### B. Number Operations and Relationships

#### Grade 4

<table>
<thead>
<tr>
<th>MPS Learning Target #1</th>
<th>MPS Learning Target #2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Grade 4)</strong></td>
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</tr>
<tr>
<td>Use strategies fluently to make estimates, solve, and pose real-world problems (e.g., single and multi-step) for all operations, to compare and rename numbers, and to find factors and multiples.</td>
<td>Represent commonly used fractions (e.g., pictures, number lines) and decimals (i.e., money) and use informal reasoning to rename, compare, add, and subtract them with and without context.</td>
</tr>
</tbody>
</table>

**Descriptors**

- **Concepts:** 1, 2, 3, 4, 5
- **Computation:** 10, 11, 13, 15, 16

**Wisconsin Sub-skill Descriptors (Beginning of Grade 5)**

**Sub-skill B.a: Concepts**

1. Recognize and apply place-value concepts to whole numbers less than 1,000,000.
2. Read, write, and represent numbers using words, numerals, pictures (e.g., base ten blocks), number lines, arrays, expanded forms (243=200+40+3), and symbolic renaming e.g., 243=250-7.
3. Compare and order numbers less than 10,000 represented in numbers, arrays, symbols (<, >, =) and words.
4. Use basic facts to determine the first ten multiples of 2-10 and determine factors for numbers up to 100. Recognize the divisibility potential of numbers (divisors of 2, 5, 10, 25). Count using whole numbers less than 10,000 and by any number 1-12 and ‘friendly numbers’ through 100 (ex. 20, 25, etc.)
5. Read, write, represent, count, compare, and order, and make change using a collection of coins and bills equal to and less than $20.00.
6. Read, write, and identify equivalent fractions (1/4s, 1/2s, 1/8s, 1/10s, 1/16s).
7. Represent fractions (1/4s, 1/2s, 1/8s, 1/10s, 1/16s) using numbers, pictures (e.g., drawings or base ten blocks), and number lines.
8. Order and compare fractions (1/4s, 1/2s, 1/8s, 1/10s, 1/16s) represented numerically or as models (including parts of a set and parts of a whole).
9. Rename improper fractions to mixed numbers.

**Sub-skill B.b: Computation**

10. Use all operations in everyday situations to solve single or multi-step word problems.
11. Solve three- and four-digit addition and subtraction with regrouping; multiplication of two-digit by one-digit numbers; division with single-digit divisors and two-digit dividends and with two-step or mixed operation problems with single-digit numbers.
12. Add and subtract decimals in the context of money.
13. Solve problems using basic multiplication and division facts.
15. Estimate: multiplication of two-digit by one-digit problems, addition and subtraction of decimals using money, and division in context.
C. Geometry
Grade 4

<table>
<thead>
<tr>
<th>MPS Learning Target #3 (Grade 4)</th>
<th>MPS Learning Target #4 (Grade 4)</th>
<th>MPS Learning Target #5 (Grade 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe, compare, and classify two-and three-dimensional figures according to their properties including symmetry.</td>
<td>Identify and describe figures constructed from blocks, nets, and transformations.</td>
<td>Use coordinate systems to specify and plot locations, represent simple figures, and identify relationships between objects.</td>
</tr>
</tbody>
</table>

**Descriptors**
- Describe figures: 1, 2
- Spatial relationships and transformations: 6, 7
- Spatial relationships and transformations: 3, 4, 5, 7
- Coordinate systems: 8, 9

**Wisconsin Sub-skill Descriptors (Beginning of Grade 5)**

**Sub-skill C.a: Describe Figures**

1. Identify, describe and compare properties of 2-and 3-dimensional figures, comparing sides, faces, vertices and edges of regular figures including parallel and perpendicular lines and line segments.

2. Determine the number of faces, edges and vertices given an illustration of a 3-dimensional figure.

**Sub-skill C.b: Spatial relationships and transformations**

3. Use pattern blocks and dot paper (geoboards) to describe, model, and construct plane figures.

4. Identify cubes, rectangular and triangular prisms, and rectangular and triangular pyramids from simple nets (flat patterns).

5. Use slides, flips, and turns on figures. Identify congruent shapes using figures that have been manipulated by one or two motions (slides, flips, and turns).

6. Discern a shape with one line of symmetry.

7. Identify and describe 3-dimensional shapes from multiple perspectives.

**Sub-skill C.c: Coordinate systems**

8. Use simple 2-dimensional coordinate systems to identify or plot locations on maps and to represent points and simple figures with coordinates using letters and numbers (e.g., (E, 3)).

9. Identify and use relationships among figures (e.g., location, position, and intersection).
## D. Measurement
### Grade 4

<table>
<thead>
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</table>

Identify and compare measurable attributes, estimate and measure, and make conversions (e.g., area, perimeter, temperature) in both customary and metric systems, and solve problems with elapsed time.

