

4th Grade Math

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| Power Standard: Read, write, order, compare, add, subtract, multiply, divide, and round whole numbers and decimals to millions and thousandths place. | | |
| M.O.4.1.1 DOK 1 | read, write, order, and compare whole numbers to the millions place and decimals to thousandths place using a variety of strategies (e.g. symbols, manipulatives, number line, pictorial representations). | |
| | <ul style="list-style-type: none"> • Read whole numbers to the millions place • write whole numbers to the millions place • order whole numbers to the millions place • Compare whole numbers to the millions place • Read decimals to thousandths place using a variety of strategies • write decimals to thousandths place using a variety of strategies • order decimals to thousandths place using a variety of strategies • compare decimals to thousandths place using a variety of strategies | Reasoning and Performance |
| M.O.4.1.6 DOK 1 | round decimals to the nearest whole, 10 th , or 100 th place. | |
| | <ul style="list-style-type: none"> • Round decimals to the nearest whole number • Round decimals to the nearest tenth place • Round decimals to the nearest hundredths place | Reasoning and Performance |
| M.O.4.1.7 DOK 1 | add and subtract whole numbers(up to five –digit number) and decimals to the 1000 th place, multiply (up to three digits by two-digits, and divide(up to a three digit number with a one and two-digit number) . | |
| | <ul style="list-style-type: none"> • Add and subtract whole numbers (up to five-digit numbers) • Add and subtract decimals to the 100th place • Add and subtract whole numbers and decimals, multiply (up to three digits by two-digits and divide (up to a three digit number with a one and two-digit number). | Reasoning and Performance |
| Power Standard: Using concrete models, number lines, benchmark fractions, and pictorial representations, compare and order, add and subtract fractions and mixed numbers and analyze the relationship. | | |
| M.O.4.1.4 DOK 2 | using concrete models, benchmark fractions, number line <ul style="list-style-type: none"> • compare and order fractions with like and unlike denominators • add and subtract fractions with like and unlike denominators • model equivalent fractions model addition and subtraction of mixed numbers with and without | |

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| | regrouping. | |
| | <ul style="list-style-type: none"> Using concrete models compare fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions compare fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines compare fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models compare fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions compare fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines compare fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models order fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions order fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines order fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models order fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions order fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines order fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models add fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions add fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines add fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models add fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions add fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines add fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models subtract fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions subtract fractions with like | Performance |

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| | denominators | |
| | <ul style="list-style-type: none"> Using number lines subtract fractions with like denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models subtract fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions subtract fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using number lines subtract fractions with unlike denominators | Performance |
| | <ul style="list-style-type: none"> Using concrete models model equivalent fractions. | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions model equivalent fractions. | Performance |
| | <ul style="list-style-type: none"> Using number lines model equivalent fractions. | Performance |
| | <ul style="list-style-type: none"> Using concrete models model addition of mixed numbers with regrouping | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions model addition of mixed numbers with regrouping | Performance |
| | <ul style="list-style-type: none"> Using number lines model addition of mixed numbers with regrouping | Performance |
| | <ul style="list-style-type: none"> Using concrete models model addition of mixed numbers without regrouping | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions model addition of mixed numbers without regrouping | Performance |
| | <ul style="list-style-type: none"> Using number lines model addition of mixed numbers without regrouping | Performance |
| | <ul style="list-style-type: none"> Using concrete models model subtraction of mixed numbers with regrouping | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions model subtraction of mixed numbers with regrouping | Performance |
| | <ul style="list-style-type: none"> Using number lines model subtraction of mixed numbers with regrouping | Performance |

