## SRA Mathematics Laboratory 2a correlation to New Mexico Mathematics Grade 4

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations.

- A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- 1. Exhibit an understanding of the place-value structure of the base-ten number system by reading, modeling, writing, and interpreting whole numbers up to 100,000; compare and order the numbers;
- Recognize equivalent representations for the same number and generate them by decomposing and combining numbers (e.g., 853 = 8 x 100 + 5 x 10 + 3; 853 = 85 x 10 + 3; 853 = 900 50 + 3).

**Basic Facts: Add & Subtract:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Add Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43

Subtract Whole Numbers: Cards 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73

Basic Facts: Multiply & Divide: Cards 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112

**Multiply Whole Numbers by 1 Digit:** Cards 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 139

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Divide Whole Numbers by 1 Digit: Cards 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173

Divide Whole Numbers by 2 Digits: Cards 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259

Add & Subtract Fractions: Cards 260, 261, 262, 263, 264, 265, 266, 267, 268, 269

Add & Subtract Decimals: Cards 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

1. Exhibit an understanding of the place-value structure of the base-ten number system by reading, modeling, writing, and interpreting whole numbers up to 100,000; compare and order the numbers;

• Identify the numbers less than 0 by extending the number line and using negative numbers through familiar applications (e.g., temperature, money).

Representing Numbers: Cards 81, 82, 83, 84

Weight, Capacity, & Temperature: Cards 230, 231

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

2. Identify fractions as parts of wholes, as parts of groups, and as locations on number lines:

• Use visual models and other strategies to compare and order commonly used fractions.

Fraction Concepts: Cards 239, 240, 241, 242, 243, 244, 245, 246, 247

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.2. Identify fractions as parts of wholes, as parts of groups, and as locations on number lines:

Use models to show how whole numbers and decimals (to the hundredths place) relate to simple fractions (e.g., <sup>1</sup>/<sub>2</sub>, 5/10, 0.5).

Decimal Concepts: Cards 208, 209, 210, 213

Fraction Concepts: Cards 237, 238

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

2. Identify fractions as parts of wholes, as parts of groups, and as locations on number lines:

- Identify different interpretations of fractions:
  - Division of whole numbers by whole numbers
  - Ratio
  - Equivalence
  - Ordering of fractions
  - Parts of a whole or parts of a set

Fraction Concepts: Cards 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

3. Add and subtract fractions with common and uncommon denominators using a variety of strategies (e.g., manipulatives, numbers, pictures);

• Recognize and generate equivalent decimal forms of commonly used fractions (e.g., halves, quarters, tenths, fifths) Decimal Concepts: Cards 208, 209, 210, 213

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

- 3. Add and subtract fractions with common and uncommon denominators using a variety of strategies (e.g., manipulatives, numbers, pictures);
- Identify the numbers less than 0 by extending the number line and using negative numbers through familiar applications (e.g., temperature, money).

Representing Numbers: Cards 81, 82, 83, 84

Weight, Capacity, & Temperature: Cards 230, 231

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations.
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
4. Recognize classes of numbers (e.g., odd, even, factors, multiples, square numbers) and apply these concepts in

problem-solving situations.

Patterns & Numbers: Cards 196, 204, 207

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

1. Demonstrate an understanding of the ability to use:

• Standard algorithms for the addition and subtraction of multi-digit numbers.

Add Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43

Subtract Whole Numbers: Cards 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73

B. Understand the meaning of operations and how they relate to one another.

1. Demonstrate an understanding of the ability to use:

•	Standard algorithms for multiplying a multi-digit number by a two-digit number and for dividing a multi-digit number by a
	one-digit number.

Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Divide Whole Numbers by 1 Digit: Cards 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173

Divide Whole Numbers by 2 Digits: Cards 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another. 2. Select and use appropriate operations (addition, subtraction, multiplication, and division) to solve problems. Basic Facts: Add & Subtract: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Place Value: Whole Numbers: Cards 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 Add Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 3, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43 Time & Money: Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 Subtract Whole Numbers: Cards 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73 Representing Numbers: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84 Linear Measurement: Cards 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97 Basic Facts: Multiply & Divide: Cards 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112 Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129 Geometric Figures: Cards 130, 131, 132, 133, 134, 135, 136, 137, 138, 139 Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150 Geometry Basics: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160 Divide Whole Numbers by 1 Digit: Cards 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173 Data & Graphs: Cards 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185 Perimeter & Area: Cards 186, 187, 188, 189, 190, 191, 192, 193, 194, 195 Patterns & Numbers: Cards 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207 Decimal Concepts: Cards 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218 Weight, Capacity, & Temperature: Cards 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231 Fraction Concepts: Cards 232, 233, 234, 235, 236, 237, 238, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247 Divide Whole Numbers by 2 Digits: Cards 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259 Add & Subtract Fractions: Cards 260, 261, 262, 263, 264, 265, 266, 267, 268, 269 Spatial Sense & Transformations: Cards 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280 Probability: Cards 281, 282, 283, 284, 285, 286, 287, 288 Add & Subtract Decimals: Cards 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

**3.** Extend the uses of whole numbers to the addition and subtraction of simple decimals (positive numbers to two places).

Add Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43

Subtract Whole Numbers: Cards 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73

Add & Subtract Decimals: Cards 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

**Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.** 

4. Demonstrate commutative, associative, identify, and zero properties of operations on whole numbers (e.g.,  $37 \times 46 = 46 \times 37$  and  $(6 \times 2) \times 5 = 6 \times (2 \times 5)$ ).

Basic Facts: Add & Subtract: Cards 10, 13

Basic Facts: Multiply & Divide: Cards 102, 103

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

5. Demonstrate the concept of distributivity of multiplication over addition and subtraction (e.g.,  $7 \times 28$  is equivalent to  $(7 \times 20) + (7 \times 8)$  or  $(7 \times 30) - (7 \times 2)$ ).

This concept is not covered at this level.

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

**1.** Demonstrate multiplication combinations through 12 x 12 and related division facts, and use them to solve problems mentally and compute related problems (e.g., 4 x 5 is related to 40 x 50, 400 x 5, and 40 x 500).

Basic Facts: Multiply & Divide: Cards 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112

**Multiply Whole Numbers by 1 Digit:** Cards 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Divide Whole Numbers by 1 Digit: Cards 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173

Divide Whole Numbers by 2 Digits: Cards 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

**2.** Add, subtract and multiply up to two double-digits accurately and efficiently. **Basic Facts: Add & Subtract:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Add Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43

Subtract Whole Numbers: Cards 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73

Basic Facts: Multiply & Divide: Cards 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112

Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

C. Compute fluently and make reasonable estimates.

 3. Use a variety of strategies (e.g., rounding and regrouping) to estimate the results of whole number combinations and judge the reasonableness of the answers.

 Add Whole Numbers: Cards 25, 30, 35, 36, 37, 43

 Subtract Whole Numbers: Cards 55, 61, 65, 66, 68, 73

 Representing Numbers: Cards 76, 77, 78

 Multiply Whole Numbers by 1 Digit: Cards 118, 119, 124, 129

 Multiply Whole Numbers by 2 Digits: Cards 143, 145

 Divide Whole Numbers by 1 Digit: Cards 167, 168, 169, 170, 171, 172, 173

 Divide Whole Numbers by 2 Digits: Cards 252, 253

Standard 1: NUMBER and OPERATION: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

4. Use strategies to estimate computations involving fractions and decimals.

This concept is not covered at this level.

