  **1.4.c** | Lesson 9.5   * Explore patterns in 7s count-bys, multiplications, and divisions. * Use a variety of strategies to solve multiplication problems. | **multiple** |  |  |
|  |  |  | Quick Quiz 1 |  |
| **See Utah Core:**  **1.2.b**  **1.3.b**  **1.4.c** | Lesson 9.6   * Solve comparison word problems involving multiplication and division. | **multiple**  *times*  *fraction* |  | Model Drawing |
| **See Utah Core:**  **1.2.b**  **1.3.b**  **1.4.c** | Lesson 9.7   * Develop strategies for solving comparison word problems * Complete comparison statements based on information in a bar graph. | *fraction* |  | Model Drawing |
| **See Utah Core:**  **1.3.a**  **1.3.b, c**  **1.4.c** | Lesson 9.8   * Understand what a square number is. * Describe patterns in the square numbers in the multiplication table. | *square unit*  *area*  *square number* |  |  |
| **See Utah Core:**  **1.4.a**  **1.4.c** | Lesson 9.9   * Practice 6s, 7s, and 8s multiplications and divisions. | **multiple**  *square number*  *Distributive Property of Multiplication* |  |  |
|  |  |  | Quick Quiz 2 |  |
| **See Utah Core:**  **1.3.e**  **1.4.a**  **1.4.b**  **1.4.c** | Lesson 9.10   * Choose the operation to solve a word problem * Write word problems for given equations. | **multiple**  *square number*  *Distributive Property of Multiplication* |  |  |
| **See Utah Core:**  **1.4.a**  **1.4.b**  **1.4.c**  **Introduce multi-step problems (core in grade 5)** | Lesson 9.11   * Develop strategies for solving multi-step word problems. | *expression*  *evaluate* |  |  |
| **See Utah Core:**  **1.4.a**  **1.4.b**  **1.4.c** | Lesson 9.12   * Develop strategies for solving multi-step word problems. | *twice*  *half*  **halves** |  | Model Drawing |
| **See Utah Core:**  **1.4.a**  **1.4.b**  **1.4.c** | Lesson 9.13   * Develop strategies for solving multi-step word problems. | *input*  *output*  *rule* |  |  |
|  |  |  | Quick Quiz 3 |  |
| **See Utah Core:**  **5.1.a**  **ILO’s** | Lesson 9.14   * Solve a variety of problems using mathematical concepts and skills. * Use the mathematical processes of problem solving, connections, reasoning and proof, communication, and representation. |  |  |  |
|  | Unit 9 Review |  | Unit 9 Test | |

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| **State Core Code** | **Text Book: Expressions**  ***Unit 10*** *3 Lessons in approx. 3 Days* | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **4.1.d**  **Review of grades 1st and 2nd.** | Lesson 10.1   * Tell time to the hour, half-hour, and quarter-hour. | *quarter-hour*  *half-hour*  *A.M.*  *P.M.* |  |  |
| **Not in the core – teach if you have time.** | * Tell time to 5 minutes and to 1 minute. * State times using before and after with the appropriate hour. |
| **See Utah Core:**  **4.1.d**  **4.2.d** | Lesson 10.2   * Use ordinal numbers. * Determine elapsed time in days, weeks, months, hours, and minutes. * Use elapsed time to find start and end dates and times. | *calendar*  *month*  *year*  *day*  *week*  *ordinal number*  *elapsed time* |  |  |
| **See Utah Core:**  **1.3.b**  **1.4.c** | Lesson 10.3   * Apply multiples of 6. | *degrees* |  |  |
| **Not all in the Core - teach if you have time.** | * Relate elapsed time on a clock to angles of rotation. |
|  |  |  | Quick Quiz 1 |  |
|  | Unit 10 Review |  | Unit 10 Test |  |

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| **State Core Code** | **Text Book: Expressions**  ***Unit 11*** *13-22 Lessons in approx. 11* Days | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **1.2.a**  **1.2.b**  **1.2.c** | Lesson 11.1   * Use fractions to describe parts of regions. | *fraction*  ***numerator***  ***denominator***  *unit fraction*  **halves**  **thirds**  **fourths**  **sixths**  **eighths** |  |  |
| **Not in core - teach if you have time.** | * Write non-unit fractions as sums of unit fractions. |
| **See Utah Core:**  **1.2.b**  **1.2.e** | Lesson 11.2   * Represent fractions in a variety of ways. * Use fractions to represent parts of sets. | *set*  **halves**  **thirds**  **fourths**  **sixths**  **eighths** |  |  |
| **See Utah Core:**  **1.2.b** | Lesson 11.3   * Find a unit fraction of an amount. | **halves**  **thirds**  **fourths**  **sixths**  **eighths** |  |  |
| **See Utah Core:**  **1.2.b** | Lesson 11.4   * Make “as many as” comparison statements, and represent them with multiplication equations. * Make comparison statements about information in a bar graph. * Solve word problems involving comparisons and multiplication. | *comparison* |  |  |