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| | <ul style="list-style-type: none"> Using concrete models model subtraction of mixed numbers without regrouping | Performance |
| | <ul style="list-style-type: none"> Using benchmark fractions model subtraction of mixed numbers without regrouping | Performance |
| | <ul style="list-style-type: none"> Using number lines model subtraction of mixed numbers without regrouping | Performance |
| M.O.4.1.5 DOK 2 | analyze the relationship of fractions to decimals using concrete objects and pictorial representations. | |
| | <ul style="list-style-type: none"> analyze the relationship of fractions to decimals using concrete objects | Reasoning |
| | <ul style="list-style-type: none"> analyze the relationship of fractions to decimals using pictorial representations | Reasoning |
| Power Standard: Demonstrate an understanding of the place value of each digit utilizing standard and expanded form through 1,000,000 with multiples of 10 [(5 x 10,000) + (3 x 1,000) + (4 x 10) + 2]. | | |
| M.O.4.1.2 DOK 1 | demonstrate an understanding of the place value of each digit utilizing standard and expanded form through 1,000,000 with multiples of 10 [(5 X 10,000) + (3 X 1,000) + (4 X 10) + 2]. | Knowledge and Performance |
| Power Standard: Identify, classify, compare and contrast, recognize and describe both two and three-dimensional geometric figures from different perspectives and create two dimensions designs with one line of symmetry. | | |
| M.O.4.3.1 DOK 1 | identify, classify, compare and contrast two-dimensional (including quadrilateral shapes) and three-dimensional geometric figures according to attributes. | |
| | <ul style="list-style-type: none"> Identify two-dimensional (including quadrilateral shapes) geometric figures according to attributes | Product and Knowledge |
| | <ul style="list-style-type: none"> Classify two-dimensional (including quadrilateral shapes) geometric figures according to attributes | Product and Knowledge |
| | <ul style="list-style-type: none"> Compare and contrast two-dimensional (including quadrilateral shapes) geometric figures according to attributes | Product and Knowledge |
| | <ul style="list-style-type: none"> Identify three-dimensional (including quadrilateral shapes) geometric figures according to attributes | Product and Knowledge |
| | <ul style="list-style-type: none"> Classify three-dimensional (including quadrilateral shapes) | Product and |

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| | geometric figures according to attributes | Knowledge |
| | <ul style="list-style-type: none"> Compare and contrast three-dimensional (including quadrilateral shapes) geometric figures according to attributes | Product and Knowledge |
| M.O.4.3.2 DOK 1 | recognize and describe three-dimensional objects from different perspectives. | |
| | <ul style="list-style-type: none"> recognize three-dimensional objects from different perspectives | Knowledge |
| | <ul style="list-style-type: none"> describe three-dimensional objects from different perspectives | Knowledge |
| M.O.4.3.4 DOK 1 | identify and create a two-dimensional design with one line of symmetry. | |
| | <ul style="list-style-type: none"> Identify a two-dimensional design with one line of symmetry. | Knowledge |
| | <ul style="list-style-type: none"> Create a two-dimensional design with one line of symmetry. | Product |
| Power Standard: Identify, draw, label, compare and contrast, and classify, lines angles and parts of a circle. | | |
| M.O.4.3.3 DOK 1 | identify, draw, label, compare and contrast, and classify | |
| | <ul style="list-style-type: none"> lines (intersecting, parallel, and perpendicular) angles (acute, right, obtuse, and straight) | |
| | <ul style="list-style-type: none"> Identify intersecting lines | Knowledge |
| | <ul style="list-style-type: none"> Draw intersecting lines | Performance |
| | <ul style="list-style-type: none"> Label intersecting lines | Knowledge |
| | <ul style="list-style-type: none"> Compare and contrast intersecting lines | Reasoning |
| | <ul style="list-style-type: none"> Classify intersecting lines | Knowledge |
| | <ul style="list-style-type: none"> Identify parallel lines | Knowledge |
| | <ul style="list-style-type: none"> Draw parallel lines | Performance |
| | <ul style="list-style-type: none"> Label parallel lines | Knowledge |
| | <ul style="list-style-type: none"> Compare and contrast parallel lines | Reasoning |
| | <ul style="list-style-type: none"> Classify parallel lines | Knowledge |
| | <ul style="list-style-type: none"> Identify perpendicular lines | Knowledge |