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

1. Represent and analyze patterns and simple functions using words, tables, and graphs.

Basic Facts: Add & Subtract: Cards 5, 6, 12, 13

Add Whole Numbers: Cards 31, 36

Subtract Whole Numbers: Cards 57, 66

Basic Facts: Multiply & Divide: Cards 111, 112

Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 117, 119

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 145

Divide Whole Numbers by 1 Digit: Cards 162, 166

Patterns & Numbers: Cards 203, 204, 205, 206, 207

Divide Whole Numbers by 2 Digits: Cards 256, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

2. Create and describe numeric and geometric patterns including multiplication and division patterns.

Basic Facts: Multiply & Divide: Cards 111, 112

Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 117, 119

Multiply Whole Numbers by 2 Digits: Cards 140, 141, 142, 145

Divide Whole Numbers by 1 Digit: Cards 162, 166

Patterns & Numbers: Cards 203, 204, 205, 206, 207

Divide Whole Numbers by 2 Digits: Cards 256, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.
A. Understand patterns, relations, and functions.
3. Express mathematical relationships using equations.
Basic Facts: Add & Subtract: Cards 8, 9, 10, 11, 13
Add Whole Numbers: Cards 41, 43
Subtract Whole Numbers: Cards 72, 73
Basic Facts: Multiply & Divide: Cards 102, 103, 104, 105, 108, 110, 112
Multiply Whole Numbers by 1 Digit: Cards 122, 123
Divide Whole Numbers by 1 Digit: Cards 171, 173
Perimeter & Area: Cards 194, 195
Patterns & Numbers: Cards 205, 206, 207
Divide Whole Numbers by 2 Digits: Cards 258, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

4. Use and interpret variables, mathematical symbols, and properties to write and simplify expressions or sentences:

• Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrate an understanding of the concept of a variable).

Add Whole Numbers: Cards 41, 43

Subtract Whole Numbers: Cards 72, 73

Multiply Whole Numbers by 1 Digit: Cards 122, 123

Divide Whole Numbers by 1 Digit: Cards 171, 173

Perimeter & Area: Cards 194, 195

Divide Whole Numbers by 2 Digits: Cards 258, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

4. Use and interpret variables, mathematical symbols, and properties to write and simplify expressions or sentences:

Interpret and evaluate mathematical expressions using parentheses.

Basic Facts: Add & Subtract: Cards 10, 13

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

4. Use and interpret variables, mathematical symbols, and properties to write and simplify expressions or sentences:

• Use and interpret formulas (e.g., Area = Length x Width or A = L x W) to answer questions about quantities and their relationships.

Perimeter & Area: Cards 194, 195

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.1. Identify symbols and letters that represent the concept of a variable as an unknown quantity.Add Whole Numbers: Cards 41, 43Subtract Whole Numbers: Cards 72, 73Multiply Whole Numbers by 1 Digit: Cards 122, 123Divide Whole Numbers by 1 Digit: Cards 171, 173Perimeter & Area: Cards 194, 195Patterns & Numbers: Cards 203, 204, 205, 206, 207Divide Whole Numbers by 2 Digits: Cards 258, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.2. Explore the uses of properties (commutative, distributive, associative) in the computation of whole numbers.Basic Facts: Add & Subtract: Cards 10, 13

Basic Facts: Multiply & Divide: Cards 102, 103

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.
B. Represent and analyze mathematical situations and structures using algebraic symbols.
3. Express mathematical relationships using equations.
Basic Facts: Add & Subtract: Cards 8, 9, 10, 11, 12
Add Whole Numbers: Cards 41, 43
Subtract Whole Numbers: Cards 72, 73
Representing Numbers: Cards 80, 84
Basic Facts: Multiply & Divide: Cards 98, 104, 105, 110, 112
Multiply Whole Numbers by 1 Digit: Cards 122, 123
Divide Whole Numbers by 1 Digit: Cards 171, 173
Perimeter & Area: Cards 194, 195
Divide Whole Numbers by 2 Digits: Cards 258, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.
B. Represent and analyze mathematical situations and structures using algebraic symbols.
<b>4.</b> Determine the value of variables in simple equations (e.g., $80 \ge 15 = 40 \ge 10$ ).
Add Whole Numbers: Cards 41, 43
Subtract Whole Numbers: Cards 72, 73
Multiply Whole Numbers by 1 Digit: Cards 122, 123
Divide Whole Numbers by 1 Digit: Cards 171, 173
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Perimeter & Area: Cards 194, 195
Divide Whole Numbers by 2 Divits: Cards 258, 259
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Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.5. Develop simple formulas in exploring quantities and their relationships (e.g., A = L x W).Perimeter & Area: Cards 194, 195

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships. 1. Solve problems involving proportional relationships (including unit pricing and map interpretations (e.g., one inch = five miles; therefore, five inches = □ miles).

This concept is not covered at this level.

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Model problem situations and use graphs, tables, pictures, and equations to draw conclusions (e.g., different patterns of change).

Add Whole Numbers: Cards 31, 36, 41, 43

Subtract Whole Numbers: Cards 57, 66, 72, 73

Multiply Whole Numbers by 1 Digit: Cards 113, 114, 115, 117, 119, 122, 123

Divide Whole Numbers by 1 Digit: Cards 162, 166, 171, 173

Patterns & Numbers: Cards 203, 204, 205, 206, 207

Divide Whole Numbers by 2 Digits: Cards 256, 258, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

3. Use and interpret formulas (e.g., Area = Length x Width or A = L x W) to answer questions about quantities and their relationships.

Perimeter & Area: Cards 194, 195

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.
D. Analyze changes in various contexts.
2. Determine how a change in one variable relates to a change in a second variable (e.g., data tables, input-output
machines).
Basic Facts: Add & Subtract: Cards 12, 13
Add Whole Numbers: Cards 41, 43
Subtract Whole Numbers: Cards 72, 73
Basic Facts: Multiply & Divide: Cards 111, 112
Multiply Whole Numbers by 1 Digit: Cards 117, 119
Multiply Whole Numbers by 2 Digits: Cards 142, 145
Divide Whole Numbers by 1 Digit: Cards 162, 166
Perimeter & Area: Cards 194, 195
Patterns & Numbers: Cards 205, 206, 207
Divide Whole Numbers by 2 Digits: Cards 256, 259

 Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

 D. Analyze changes in various contexts.

 3. Find and analyze patterns using data tables (e.g., T tables).

 Basic Facts: Add & Subtract: Cards 12, 13

 Add Whole Numbers: Cards 41, 43

 Subtract Whole Numbers: Cards 72, 73

 Basic Facts: Multiply & Divide: Cards 111, 112

 Multiply Whole Numbers by 1 Digit: Cards 117, 119

 Multiply Whole Numbers by 2 Digits: Cards 142, 145

 Divide Whole Numbers by 1 Digit: Cards 162, 166

 Perimeter & Area: Cards 194, 195

 Patterns & Numbers: Cards 205, 206, 207

Divide Whole Numbers by 2 Digits: Cards 256, 259

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

4. Demonstrate and describe varying rates of change in relation to real-world situations (e.g., plant growth, students' heights).

This concept is not covered at this level.