**Descriptors**  
Measurable attributes: 1, 2, 3  
Direct measurement: 4, 5, 6, 7  
Indirect measurement: 8, 9, 10

### Wisconsin Sub-skill Descriptors (Beginning of Grade 5)

#### Sub-skill D.a: Measurable attributes

1. Identify appropriate units to measure length, liquid capacity, volume, weight/mass, time, and temperature. Units include: inches, feet, yards, miles, millimeters, centimeters, meters, kilometers, ounces, cups, quarts, gallons, liters, seconds, minutes, hours, days, months, years, ounces, pounds, grams, kilograms, and degrees Fahrenheit/Celsius.

2. Compare attributes of length and weight by direct observation or when given actual measurements.

3. Make measurement conversions within a system between units (e.g., feet and yards; inches and feet; quart and gallons; meters and centimeters; minutes and hours; hours and days; months and years).

#### Sub-skill D.b: Direct measurement

4. Read, interpret, and use measuring instruments to determine the measurement of objects with non-standard and standard units to the nearest 1/4-inch or centimeter.

5. Read thermometers to the nearest five degrees F/C and read a scale to the nearest ounce or five grams.

6. Translate time on an analog clock to digital clock and vice versa.

7. Determine and compare elapsed time in problem-solving situations.

#### Sub-skill D.c: Indirect measurement

8. Estimate measurement using U.S. customary and metric measurements.

9. Determine perimeter and area of regular shapes and the area of plane rectangular shapes.

10. Determine perimeter and area of irregular shapes when given a reference tool such as a grid.
### E. Statistics and Probability

#### Grade 4

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<thead>
<tr>
<th>MPS Learning Target #7 (Grade 4)</th>
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<tr>
<td>Design and conduct data investigations, display and describe data, summarize data sets (e.g., range, median, and mode), and draw conclusions.</td>
<td>Describe, predict, and test outcomes of simple events and determine the likelihood and fairness of events.</td>
</tr>
<tr>
<td><strong>Descriptors</strong></td>
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</tr>
<tr>
<td>Data analysis and statistics: 1, 2, 3, 4, 5, 6</td>
<td>Probability: 7, 8, 9, 10</td>
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#### Wisconsin Sub-skill Descriptors (Beginning of Grade 5)

**Sub-skill E.a: Data analysis and statistics**

1) Formulate questions to collect, organize, and display data.

2) Collect, organize, and display data in appropriate graphs or charts.

3) Draw reasonable conclusions based on contextual data.

4) Use data to predict outcomes or trends from graph or table.

5) Read and interpret information from single bar graphs, line plots, picture graphs, and Venn diagrams.

6) Describe a given set of data of seven items/numbers or fewer using the terms range, mode, and median in problems with and without context.

**Sub-skill E.b: Probability**

7) Determine if future events are more, less, equally likely, impossible, or certain to occur.

8) Choose or design an event that is fair or unfair.

9) Predict the outcomes of a simple event using words to describe probability and test predictions using data from a variety of sources.

10) Describe and determine the number of combinations for choosing 2 out of 4 items. Ex: What are the possible combinations when selecting 2 items from a menu of 4 items (chips, cookie, pizza, banana, etc.)?
## F. Algebraic Relationships
### Grade 4

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<thead>
<tr>
<th>MPS Learning Target #9 (Grade 4)</th>
<th>MPS Learning Target #10 (Grade 4)</th>
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<td>Represent and extend patterns and describe rules for functional relationships.</td>
<td>Use symbols to represent problem situations and use properties and order of operations to solve equations involving all operations.</td>
</tr>
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**Descriptors**

Patterns, relations, & functions: 1, 2, 3, 4

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**Wisconsin Sub-skill Descriptors (Beginning of Grade 5)**

### Sub-skill F.a: Patterns, relations and functions

1) Recognize, extend, describe, create and replicate a variety of patterns including attribute, numeric, and geometric patterns.

2) Represent patterns and relationship with pictures, tables, and charts.

3) Describe a rule that explains a functional relationship or pattern using addition, subtraction, or multiplication rules.

4) Determine a future event in a pattern up to the eighth item when given the first five.

### Sub-skill F.b: Expressions, equations and inequalities

5) Solve simple one-step open sentences involving all operations in context.

6) Demonstrate a basic understanding of equality and inequality using symbol \(<, >, =\) with all operations.

7) Solve simple, one-step open sentences including missing factor in problems with and without context e.g., “box” or letter variable and whole number coefficients.

8) Represent problem situations with one-step equations involving multiplication and division with simple open sentences.

9) Represent problem situations with one-step equations or expressions using one of the four operations.

### Sub-skill F.c: Properties

10) Use the commutative property of multiplication with positive single digits.

11) Use the inverse relationship of division and multiplication with single-digit, whole numbers.

12) Demonstrate understanding of order of operations by solving two-step open sentences involving all operations.