|  |  |  | Quick Quiz 1 |  |
| **See Utah Core:**  **1.2.b** | Lesson 11.5   * Make “as many as” comparison statements. * Solve word problems involving multiplication. | *comparison* |  |  |
| **See Utah Core:**  **1.2.b** | Lesson 11.6   * Discover a method for multiplying a whole number by any fraction. | *whole number*  *product*  *set*  ***multiple*** |  |  |
| **See Utah Core:**  **1.2.b**  **5.1.a** | Lesson 11.7   * Interpret circle graphs. * Identify fractions on a circle graph. | *circle graph* |  |  |
| **See Utah Core:**  **5.2.a**  **5.2.b**  **5.2.c** | Lesson 11.8   * Understand the meaning of probability, how to determine the probability of an event, and predict future events. * Understand how probability relates to fractions. | ***likely***  ***certain***  *equally likely*  *probability*  *event*  *experiment*  ***outcome***  *unlikely*  *impossible*  **impossible outcome** |  |  |
|  |  |  | Quick Quiz 2 |  |
| **See Utah Core:**  **1.2.e** | Lesson 11.9   * Informally explore equivalent fractions. | *equivalent fractions*  *equivalence chain*  ***denominator***  ***numerator*** |  |  |
| **See Utah Core:**  **1.2.e** | Lesson 11.10   * Make discoveries about equivalent fractions while playing a game. | *whole*  ***equivalent fractions*** |  |  |
| **See Utah Core:**  **1.2.e** | Lesson 11.11   * Find equivalent fractions. | ***fraction***  ***equivalent fraction***  *equivalence chain*  *fracture*  *simpler fraction* |  |  |
| **See Utah Core:**  **Not on the Core – teach if you have time.** | Lesson 11.12   * Find equivalent fractions by multiplying. | ***equivalent fraction***  *equivalence chain*  ***fraction***  *fracture*  *unit fraction*  *common multiplier* |  |  |
| **See Utah Core:**  **Not in the Core- teach if you have time** | Lesson 11.13   * Find equivalent fractions by dividing. | ***fraction***  *equivalence chain*  *fracture*  *simplify*  *simpler fraction* |  |  |
|  |  |  | Quick Quiz 3 |  |
| **See Utah Core:**  **Not in the Core- teach if you have time**  **Exploratory Concepts and Skills** | Lesson 11.14   * Add fractions with unlike and like denominators. * Understand the term *rename* as it relates to fractions. * Recognize common errors in adding fractions. | ***fraction***  ***equivalent fraction***  *equivalence chain*  *unlike fraction*  ***denominator***  *common denominator*  *unit fraction* |  |  |
| **See Utah Core:**  **Not in the Core- teach if you have time.** | Lesson 11.15   * Compare and subtract like fractions. * Compare and subtract unlike fractions by finding equivalent fractions with a common denominator. * Solve word problems that involve comparing, adding, and subtracting fractions. | *comparison problem*  ***equivalent fraction***  ***numerator***  ***denominator*** |  |  |
| **See Utah Core:**  **1.1.d**  **1.2.d** | Lesson 11.16   * Locate points on a number line. * Add and subtract fractions on a number line. * Compare fractions on a number line. | *improper fraction*  *decimal* |  |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.**  **Exploratory Concepts and Skills** | Lesson 11.17   * Explore related fractions and decimals. | *decimals* |  |  |
|  |  |  | Quick Quiz 4 |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.**  **Exploratory Concepts and Skills** | Lesson 11.18   * Understand improper fractions and mixed numbers. * Apply the terms *improper fraction* and *mixed number.* * Rename Improper fractions as mixed numbers and mixed numbers as improper fractions. | ***fraction***  ***numerator***  ***denominator***  *improper fraction*  *mixed number* |  |  |
| **See Utah Core:**  **1.3.a**  **Remainder part of the lesson not in the core. Teach if you have time.** | Lesson 11.19   * Explore division with remainders. * Understand and apply the term *remainder.* | *division*  *remainder*  *count-by* |  |  |
| **See Utah Core:**  **1.3.a**  **Remainder part of the lesson not in the core. Teach if you have time.** | Lesson 11.20   * Write answers as a number plus a remainder or as mixed numbers. * Solve word problems involving division with remainders. | *division*  *remainder*  *quotient*  *mixed number*  ***numerator***  ***denominator*** |  |  |