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| | <ul style="list-style-type: none"> • Draw perpendicular lines | Performance |
| | <ul style="list-style-type: none"> • Label perpendicular lines | Knowledge |
| | <ul style="list-style-type: none"> • Compare and contrast perpendicular lines | Reasoning |
| | <ul style="list-style-type: none"> • Classify perpendicular lines | Knowledge |
| | <ul style="list-style-type: none"> • Identify acute angles | Knowledge |
| | <ul style="list-style-type: none"> • Draw acute angles | Performance |
| | <ul style="list-style-type: none"> • Label acute angles | Knowledge |
| | <ul style="list-style-type: none"> • Compare and contrast acute angles | Reasoning |
| | <ul style="list-style-type: none"> • Classify acute angles | Knowledge |
| | <ul style="list-style-type: none"> • Identify right angles | Knowledge |
| | <ul style="list-style-type: none"> • Draw right angles | Performance |
| | <ul style="list-style-type: none"> • Label right angles | Knowledge |
| | <ul style="list-style-type: none"> • Compare and contrast right angles | Reasoning |
| | <ul style="list-style-type: none"> • Classify right angles | Knowledge |
| | <ul style="list-style-type: none"> • Identify obtuse angles | Knowledge |
| | <ul style="list-style-type: none"> • Draw obtuse angles | Performance |
| | <ul style="list-style-type: none"> • Label obtuse angles | Knowledge |
| | <ul style="list-style-type: none"> • Compare and contrast obtuse angles | Reasoning |
| | <ul style="list-style-type: none"> • Classify obtuse angles | Knowledge |
| | <ul style="list-style-type: none"> • Identify straight angles | Knowledge |
| | <ul style="list-style-type: none"> • Draw straight angles | Performance |
| | <ul style="list-style-type: none"> • Label straight angles | Knowledge |
| | <ul style="list-style-type: none"> • Compare and contrast straight angles | Reasoning |

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| | <ul style="list-style-type: none"> Classify straight angles | Knowledge |
| M.O.4.3.6 DOK 2 | draw and identify parts of a circle: center point, diameter, and radius. | |
| | <ul style="list-style-type: none"> Draw center point of a circle | Performance |
| | <ul style="list-style-type: none"> Draw the diameter of a circle | Performance |
| | <ul style="list-style-type: none"> Draw the radius of a circle | Performance |
| | <ul style="list-style-type: none"> Identify center point of a circle | Knowledge |
| | <ul style="list-style-type: none"> Identify the diameter of a circle | Knowledge |
| | <ul style="list-style-type: none"> Identify the radius of a circle | Knowledge |
| Power Standard: Using an input output model with two operations, determine the rule and explain changes to recognize and describe relationships in which quantities change proportionally. | | |
| M.O.4.2.1 DOK 2 | determine the rule and explain how change in one variable relates to the change in the second variable, given an input/output model using two operations. | |
| | <ul style="list-style-type: none"> Determine the rule how change in one variable relates to the change in the second variable, given an input/output model using two operations. | Reasoning |
| | <ul style="list-style-type: none"> Explain how change in one variable relates to the change in the second variable, given an input/output model using two operations. | Reasoning |
| M.O.4.2.2 DOK 2 | recognize and describe relationships in which quantities change proportionally. | |
| | <ul style="list-style-type: none"> recognize relationships in which quantities change proportionally | Reasoning |
| | <ul style="list-style-type: none"> describe relationships in which quantities change proportionally | Reasoning |
| Power Standard: Represent the idea of a variable as an unknown quantity using a letter, write an expression using a variable to describe a real-world situation. | | |
| M.O.4.2.3 DOK 1 | represent the idea of a variable as an unknown quantity using a letter, write an expression using a variable to describe a real-world situation. | |
| | <ul style="list-style-type: none"> represent the idea of a variable as an unknown quantity using a letter | Performance |
| | <ul style="list-style-type: none"> write an expression using a variable to describe a real-world situation | Performance |
| Power Standard: Students will use a circle graph or pose a grade appropriate question by analyzing a set of data | | |