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

1. Identify, compare, and analyze attributes of two- and three-dimensional shapes and develop vocabulary to describe the attributes:

• Build, draw, create, and describe geometric objects.

Geometric Figures: Cards 130, 131, 132, 133, 134, 135, 136, 137, 138, 139

Geometry Basics: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160

Spatial Sense & Transformations: Cards 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

1. Identify, compare, and analyze attributes of two- and three-dimensional shapes and develop vocabulary to describe the attributes:

• Identify lines that are parallel or perpendicular.

Geometric Figures: Cards 131, 134, 137

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

- 1. Identify, compare, and analyze attributes of two- and three-dimensional shapes and develop vocabulary to describe the attributes:
- Identify and compare congruent and similar figures.

Spatial Sense & Transformations: Cards 272, 273, 274, 275, 276, 277, 278, 279, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

2. Classify two- and three-dimensional shapes according to their properties and develop definitions of classes like triangles and pyramids:

• Visualize, describe, and make models of geometric solids in terms of the number of faces, edges, and vertices. Geometry Basics: Cards 156, 157, 158, 159, 160

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

- 2. Classify two- and three-dimensional shapes according to their properties and develop definitions of classes like triangles and pyramids:
- Interpret two-dimensional representations of three-dimensional objects.

Geometry Basics: Cards 159, 160

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

3. Make and test conjectures about geometric properties and relationships and develop logical arguments to justify conclusions.

Geometric Figures: Cards 130, 131, 132, 133, 134, 135, 136, 137, 138, 139

Geometry Basics: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160

Spatial Sense & Transformations: Cards 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.1. Describe location and movement using common language and geometric vocabulary.Spatial Sense & Transformations: Cards 275, 276, 277, 278, 279, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.2. Use ordered pairs to graph, locate, identify points, and describe paths in the first quadrant of the coordinate plane.Data & Graphs: Cards 184, 185

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.3. Use a variety of methods for measuring distance between locations on a grid.Data & Graphs: Cards 184, 185

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.C. Apply transformations and use symmetry to analyze mathematical situations.1. Create and describe rotational designs using language of transitional symmetry.Spatial Sense & Transformations: Cards 270, 271, 274

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

C. Apply transformations and use symmetry to analyze mathematical situations.

2. Describe a motion or set of motions that will show that two shapes are congruent.

Spatial Sense & Transformations: Cards 272, 274, 275, 276, 277, 278, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

**1.** Develop and use mental images of geometric shapes to solve problems (e.g., represent three-dimensional shapes in two dimensions).

Geometry Basics: Cards 153, 159, 160

Perimeter & Area: Cards 186, 188, 189, 191, 192, 194, 195

Spatial Sense & Transformations: Cards 275, 276, 277, 278, 279, 280

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

2. Use geometric models such as number lines, arrays, and computer simulations to investigate number relationships (e.g., patterns). Perimeter & Area: Cards 191, 192, 194, 195

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

3. Explore relationships involving perimeter and area:

• Measure area of rectangular shapes and use appropriate units.

Perimeter & Area: Cards 190, 191, 192, 193, 194, 195

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

3. Explore relationships involving perimeter and area:

• Recognize that area can have the same perimeter but different areas and vice versa.

Perimeter & Area: Cards 186, 187, 188, 189, 190, 191, 192, 193, 194, 195

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

3. Explore relationships involving perimeter and area:

• Use models and formulas to solve problems involving perimeter and area of rectangles and squares (e.g., arrays). Perimeter & Area: Cards 186, 187, 188, 189, 190, 191, 192, 193, 194, 195

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and process of measurement.

1. Select the appropriate type of unit for measuring perimeter and size of an angle.

Geometric Figures: Cards 132, 134

Perimeter & Area: Cards 186, 187, 188, 189

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and process of measurement.

2. Understand the need for measuring with standard units and become familiar with the standard units in customary and metric systems.

Linear Measurement: Cards 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97

Weight, Capacity, & Temperature: Cards 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.A. Understand measurable attributes of objects and the units, systems, and process of measurement.3. Identify the inverse relationship between the size of the units and the number of units.Linear Measurement: Cards 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97

Weight, Capacity, & Temperature: Cards 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and process of measurement.

4. Develop formulas to determine the surface areas of rectangular solids.

This concept is not covered at this level.

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.A. Understand measurable attributes of objects and the units, systems, and process of measurement.5. Develop, understand, and use formulas to find the area of rectangles and related triangles and parallelograms.Perimeter & Area: Cards 191, 192, 193, 194, 195

Standard 4: MEASUREMENT: Students will understand measurement systems and applications. A. Understand measurable attributes of objects and the units, systems, and process of measurement. 6. Carry out simple conversions within a system of measurement (e.g., hours to minutes, meters to centimeters).

**Time & Money:** Cards 44, 46, 47, 48, 49, 52, 53, 54

Linear Measurement: Cards 86, 87, 89, 90, 92, 93, 96, 97

Weight, Capacity, & Temperature: Cards 226, 227, 228, 229, 231

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

**1.** Estimate perimeters, areas of rectangles, triangles, and irregular shapes.

Perimeter & Area: Cards 186, 187, 188, 189, 190, 191, 192, 193, 194, 195

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

**B.** Apply appropriate techniques, tools, and formulas to determine measurements. 2. Find the area of rectangles, related triangles, and parallelograms.

**Perimeter & Area:** Cards 190, 191, 192, 193, 194, 195

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

**3.** Estimate, measure, and solve problems involving length, area, mass, time, and temperature using appropriate standard units and tools.

Time & Money: Cards 50, 51, 52, 53, 54

Linear Measurement: Cards 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97

Perimeter & Area: Cards 186, 187, 188, 189, 190, 191, 192, 193, 194, 195

Weight, Capacity, & Temperature: Cards 219, 221, 223, 225, 226, 227, 228, 230, 231

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

**4.** Identify common measurements of turns (e.g., 360 degrees in one turn, 90 degrees in a quarter-turn). Geometric Figures: Cards 132, 133

Spatial Sense & Transformations: Card 271

 Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

 B. Apply appropriate techniques, tools, and formulas to determine measurements.

 5. Compute elapsed time and make and interpret schedules.

 Time & Money: Cards 50, 51, 52, 53, 54

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

6. Use tools to measure angles (e.g., protractor, compass).

Geometric Figures: Cards 132, 134

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

1. Organize, represent, and interpret numerical and categorical data ad clearly communicate findings:

• Choose and construct representations that are appropriate for the data set.

Data & Graphs: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

1. Organize, represent, and interpret numerical and categorical data ad clearly communicate findings:

• Recognize the differences in representing categorical and numerical data.

**Data & Graphs:** Cards 177, 178, 179, 180, 181, 182, 183, 184, 185

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
2. Design investigations and represent data using tables and graphs (e.g., line plots, bar graphs, line graphs).
Data & Graphs: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185

## SRA Mathematics Laboratory 2b correlation to New Mexico Mathematics Grade 5

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

1. Compare and order using concrete or illustrated models:

• Whole numbers (to millions)

Place Value: Whole Numbers: Cards 20, 21, 22, 23, 24

Representing Numbers: Cards 46, 47, 49

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

1. Compare and order using concrete or illustrated models:

• Common fractions (halves, thirds, fourths, eighths)

Fraction Concepts: Cards 123, 124, 125, 128

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

1. Compare and order using concrete or illustrated models:

• Decimals (thousandths).

