

4th Grade Mathematics

2007 Next Generation Sunshine State Standards

Big Idea1: Develop quick recall of multiplication facts and related division facts and fluency with whole number multiplication.

| BENCHMARK CODE | BENCHMARK |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.A.1.1 | Use and describe various models for multiplication in problem-solving situations, and demonstrate recall of basic multiplication and related division facts with ease. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.1.2 | Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |

Big Idea2: Develop an understanding of decimals, including the connection between fractions and decimals.

| BENCHMARK CODE | BENCHMARK |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.A.2.1 | Use decimals through the thousandths place to name numbers between whole numbers. <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i> |
| MA.4.A.2.2 | Describe decimals as an extension of the base-ten number system. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |
| MA.4.A.2.3 | Relate equivalent fractions and decimals with and without models, including locations on a number line. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.2.4 | Compare and order decimals, and estimate fraction and decimal amounts in real-world problems. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |

Big Idea3: Develop an understanding of area and determine the area of two-dimensional shapes.

| BENCHMARK CODE | BENCHMARK |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.G.3.1 | Describe and determine area as the number of same-sized units that cover a region in the plane, recognizing that a unit square is the standard unit for measuring area. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.G.3.2 | Justify the formula for the area of the rectangle "area = base x height". <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.G.3.3 | Select and use appropriate units, both customary and metric, strategies, and measuring tools to estimate and solve real-world area problems. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |

Supporting Idea4: Algebra

| BENCHMARK CODE | BENCHMARK |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.A.4.1 | Generate algebraic rules and use all four operations to describe patterns, including nonnumeric growing or repeating patterns. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |
| MA.4.A.4.2 | Describe mathematics relationships using expressions, equations, and visual representations. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |
| MA.4.A.4.3 | Recognize and write algebraic expressions for functions with two operations. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |

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Supporting Idea5: Geometry and Measurement

| BENCHMARK CODE | BENCHMARK |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.G.5.1 | Classify angles of two-dimensional shapes using benchmark angles (i.e. 45°, 90°, 180°, and 360°) <i>Cognitive Complexity/Depth of Knowledge Rating: Low</i> |
| MA.4.G.5.2 | Identify and describe the results of translations, reflections, and rotations of 45, 90, 180, 270, and 360 degrees, including figures with line and rotational symmetry. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.G.5.3 | Identify and build a three-dimensional object from a two-dimensional representation of that object and vice versa. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |

Supporting Idea6: Number and Operations

| BENCHMARK CODE | BENCHMARK |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA.4.A.6.1 | Use and represent numbers through millions in various contexts, including estimation of relative sizes of amounts or distances. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.6.2 | Use models to represent division as: <ul style="list-style-type: none"> • the inverse of multiplication • as partitioning • as successive subtraction <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.6.3 | Generate equivalent fractions and simplify fractions. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.6.4 | Determine factors and multiples for specified whole numbers. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.6.5 | Relate halves, fourths, tenths, and hundredths to decimals and percents. <i>Cognitive Complexity/Depth of Knowledge Rating: Moderate</i> |
| MA.4.A.6.6 | Estimate and describe reasonableness of estimates; determine the appropriateness of an estimate versus an exact answer. <i>Cognitive Complexity/Depth of Knowledge Rating: High</i> |