| **See Utah Core:**  **1.3.a**  **Remainder part of the lesson not in the core. Teach if you have time.** | Lesson 11.21   * Practice dividing with remainders. * Solve word problems involving division with remainders. | *count-by*  *division*  *remainder*  *mixed number* |  |  |
|  |  |  | Quick Quiz 5 |  |
| **See Utah Core:**  **ILO's** | Lesson 11.22   * Solve a variety of problems using mathematical concepts and skills. * Use the mathematical process of problem solving, connections, reasoning and proof, communication, and representation. |  |  |  |
|  | Unit 11 Review |  | Unit 11 Test |  |

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| **State Core Code** | **Text Book: Expressions**  ***Unit 12*** *5 Lessons* | **Vocabulary**  **Core** *Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| Unit 12 addresses three-dimensional figures which are not included in the 3rd grade core. Please only teach this unit if you have extra time at the end of the year. | | | | |

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| **State Core Code** | **Text Book: Expressions**  ***Unit 13*** *11 Lessons in approx. 6* Days | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **4.1.b**  **4.2.b** | Lesson 13.1   * Measure length with non-standard units. * Discuss units of measurement and measuring tools. * Measure length in inches, half-inches, and quarter-inches with rulers. * Draw line segments to a specified length. | ***inch (in.)***  ***foot (ft)***  *ruler*  **customary system**  **metric system**  **unit**  **measure** |  |  |
| **See Utah Core:**  **4.1.a** | Lesson 13.2   * Convert between yards, feet, and inches. * Find benchmarks for inch, foot, yard, and mile. * Choose the appropriate customary units of length. | ***foot***  ***yard***  *mile*  *benchmark* |  |  |
| **See Utah Core:**  **4.1.a**  **4.1.b**  **4.2.b** | Lesson 13.3   * Measure classroom objects to the nearest meter, decimeter, and centimeter. * Discuss benchmarks for centimeters, decimeters, and meters. * Choose the appropriate metric unit of length. | ***centimeter (cm)***  *decimeter (dm)*  ***meter (m)***  *kilometer (km)* |  |  |
| **Not in the core-teach if you have time.** | * Convert among centimeters, decimeters, and meters. |
| **See Utah Core:**  **4.1.b**  **4.2.c** | Lesson 13.4   * Measure sides of figures to the nearest quarter inch. * Add measurements to find perimeter * Add customary lengths in inches, half inches, and quarter inches. * Estimate perimeter and area. | ***perimeter*** |  |  |
|  |  |  | Quick Quiz 1 |  |
| **See Utah Core:**  **4.1.c**  **4.2.a** | Lesson 13.5   * Discover relationships among cups, pints, quarts, half-gallons, and gallons. * Establish benchmarks for capacity and choose units for measuring capacity. * Estimate capacity. | ***capacity***  ***cup (c)***  *pint (pt)*  ***quart (qt****)*  *gallon (gal)* |  |  |
| **See Utah Core:**  4.1.c  4.2.c | Lesson 13.6   * Become familiar with metric units of capacity. Select reasonable metric units for various measurement tasks. * Convert metric units of capacity. * Estimate capacity. * Solve word problems involving capacity. | *liter (L)*  *milliliter (mL)*  ***capacity***  ***cup (c)***  *pint (pt)*  ***quart (qt)***  *half-gallon*  *gallon (gal)* |  |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.** | Lesson 13.7   * Convert improper fractions to mixed numbers and mixed numbers to improper fractions. * Visualize fractions and mixed numbers as lengths. | *improper fraction*  *mixed number*  ***cup*** |  |  |
| **See Utah Core:**  **4.2.a**  **4.1.a**  **4.2.b** | Lesson 13.8   * Convert measurements of length and capacity involving fractions. | ***inch (in.) foot (ft)***  ***yard (yd) meter (m)***  ***centimeter (cm)***  ***cup (c****) pint (pt)*  ***quart (qt)*** *gallon (gal)* |  |  |
| **See Utah Core:**  **4.2.a**  **4.2.b**  **4.1.a**  **Pounds and ounces are core, but not grams and kilograms.** | Lesson 13.9   * Find benchmarks for ounces, pounds, grams, and kilograms. * Estimate the weight or mass of an object. * Choose the appropriate unit to measure weight or mass of an object. * Convert between pounds and ounces and between grams and kilograms. | ***pound (lb)***  ***ounce (oz)***  *gram (g)*  *kilogram (kg)* |  |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.** | Lesson 13.10   * Read temperatures in degrees Fahrenheit and degrees Celsius on a thermometer. * Discuss warm and cold benchmarks. * Estimate temperatures in degrees Fahrenheit and degrees Celsius. | *degrees Fahrenheit (°)*  *degrees Celsius (°)* |  |  |