Decimal Concepts: Cards 224, 225, 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.2. Demonstrate understanding of the magnitude of the value of numbers from thousandths to millions, including common fractions.

Place Value: Whole Numbers: Cards 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Representing Numbers: Cards 45, 46, 47, 49

Fraction Concepts: Cards 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128

Decimal Concepts: Cards 218, 219, 221, 222, 223, 224, 225, 226, 227, 228, 231

Percent Concepts: Cards 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems. 3. Represent place value using concrete or illustrated models up to one billion (1,000,000,000).

Place Value: Whole Numbers: Cards 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Decimal Concepts: Cards 218, 219, 221, 222, 223

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
4. Interpret percents as part of a hundred (i.e., find decimal and percent equivalents for common fractions, explain how they represent the same value, and compute a given percent of a whole number).
Decimal Concepts: Cards 220, 223, 229, 230, 231

Percent Concepts: Cards 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

5. Identify and represent on a number line decimals, fractions, and mixed numbers.

Decimal Concepts: Cards 226, 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

6. Identify prime and composite numbers to 50.

Patterns & Numbers: Cards 112, 113, 117

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

**1.** Explain and perform whole number division and express remainders as a whole number or a fractional part as appropriate to the context of real-life problems.

Basic Facts: Cards 10, 11, 12, 13, 14

Divide Whole Numbers: Cards 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

2. Add and subtract decimals.

Add & Subtract Decimals: Cards 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

**3.** Add and subtract fractions and mixed numbers without regrouping and express answers in simplest form. Add Fractions: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176

B. Understand the meaning of operations and how they relate to one another.

4. Find the factors and multiples of whole numbers.

Patterns & Numbers: Cards 105, 106, 107, 108, 111, 112, 113

Fraction Concepts: Cards 122, 123, 124, 125, 128

Add Fractions: Cards 139, 140, 141, 142, 143, 144, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 171, 176

Multiply & Divide Fractions: Cards 191, 192, 193, 194, 200

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

**5.** Use arithmetic operations and inverse relationships to represent and solve real-world problems. **Basic Facts:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Add & Subtract Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38

Multiply Whole Numbers: Cards 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

**Divide Whole Numbers:** Cards 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104

Add Fractions: Cards 139, 140,1 41, 142, 143, 144, 145, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176

Multiply & Divide Fractions: Cards 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200

## Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

6. Identify and represent on a number line decimals, fractions, and mixed numbers.

Decimal Concepts: Cards 226, 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

7. Demonstrate proficiency with division, including one- and two-digit divisors.

Basic Facts: Cards 10, 11, 12, 13, 14

Divide Whole Numbers: Cards 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104

Multiply & Divide Decimals: Cards 273, 274, 275, 276, 277, 278

B. Understand the meaning of operations and how they relate to one another.

8. Solve simple problems involving the addition and subtraction of fractions and mixed numbers.

Add Fractions: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

B. Understand the meaning of operations and how they relate to one another.

9. Represent and use fractions and decimals in equivalent forms.

**Decimal Concepts:** Cards 220, 229, 230, 231

Percent Concepts: Cards 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates. 1. Add, subtract, multiply, and divide whole numbers.

**Basic Facts:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Add & Subtract Whole Numbers: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38

Multiply Whole Numbers: Cards 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

**Divide Whole Numbers:** Cards 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

2. Add and subtract decimals.

Add & Subtract Decimals: Cards 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

**3.** Use estimation strategies to verify the reasonableness of calculated results.

Add & Subtract Whole Numbers: Cards 25, 31

Multiply Whole Numbers: Cards 62, 66, 69, 76

Divide Whole Numbers: Cards 89, 95

Add Fractions: Card 145

Add & Subtract Decimals: Cards 244, 248, 249, 254

C. Compute fluently and make reasonable estimates.

4. Explain how the estimation strategy impacts the results.

Add & Subtract Whole Numbers: Cards 25, 31

Multiply Whole Numbers: Cards 62, 66, 69, 76

Divide Whole Numbers: Cards 89, 95

Add Fractions: Card 145

Add & Subtract Decimals: Cards 244, 248, 249, 254

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

**5.** Relate the basic arithmetic operations to one another (e.g., multiplication and division are inverse operations). **Basic Facts:** Cards 4, 6, 11, 14

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

6. Simplify numerical expressions using order of operations.

Basic Facts: Cards 2, 6, 8, 9, 12, 14

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.

C. Compute fluently and make reasonable estimates.

7. Recognize and explain the differences between exact and approximate values.

Add & Subtract Whole Numbers: Cards 25, 31

Multiply Whole Numbers: Cards 62, 66, 69, 76

Divide Whole Numbers: Cards 89, 95

Add Fractions: Card 145

Add & Subtract Decimals: Cards 244, 248, 249, 254

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

**1.** Identify and graph ordered pairs in the first quadrant of the coordinate plane.

**Coordinate Graphs:** Cards 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266

 Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

 A. Understand patterns, relations, and functions.

 2. Describe, represent, and analyze patterns and relationships.

 Add & Subtract Whole Numbers: Cards 33, 38

 Multiply Whole Numbers: Cards 61, 67

 Divide Whole Numbers: Card 88

 Patterns & Numbers: Cards 114, 115, 116, 117

Multiply & Divide Decimals: Cards 269, 277

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

**3.** Identify, describe, and continue patterns presented in a variety of formats (e.g., numeric, visual, oral, written, kinesthetic, pictorial).

Add & Subtract Whole Numbers: Cards 33, 38

Multiply Whole Numbers: Cards 61, 67

Divide Whole Numbers: Card 88

Patterns & Numbers: Cards 114, 115, 116, 117

Multiply & Divide Decimals: Cards 269, 277

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

4. Generate a pattern using a written expression.

This concept is not covered at this level.

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.1. Compute the value of the expression for specific numerical values of the variable.

Add & Subtract Whole Numbers: Cards 37, 38

Multiply Whole Numbers: Cards 65, 66

Divide Whole Numbers: Cards 95, 97, 104

 Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

 B. Represent and analyze mathematical situations and structures using algebraic symbols.

 2. Use a letter to represent an unknown number.

 Add & Subtract Whole Numbers: Cards 37, 38

 Multiply Whole Numbers: Cards 65, 66

 Divide Whole Numbers: Cards 95, 97, 104

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

B. Represent and analyze mathematical situations and structures using algebraic symbols.

3. Understand the differences between the symbols for "less than", "less than or equal to", "greater than", and "greater than or equal to".

Place Value: Whole Numbers: Cards 20, 21, 22, 24

Representing Numbers: Cards 46, 49

Fraction Concepts: Cards 123, 124, 125

Decimal Concepts: Card 224

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

1. Use mathematical models to represent and explain mathematical concepts and procedures.

Basic Facts: Cards 7, 10, 11

Representing Numbers: Cards 41, 45, 46, 47, 49

Multiply Whole Numbers: Card 70

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Understand and use mathematical models such as:

• The number line to model the relationship between rational numbers and rational number operations.

Basic Facts: Cards 1, 3

Place Value: Whole Numbers: Card 22

Representing Numbers: Cards 39, 45, 46, 47, 49

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Understand and use mathematical models such as:

• Pictorial representations of addition and subtraction of rational numbers with regrouping.