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| M.O.4.5.1 DOK 3 | read and interpret information represented on a circle graph. | |
| | <ul style="list-style-type: none"> • read information represented on a circle graph | Knowledge |
| | <ul style="list-style-type: none"> • interpret information represented on a circle graph | Reasoning |
| M.O.4.5.2 DOK 2 | pose a grade-appropriate question that can be addressed with data, collect, organize, display, and analyze data in order to answer the question. | |
| | <ul style="list-style-type: none"> • pose a grade-appropriate question that can be addressed with data in order to answer the question | Reasoning |
| | <ul style="list-style-type: none"> • pose a grade-appropriate question that can be addressed with collection of data in order to answer the question | Reasoning |
| | <ul style="list-style-type: none"> • pose a grade-appropriate question that can be addressed with organization of data in order to answer the question | Reasoning |
| | <ul style="list-style-type: none"> • pose a grade-appropriate question that can be addressed with display of data in order to answer the question | Reasoning |
| | <ul style="list-style-type: none"> • pose a grade-appropriate question that can be addressed with analyzing data in order to answer the question | Reasoning |
| Power Standard: Students will use basic multiplication and division facts to solve multi-digit whole number multiplication problems. | | |
| M.O.4.1.9 DOK 1 | quick recall of basic multiplication facts and corresponding division facts. | |
| | <ul style="list-style-type: none"> • Quick recall of basic multiplication facts | Knowledge |
| | <ul style="list-style-type: none"> • Quick recall of division facts corresponding to multiplication facts | Knowledge |
| M.O.4.1.8 DOK 2 | solve multi-digit whole number multiplication problems using a variety of strategies, including the standard algorithm, justify methods used. | |
| | <ul style="list-style-type: none"> • solve multi-digit whole number multiplication problems using a variety of strategies | Knowledge |
| | <ul style="list-style-type: none"> • solve multi-digit whole number multiplication problems using standard algorithm | Knowledge |
| | <ul style="list-style-type: none"> • Justify methods used | Knowledge |

| Power Standard: none | | |
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| M.O.4.4.1 DOK 2 | <p>select appropriate measuring tools, apply and convert standard units within a system to estimate, measure, compare and order real-world measurements including:</p> <ul style="list-style-type: none"> lengths using customary (to the nearest one-fourth inch) and metric units, weight, capacity, temperature, and <p>justify and present results.</p> | |
| | <ul style="list-style-type: none"> select appropriate measuring tools for length | Performance |
| | <ul style="list-style-type: none"> apply and convert standard units within a system to estimate for length | Reasoning |
| | <ul style="list-style-type: none"> compare and order for length | Reasoning |
| | <ul style="list-style-type: none"> select appropriate measuring tools for weight | Performance |
| | <ul style="list-style-type: none"> apply and convert standard units within a system to estimate for weight | Reasoning |
| | <ul style="list-style-type: none"> compare and order for weight | Reasoning |
| | <ul style="list-style-type: none"> select appropriate measuring tools for capacity | Performance |
| | <ul style="list-style-type: none"> apply and convert standard units within a system to estimate for capacity | Reasoning |
| | <ul style="list-style-type: none"> compare and order for capacity | Reasoning |
| | <ul style="list-style-type: none"> select appropriate measuring tools for temperature | Performance |
| | <ul style="list-style-type: none"> apply and convert standard units within a system to estimate for temperature | Reasoning |
| | <ul style="list-style-type: none"> compare and order for temperature | Reasoning |
| | <ul style="list-style-type: none"> Justify results | Reasoning |
| | <ul style="list-style-type: none"> Present results | Performance |
| Power Standard: none | | |