|  |  |  | Quick Quiz 2 |  |
| **See Utah Core:**  **ILO’s** | Lesson 13.11   * Solve a variety of problems using mathematical concepts and skills. * Use the mathematical processes of problem solving, connections, reasoning and proof, communication, and representation. |  |  |  |
|  | Unit 13 Review |  | Unit 13 Test |  |

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| **State Core Code** | **Text Book: Expressions**  ***Unit 14***  *2 Lessons in approx. 1* Day | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **Not in the Core – teach if you have time.** | Lesson 14.1   * Follow up, down, right, and left directions on a grid. * Describe movements on a grid. * Make a map on a grid. | *map*  *route* |  |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.** | Lesson 14.2   * Use ordered pairs to locate points on a grid. * Name ordered pairs for points on a grid. * Solve problems using ordered pairs. * Draw rectangles by joining points on a grid. | *coordinate grid*  *ordered pair* |  |  |
| **See Utah Core:**  **Not in the Core – teach if you have time.** | Lesson 14.3   * Visualize how to complete plane figures on a coordinate grid. * Describe the location of points on a grid using ordered pairs. * Use grid lines on a coordinate grid to measure the length of line segments. | *coordinate grid*  *ordered pair* |  |  |
|  | Unit 14 Review |  | Unit 14 Test | |
| Benchmark #4 (approximately 4/27) | |

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| **State Core Code** | **Text Book: Expressions**  ***Extension Lessons*** | **Vocabulary**  **Core/***Text* | **Assessment** | **Activities, Strategies, Ideas, Investigations, etc.** |
| **See Utah Core:**  **1.1.a**  **1.1.d** | Lesson 1   * Identify and write numbers through hundred thousands. * Compare and order numbers up to 10,000. * Add, subtract, and compare with large numbers. | *standard form*  *word form* |  |  |
| **See Utah Core:**  **1.3.a** | Lesson 2   * Model a product of ones, ones and tens, and tens. | *product factor*  ***array***  *Commutative Property of Multiplication*  *Associative Property of Multiplication* |  |  |
| **See Utah Core:**  **1.1.e**  **1.3.d** | Lesson 3   * Understand patterns of multiplication with ones, tens and hundreds | *factor*  *product* |  |  |
| **See Utah Core:**  **1.3.a**  **Exploratory** | Lesson 4   * Represent one-digit by two-digit multiplication using area models. | *area*  *square units* |  |  |
| **See Utah Core:**  **Exploratory concepts and skills** | Lesson 5   * Relate the area model of multiplication to numeric methods of multiplication * Practice one-digit by two-digit multiplication. | *Expanded Notation Method*  *Algebraic Notation Method* |  |  |
| **See Utah Core: Exploratory concepts and ski** | Lesson 6   * Compare and analyze methods of multiplication. | *Expanded Notation Method*  *Shortcut Method* |  |  |
| **See Utah Core: Exploratory concepts and skills** | Lesson 7   * Draw area models to represent the product of a one-digit number and a three-digit number. * Use Numeric methods to multiply a one-digit number by a three-digit number. | *Rectangles Sections Method*  *Expanded Notation Method*  *Algebraic Notation Method* |  |  |
| **See Utah Core**:  **Exploratory concepts and skills** | Lesson 8   * Multiply one-digit numbers by three-digit numbers. * Use the Shortcut Method (the standard multiplication algorithm). |  |  |  |
| **See Utah Core: Exploratory concepts and skills** | Lesson 9   * Understand real-world division situations. | *dividend*  *divisor*  *quotient*  *factor* |  |  |
| **See Utah Core:**  **Exploratory concepts and skills** | Lesson 10   * Use estimation and multiplication with tens to check products and solve real-world problems. * Use various methods to estimate products and quotients. | ***estimate***  *product*  *quotient*  *rounding frames*  *compatible numbers* |  |  |
| **See Utah Core:**  **Exploratory concepts and skills** | Lesson 11   * Model repeated addition and subtraction. * Choose the operation to use to solve a word problem. * Compare methods and find the most efficient method to choose. |  |  |  |
| **See Utah Core:**  **Exploratory concepts and skills** | Lesson 12   * Analyze function tables and recognize and describe change in quantities. * Represent change over time using a line graph. | *function table*  *line graph* |  |  |