Add & Subtract Whole Numbers: Cards 26, 27, 28, 29, 30, 34, 35, 36

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Understand and use mathematical models such as:

• Manipulatives of pictures to model computational procedures.

Basic Facts: Cards 1, 3, 4, 7, 9, 10, 11

**Representing Numbers:** Card 41

Add Fractions: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176

Multiply & Divide Fractions: Card 190

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Understand and use mathematical models such as:
Graphs, tables, and charts to describe data.

Basic Facts: Cards 13, 14

Place Value: Whole Numbers: Cards 15, 16, 17, 18, 21, 23, 24

Add & Subtract Whole Numbers: Cards 33, 38

Patterns & Numbers: Cards 108, 116, 117

Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Understand and use mathematical models such as:

Diagrams or pictures to model problem situations.

Basic Facts: Cards 1, 3, 4, 7, 9, 10, 11

Representing Numbers: Cards 41, 45, 46, 47, 49

Multiply Whole Numbers: Card 70

Patterns & Numbers: Card 113

Add Fractions: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150

Subtract Fractions: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176

Multiply & Divide Fractions: Card 189

 Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

 C. Use mathematical models to represent and understand quantitative relationships.

 3. Demonstrate how a situation can be represented in more than one way.

 Basic Facts: Cards 1, 3, 9, 11

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications. D. Analyze changes in various contexts. 1. Recognize and create patterns of change from everyday life using numerical or pictorial representations.

Patterns & Numbers: Cards 114, 115, 117

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

**2.** Generalize patterns of change and recognize the same general patterns presented in different representations. **Basic Facts:** Cards 13, 14

Add & Subtract Whole Numbers: Cards 33, 38

Patterns & Numbers: Cards 116, 117

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

**1.** Identify, describe, and classify two-dimensional shapes and three-dimensional figures by their properties.

Geometric Basics: Cards 83, 84, 86, 87

Geometric Figures: Cards 130, 131, 132, 133, 134, 135, 136, 137, 138

Spatial Sense & Transformations: Cards 240, 241

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

2. Recognize and describe properties of regular polygons having up to ten sides.

Geometric Basics: Cards 83, 84, 87

Geometric Figures: Cards 130, 131, 132, 133

**Standard 3: GEOMETRY: Students will understand geometric concepts and applications.** A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

3. Identify faces, edges, and bases on three-dimensional objects.

Geometric Figures: Cards 134, 138

Spatial Sense & Transformations: Cards 240, 241, 242

Standard 3: GEOMETRY: Students will understand geometric concepts and applications. B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems. 1. Recognize perpendicular and parallel lines.

Geometric Basics: Cards 78, 82

Geometric Figures: Card 130

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.C. Apply transformations and use symmetry to analyze mathematical situations.1. Identify line of symmetry in simple geometric figures.Spatial Sense & Transformations: Cards 232, 237, 238, 242

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.D. Use visualization, spatial reasoning, and geometric modeling to solve problems.1. Understand and compute the perimeter of regular polygons.Perimeter, Area & Volume: Cards 201, 202, 203, 209, 210, 216, 217

Spatial Sense & Transformations: Cards 240, 241

Standard 3: GEOMETRY: Students will understand geometric concepts and applications. D. Use visualization, spatial reasoning, and geometric modeling to solve problems. 2. Identify and explain circumference, radius, and diameter. Geometric Basics: Cards 86, 87

Perimeter, Area & Volume: Cards 203, 210

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and processes of measurement.

**1.** Understand properties (e.g., length, area, weight, volume) and select the appropriate type of unit for measuring each using U.S. customary and metric systems.

Linear Measurement: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Geometric Basics: Cards 81, 82

Weight, Capacity, Temperature & Time: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188

Perimeter, Area & Volume: Cards 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217

Spatial Sense & Transformations: Cards 239, 242

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and processes of measurement.
2. Select and use appropriate units and tools to measure according to the degree of accuracy required in a particular problem-solving situation.

Linear Measurement: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Geometric Basics: Cards 81, 82

Weight, Capacity, Temperature & Time: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188

Perimeter, Area & Volume: Cards 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217

Spatial Sense & Transformations: Cards 239, 242

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and processes of measurement. 3. Solve problems involving linear measurement, weight, and capacity (e.g., measuring to the nearest sixteenth of an inch or nearest millimeter; using ounces, milliliters, or pounds and kilograms) to the appropriate degree of accuracy. Linear Measurement: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Weight, Capacity, Temperature & Time: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.A. Understand measurable attributes of objects and the units, systems, and processes of measurement.4. Perform one-step conversions within a system of measurement (e.g., inches to feet, centimeters to meters).Linear Measurement: Cards 52, 53, 55, 56, 57, 58, 59, 60

Weight, Capacity, Temperature & Time: Cards 179, 180, 182, 183, 184, 185, 186, 187, 188

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

1. Solve measurement problems using appropriate tools involving length, perimeter, weight, capacity, time, and temperature.

Linear Measurement: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Weight, Capacity, Temperature & Time: Cards 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188

Perimeter, Area & Volume: Cards 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217

Spatial Sense & Transformations: Cards 239, 242

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

2. Select and use strategies to estimate measurements including length, distance, capacity, and time.

Linear Measurement: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Weight, Capacity, Temperature & Time: Cards 181, 182, 183, 184, 185, 186, 187, 188

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.B. Apply appropriate techniques, tools, and formulas to determine measurements.3. Apply strategies and use tools for estimating and measuring the perimeter of regular and irregular shapes.Perimeter, Area & Volume: Cards 201, 202, 203, 209, 210, 216, 217

Spatial Sense & Transformations: Cards 239, 242

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
1. Construct, read, analyze, and interpret tables, charts, graphs, and data plots.
Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
2. Construct, interpret, and analyze data from graphical representations and draw simple conclusions using bar graphs, line graphs, circle graphs, frequency tables, and Venn diagrams.

Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. 3. Display, analyze, compare, and interpret different data sets, including data sets of different sizes. Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
4. Organize and display single-variable data in appropriate graphs and representations.
Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. 5. Organize, read, and display numerical (quantitative) and non-numerical (qualitative) data in a clear, organized, and accurate manner including correct titles, labels, and intervals or categories including:

- Frequency tables
- Stem and leaf plots
- Bar, line, and circle graphs
- Venn diagrams
- Pictorial displays
- Charts and tables.

Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Probability: Cards 281, 282, 283, 286, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.6. Formulate questions and identify data to be collected to correctly answer a question.

Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

1. Organize and display single-variable data in appropriate graphs and representations and determine which types of graphs are appropriate for various data sets.

Data & Graphs: Cards 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

2. Use fractions and percentages to compare data sets of different sizes.

**Probability:** Cards 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

3. Correctly rank the values of a numerical data set containing simple fractions and decimals, identify maximum and minimum data values, and calculate the range for a data set.

Data & Graphs: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

**1.** Make and justify valid inferences, predictions, and arguments based on statistical analysis. **Data & Graphs:** Cards 151, 152

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

2. Compare a given prediction with the results of an investigation.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

3. Use counting strategies to determine all the possible outcomes of a particular familiar event.

**Probability:** Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

4. Find all possible outcome sets involving four or more sets of objects.

Probability: Cards 280, 281, 282, 283, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

5. Evaluate the reasonableness of inferences that are based on data in the context of the original solution.

Data & Graphs: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

6. Identify the method used to make an inference and/or prediction on a givens data set and solve similar problems. Data & Graphs: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

7. Determine the accuracy of a prediction or an inference based on the accuracy of data in a given data set.

Data & Graphs: Cards 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

**Probability:** Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences, predictions, and arguments that are based on data.

8. List all possible outcomes of simple events.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

**D.** Understand and apply basic concepts of probability.

1. Determine probabilities through experiments and/or simulations and compare the results with mathematical expressions.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

2. Make predictions from the results of student-generated experiments of single events.

**Probability:** Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

3. Identify simple experiments where the probabilities of all outcomes are equal.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

4. Describe and predict the results of a probability experiment.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

5. Use fractions to describe the results of an experiment.

Probability: Cards 284, 285, 286, 287, 288, 289

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

6. Use probability to generalize from a simple pattern or set of examples and justify why the generalization is reasonable.

Probability: Cards 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

## SRA Mathematics Laboratory 2c correlation to New Mexico Mathematics Grade 6

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems. 1. Compare and order rational numbers.

Place Value: Whole Numbers: Cards 34, 35, 36, 39, 40, 41

Representing Numbers: Cards 64, 65, 66

Fraction & Decimal Concepts: Cards 99, 100, 101, 106, 107, 108

Ratios & Proportions: Card 276

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.2. Use equivalent representations for rational numbers (e.g., integers, decimals, fractions, percents, ratios, numbers with whole-number exponents).

Place Value: Whole Numbers: Cards 33, 37, 41

**Representing Numbers:** Cards 60, 61, 62

Fraction & Decimal Concepts: Cards 96, 97, 98, 101, 103, 104, 105, 108

Probability: Cards 192, 193, 194, 195, 201

Using Decimals & Percents: Cards 253, 254, 255, 256, 257, 258, 259, 260, 261, 262

Ratios & Proportions: Cards 275, 277, 278, 279, 280, 281, 282, 283

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
3. Use appropriate representations of positive rational numbers in the context of real-life applications.
<b>Basic Facts:</b> Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
Add & Subtract Whole Numbers: Cards 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
Place Value: Whole Numbers: Cards 32, 33, 34, 35, 36, 37, 38, 39, 40, 41
Multiply & Divide Whole Numbers: Cards 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59
<b>Representing Numbers:</b> Cards 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73
Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83
Patterns & Numbers: Cards 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94
Fraction & Decimal Concepts: Cards 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108
Measurement: Cards 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121
Add & Subtract Fractions: Cards 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137
Data and Graphs: Cards 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153
Multiply & Divide Fractions: Cards 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164
Geometric Figures: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175
Add & Subtract Decimals: Cards 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187
Probability: Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201
Multiply Decimals: Cards 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212
Perimeter & Area: Cards 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227
Divide Decimals: Cards 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240
Surface Area & Volume: Cards 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252
Using Decimals & Percents: Cards 253, 254, 255, 256, 257, 258, 259, 260, 261, 262
Spatial Sense & Transformations: Cards 263, 264, 265, 266, 267, 268, 269, 270, 271, 272
Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283
Coordinate Graphs: Cards 284, 285, 286, 287, 288, 289, 290, 291
Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.4. Identify greatest common factor and least common multiples for a set of numbers.Patterns & Numbers: Cards 84, 85, 86, 87, 88, 89

Fraction & Decimal Concepts: Cards 96, 98, 99, 101

Add & Subtract Fractions: Cards 123, 124, 125, 126, 128, 129, 130, 132, 133, 134, 135, 136, 137

Multiply & Divide Fractions: Cards 155, 156, 157, 158, 160, 161, 162, 163, 164

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.5. Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.Representing Numbers: Cards 63, 64, 65, 66, 67, 68, 69, 70

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.B. Understand the meaning of operations and how they relate to one another.1. Calculate multiplication and division problems using contextual situations.

Multiply & Divide Whole Numbers: Cards 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59

Multiply & Divide Fractions: Cards 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Multiply Decimals: Cards 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212

**Divide Decimals:** Cards 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another. 2. Factor a whole number into a product of its primes.

Patterns & Numbers: Cards 92, 93, 94

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.B. Understand the meaning of operations and how they relate to one another.3. Demonstrate the relationship and equivalency among ratios and percents.Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.B. Understand the meaning of operations and how they relate to one another.4. Use proportions to solve problems.Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

5. Explain and perform:

• Whole number division and express remainders as decimals or appropriately in the context of the problem. Multiply & Divide Whole Numbers: Cards 51, 52, 53, 54, 55, 56, 57, 58, 59 Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another. 5. Explain and perform:

• Addition, subtraction, multiplication, and division with decimals.

Add & Subtract Decimals: Cards 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187

Multiply Decimals: Cards 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212

**Divide Decimals:** Cards 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

5. Explain and perform:

• Addition and subtraction with integers.

**Representing Numbers:** Cards 67, 68, 69, 70, 71, 72, 73

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

5. Explain and perform:

• Addition, subtraction, and multiplication with fractions and mixed numbers.

Add & Subtract Fractions: Cards 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137

Multiply & Divide Fractions: Cards 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. B. Understand the meaning of operations and how they relate to one another.

6. Determine the least common multiple and the greatest common divisor of whole numbers and use them to solve problems with fractions.

Patterns & Numbers: Cards 84, 85, 86, 87, 88, 89

Fraction & Decimal Concepts: Cards 96, 98, 99, 101

Add & Subtract Fractions: Cards 123, 124, 125, 126, 128, 129, 130, 132, 133, 134, 135, 136, 137

Multiply & Divide Fractions: Cards 155, 156, 157, 158, 160, 161, 162, 163, 164

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

1. Estimate quantities involving rational numbers using various estimations.

Add & Subtract Whole Numbers: Cards 15, 16, 17, 23, 24, 25, 31

Multiply & Divide Whole Numbers: Cards 44, 49, 51, 59

Fraction & Decimal Concepts: Cards 102, 108

Add & Subtract Fractions: Cards 127, 129, 131, 137

Add & Subtract Decimals: Cards 177, 181, 182

Divide Decimals: Card 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations.C. Compute fluently and make reasonable estimates.2. Use estimates to check reasonableness of results and make predictions in situations involving rational numbers.Add & Subtract Whole Numbers: Cards 15, 16, 17, 23, 24, 25, 31Multiply & Divide Whole Numbers: Cards 44, 49, 51, 59Fraction & Decimal Concepts: Cards 102, 108Add & Subtract Fractions: Cards 127, 129, 131, 137Add & Subtract Decimals: Cards 177, 181, 182

Divide Decimals: Card 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

**3. Determine if a problem situation calls for an exact or approximate answer and perform the appropriate computation. Add & Subtract Whole Numbers:** Cards 15, 16, 17, 23, 24, 25, 31

Multiply & Divide Whole Numbers: Cards 44, 49, 51, 59

Add & Subtract Fractions: Cards 127, 129, 131, 137

Add & Subtract Decimals: Cards 177, 181, 182

Divide Decimals: Card 228

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

**4.** Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line. Place Value: Whole Numbers: Cards 39, 40, 41

Fraction & Decimal Concepts: Cards 99, 100, 101, 106, 107, 108

Ratios & Proportions: Card 277

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

5. Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.

Fraction & Decimal Concepts: Cards 103, 104, 105, 108

Using Decimals & Percents: Cards 253, 254, 255, 256, 257, 258, 259, 260, 261, 262

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

6. Interpret and use ratios in different contexts.

Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 1: NUMBER and OPERATIONS: Students will understand numerical concepts and mathematical operations. C. Compute fluently and make reasonable estimates.

7. Compute and perform multiplication and division of fractions and decimals and apply these procedures to solving problems.

Multiply & Divide Fractions: Cards 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164

Multiply Decimals: Cards 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212

Divide Decimals: Cards 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

**1. Solve problems involving proportional relationships. Ratios & Proportions:** Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

A. Understand patterns, relations, and functions.

2. Graph ordered pairs in the coordinate plane.

Data & Graphs: Cards 144, 152, 153

Spatial Sense & Transformations: Cards 268, 269, 270, 271, 272

Coordinate Graphs: Cards 284, 285, 286, 287, 288, 289, 290, 291

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications. A. Understand patterns, relations, and functions.

3. Explain and use symbols to represent unknown quantities and variable relationships.

**Basic Facts:** Cards 1, 2, 4, 5, 6, 8, 9, 10, 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Fraction & Decimal Concepts: Cards 96, 101

Coordinate Graphs: Cards 289, 290, 291

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.A. Understand patterns, relations, and functions.4. Explain and use the relationships among ratios, proportions, and percents.Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.A. Understand patterns, relations, and functions.5. Make generalizations based on observed patterns and relationships.

Basic Facts: Cards 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 59

Patterns & Numbers: Cards 91, 94

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications. B. Represent and analyze mathematical situations and structures using algebraic symbols. 1. Solve problems involving proportional relationships. Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.2. Use letters to represent an unknown in an equation.Basic Facts: Cards 1, 2, 5, 6, 8, 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Coordinate Graphs: Cards 289, 290, 291

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

 Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

 B. Represent and analyze mathematical situations and structures using algebraic symbols.

 3. Solve one-step linear equations and inequalities in one variable with positive whole-number solutions.

 Basic Facts: Cards 1, 2, 5, 6, 8, 11, 14

 Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Coordinate Graphs: Cards 289, 290, 291

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.B. Represent and analyze mathematical situations and structures using algebraic symbols.4. Demonstrate that a variable can represent a single quantity that changes.Basic Facts: Cards 1, 2, 5, 6, 8, 11, 14Add & Subtract Whole Numbers: Cards 26, 31Multiply & Divide Whole Numbers: Cards 55, 56, 59Patterns & Numbers: Cards 91, 94Coordinate Graphs: Cards 289, 290, 291Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications. B. Represent and analyze mathematical situations and structures using algebraic symbols. 5. Demonstrate how changes in one variable affect other variables.

Basic Facts: Cards 1, 2, 5, 6, 8, 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Coordinate Graphs: Cards 289, 290, 291

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.
1. Develop and use mathematical models to represent and justify mathematical relationships found in a variety of situations.

**Basic Facts:** Cards 4, 7, 8, 9, 10, 11, 12, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.
C. Use mathematical models to represent and understand quantitative relationships.
2. Create, explain, and use mathematical models such as:
Venn diagrams to show the relationships between the characteristics of two or more sets.
Data & Graphs: Cards 150, 153

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Create, explain, and use mathematical models such as:

• Equations and inequalities to model numerical relationships.

**Basic Facts:** Cards 1, 2, 5, 6, 8, 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

C. Use mathematical models to represent and understand quantitative relationships.

2. Create, explain, and use mathematical models such as:

Three-dimensional geometric models.

Geometric Figures: Cards 174, 175

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.	
C. Use mathematical models to represent and understand quantitative relationships.	
2. Create, explain, and use mathematical models such as:	
Graphs, tables, and charts to interpret and analyze data.	
Basic Facts: Cards 11, 14	
Add & Subtract Whole Numbers: Cards 26, 31	
Multiply & Divide Whole Numbers: Cards 55, 59	
Patterns & Numbers: Cards 91, 94	
Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153	
Coordinate Graphs: Cards 289, 290	

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

**D.** Analyze changes in various contexts.

1. Represent and explain changes using one-step equations with one variable.

Basic Facts: Cards 11, 14

Add & Subtract Whole Numbers: Cards 26, 31

Multiply & Divide Whole Numbers: Cards 55, 56, 59

Patterns & Numbers: Cards 91, 94

Coordinate Graphs: Cards 289, 290, 291

Algebra Concepts: Cards 292, 293, 294, 295, 296, 297, 298, 299, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

2. Solve problems that involve change using proportional relationships.

Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

3. Use ratios to predict changes in proportional situations.

Ratios & Proportions: Cards 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

4. Use tables and symbols to represent and describe proportional and other relationships involving conversions, sequences, and perimeter.

Ratios & Proportions: Cards 274, 277

Algebra Concepts: Cards 298, 300

Standard 2: ALGEBRA: Students will understand algebraic concepts and applications.

D. Analyze changes in various contexts.

5. Generate formulas to represent relationships involving changes in perimeter.

Perimeter & Area: Cards 214, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227

Algebra Concepts: Card 298

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

1. Identify, describe, and classify properties of, and the relationships between, plane and solid geometric figures:

Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).
 Measurement: Cards 112, 113, 114, 115, 116, 118, 120, 121

**Weasurement.** Calus 112, 115, 114, 115, 110, 116, 120, 121

Geometric Figures: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175

Spatial Sense & Transformations: Cards 263, 264, 265, 266, 267, 268, 269, 270, 271, 272

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

1. Identify, describe, and classify properties of, and the relationships between, plane and solid geometric figures:

• Understand that the sum of angles in any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and use this information to solve problems.

Measurement: Cards 118, 120, 121

Geometric Figures: Cards 169, 170, 171, 175

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

1. Identify, describe, and classify properties of, and the relationships between, plane and solid geometric figures:

Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.

Geometric Figures: Cards 174, 175

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

2. Classify angles as right, obtuse, or straight.

Measurement: Cards 115, 116, 117, 121

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

**3.** Describe the properties of geometric figures that include regular polygons, circles, ellipses, cylinders, cones, spheres, and cubes.

Measurement: Cards 117, 119, 121

Geometric Figures: Cards 167, 168, 174, 175

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

4. Classify polygons as regular or irregular.

Measurement: Cards 117, 119, 121

Geometric Figures: Cards 167, 168, 174, 175

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

5. Classify triangles as scalene, isosceles, or equilateral and by angles (i.e., right, acute, and obtuse).

Measurement: Cards 117, 121

Geometric Figures: Cards 167

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

6. Identify, angle, line, segment, and ray and use the symbols for each.

**Measurement:** Cards 114, 115, 116

Geometric Figures: Cards 165, 166, 170

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

7. Describe the relationship between radius, diameter, and circumference of a circle.

Perimeter & Area: Cards 224, 225, 226, 227

Surface Area & Volume: Cards 249, 251, 252

Standard 3: GEOMETRY: Students will understand geometric concepts and applications. B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems. 1. Use coordinate geometry to describe location on a plane.

Spatial Sense & Transformations: Cards 268, 269, 270, 271, 272

Coordinate Graphs: Cards 284, 285, 286, 287, 288, 289, 290, 291

Standard 3: GEOMETRY: Students will understand geometric concepts and applications. B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems. 2. Recognize skewed lines in space.

This concept is not covered at this level.

Standard 3: GEOMETRY: Students will understand geometric concepts and applications.

C. Apply transformations and use symmetry to analyze mathematical situations.

1. Identify line of symmetry with rotation and scaling.

Geometric Figures: Cards 172, 173, 175

Standard 3: GEOMETRY: Students will understand geometric concepts and applications. D. Use visualization, spatial reasoning, and geometric modeling to solve problems.

1. Use appropriate technology, manipulatives, constructions, or drawings to recognize or compare geometric figures. Measurement: Cards 117, 118, 119, 120, 121

Geometric Figures: Cards 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175

Spatial Sense & Transformations: Cards 263, 264, 265, 267, 268, 269, 270, 271, 272

Standard 4: MEASUREMENT: Students will understand measurement systems and applications. A. Understand measurable attributes of objects and the units, systems, and processes of measurement. 1. Perform multi-step conversions of measurement units to equivalent unites within a given system (e.g., 36 inches equals 3 feet or 1 vard).

Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83

Standard 4: MEASUREMENT: Students will understand measurement systems and applications. A. Understand measurable attributes of objects and the units, systems, and processes of measurement. 2. Estimate measures in both U.S. customary and metric units.

Weight, Capacity & Time: Cards 80, 83

Measurement: Cards 109, 110, 111, 112, 113

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and processes of measurement.
3. Select and use units of appropriate size and type to measure angles (e.g., degrees, radius), perimeter, area, and

capacity in both U.S. customary and metric systems.

Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83

Measurement: Cards 109, 110, 111, 112, 113

Perimeter & Area: Cards 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227

Surface Area & Volume: Cards 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

A. Understand measurable attributes of objects and the units, systems, and processes of measurement.

4. Use standard units of linear measurement to the nearest sixteenth of an inch; metric measurements to the nearest millimeter.

Measurement: Cards 109, 110, 111, 113

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

1. Apply various measurement techniques and tools, units of measure, and degrees of accuracy to find accurate rational number representations for length, liquid, weight, perimeter, temperature, and time.

Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83

Measurement: Cards 109, 110, 111, 113

Perimeter & Area: Cards 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.
B. Apply appropriate techniques, tools, and formulas to determine measurements.
2. Select and use formulas for perimeters of squares and rectangles.
Perimeter & Area: Cards 213, 214, 215, 220

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

3. Select and use strategies to estimate measurements including angle measure and capacity.

Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83

Measurement: Cards 109, 110, 111, 112, 113

Standard 4: MEASUREMENT: Students will understand measurement systems and applications.

B. Apply appropriate techniques, tools, and formulas to determine measurements.

4. Select and justify the selection of measurement tools, units of measure, and degrees of accuracy appropriate to the given situation.

Weight, Capacity & Time: Cards 74, 75, 76, 77, 78, 79, 80, 81, 82, 83

Measurement: Cards 109, 110, 111, 112, 113

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. 1. Use statistical representations to analyze data.

Data & Graphs: Cards 138, 139, 140, 145

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.2. Draw and compare different graphical representations of the same data.

**Data & Graphs:** Cards 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.3. Use mean, median, mode, and range to describe data.

Data & Graphs: Cards 138, 139, 140, 145

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.4. Sketch circle graphs to display data.

Data & Graphs: Cards 146, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.5. Solve problems by collecting, organizing, displaying, and interpreting data.

Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.6. Compare different samples of a population with the entire population and determine the appropriateness of using a sample.

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
 7. Conduct and explain sampling techniques such as observations, surveys, and random sampling for gathering data.
 Probability: Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
8. Determine the median for a rational number data set containing an odd number of data points.
Data & Graphs: Cards 140, 145

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
9. Calculate and explain the median for a whole number data set containing an even number of data points.
Data & Graphs: Cards 139, 145

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. 10. Explain advantages and disadvantages of using various display formats for a specific data set. Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them. 11. Formulate and solve problems by collecting, organizing, displaying, and interpreting data. Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

**B.** Select and use appropriate statistical methods to analyze data.

1. Choose an appropriate graphical format to organize and represent data.

Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

2. Describe the effects of missing or incorrect data.

Data & Graphs: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

**3.** Compute and analyze statistical measurements for data sets:

• Understand how additional data added to data sets may affect measures of central tendency.

Data & Graphs: Cards 138, 139, 140, 145

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

3. Compute and analyze statistical measurements for data sets:

• Understand how the inclusion or exclusion of outliners affects measures of central tendency.

Data & Graphs: Cards 138, 139, 140, 145

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

**B.** Select and use appropriate statistical methods to analyze data.

3. Compute and analyze statistical measurements for data sets:

• Know why a specific measure of central tendency provides the most useful information in a given context.

Data & Graphs: Cards 138, 139, 140, 145

B. Select and use appropriate statistical methods to analyze data.

4. Use data samples of a population and describe the characteristics and limitations of the sample.

Probability: Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

**B.** Select and use appropriate statistical methods to analyze data.

5. Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method make a sample more representative for a population.

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

6. Explain how the way a question is asked in a survey might influence the results obtained.

Data & Graphs: Cards 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

**B.** Select and use appropriate statistical methods to analyze data.

7. Identify data that represent sampling errors and explain why the sample and the display might be biased. Data & Graphs: Cards 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

B. Select and use appropriate statistical methods to analyze data.

8. Identify claims based on statistical data and, in sample cases, evaluate the validity and usefulness of the claims. Data & Graphs: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences and predictions that are based on data.

1. Identify claims based on statistical data and evaluate the validity of the claim.

Data & Graphs: Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences and predictions that are based on data.

2. Conduct observations, surveys, experiments and/or simulations, record the results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.

**Data & Graphs:** Cards 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

C. Develop and evaluate inferences and predictions that are based on data.

**3.** Find all possible combinations in a given set (e.g., the number of ways a set of books can be arranged on a shelf). **Probability:** Cards 188, 189, 190, 192, 193, 194, 195, 196

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

C. Develop and evaluate inferences and predictions that are based on data.

4. Compare expected results with actual results in a simple experiment.

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

1. List all possible outcomes for a compound event composed of two independent events and recognize whether an outcome is certain, impossible, likely, or unlikely.

**Probability:** Cards 192, 193, 194, 195, 196, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

2. Determine and compare experimental (empirical) and mathematical (theoretical) probabilities (e.g., flipping two color counters).

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

**3.** Determine theoretical and experimental probabilities and use them to make predictions about events. **Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

4. Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.

Probability: Cards 188, 189, 190, 192, 193, 194, 195, 196

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

5. Use data to estimate the probability of future events (e.g., batting averages).

**Probability:** Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201

**D.** Understand and apply basic concepts of probability.

6. Represent probabilities as ratios, proportions, decimals between 0 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable; know that if P is the probability of an event, 1-P is the probability of the event not occurring.

Probability: Cards 192, 193, 194, 195, 196, 197, 200, 201

Standard 5: DATA ANALYSIS and PROBABILITY: Students will understand how to formulate questions, analyze data, and determine probabilities.

D. Understand and apply basic concepts of probability.

7. Describe the difference between independent and dependent events and identify situations involving independent or dependent events.

Probability: Cards 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201