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| M.O.4.3.5 DOK 1 | graph/plot ordered pairs on a first-quadrant grid and use the coordinate system to specify location and describe path. | |
| | <ul style="list-style-type: none"> Graph ordered pairs on a first-quadrant grid | Performance |
| | <ul style="list-style-type: none"> Plot ordered pairs on a first-quadrant grid | Performance |
| | <ul style="list-style-type: none"> Graph ordered pairs and use the coordinate system to specify location | Performance |
| | <ul style="list-style-type: none"> Plot ordered pairs and use the coordinate system to specify location | Performance |
| | <ul style="list-style-type: none"> Graph ordered pairs and use the coordinate system to describe path | Performance |
| Power Standard: none | | |
| M.O.4.5.3 DOK 2 | design and conduct a simple probability experiment using concrete objects, examine and list all possible combinations using a tree diagram, represent the outcomes as a ratio and present the results. | |
| | <ul style="list-style-type: none"> Design a simple probability experiment using concrete objects | Performance |
| | <ul style="list-style-type: none"> Conduct a simple probability experiment using concrete objects | Performance |
| | <ul style="list-style-type: none"> Examine all possible combinations using a tree diagram | Reasoning |
| | <ul style="list-style-type: none"> List all possible combinations using a tree diagram | Performance |
| | <ul style="list-style-type: none"> Represent the outcomes as a ratio | Performance |
| | <ul style="list-style-type: none"> Present the results | Performance |
| Power Standard: none | | |
| M.O.4.4.3 DOK 2 | read time to the minute, calculate elapsed time in hours/minutes within a 24-hour period. | |
| | <ul style="list-style-type: none"> Read time to the minute | Knowledge |
| | <ul style="list-style-type: none"> Calculate elapsed time in hours within a 24 hour period | Knowledge |
| | <ul style="list-style-type: none"> Calculate elapsed time in minutes within a 24 hour period | Knowledge |
| Power Standard: Students will solve real world problems using multiple strategies. | | |
| M.O.4.1.3 DOK 1 | estimate solutions to problems including rounding, benchmarks, compatible numbers and evaluate the reasonableness of the solution, | |

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| | justify results. | |
| | <ul style="list-style-type: none"> estimate solutions to problems including rounding | Reasoning |
| | <ul style="list-style-type: none"> estimate solutions to problems including benchmarks | Reasoning |
| | <ul style="list-style-type: none"> estimate solutions to problems including compatible numbers | Reasoning |
| | <ul style="list-style-type: none"> evaluate the reasonableness of the solution including rounding | Reasoning |
| | <ul style="list-style-type: none"> evaluate the reasonableness of the solution including benchmarks | Reasoning |
| | <ul style="list-style-type: none"> evaluate the reasonableness of the solution including compatible numbers | Reasoning |
| | <ul style="list-style-type: none"> Justify results to problems including rounding | Reasoning |
| | <ul style="list-style-type: none"> Justify results to problems including benchmarks | Reasoning |
| | <ul style="list-style-type: none"> Justify results to problems including compatible numbers | Reasoning |
| M.O.4.1.10 DOK 1 | create grade-level real-world appropriate story problems using multiple strategies including simple ratios, justify the reason for choosing a particular strategy and present results. | |
| | <ul style="list-style-type: none"> create grade-level real-world appropriate story problems using multiple strategies including simple ratios | Reasoning |
| | <ul style="list-style-type: none"> justify the reason for choosing a particular strategy | Reasoning |
| | <ul style="list-style-type: none"> Present the results | Reasoning |
| M.O.4.2.4 DOK 2 | solve real-world problems involving order of operations including grouping symbols and the four operations | |
| | <ul style="list-style-type: none"> solve real-world problems involving order of operations including grouping symbols | Reasoning |
| | <ul style="list-style-type: none"> solve real-world problems involving order of operations including the four operations | Reasoning |
| M.O.4.4.4 DOK 1 | given real-world situations, count coins and bills and determine correct change. | |
| | <ul style="list-style-type: none"> given real-world situations count coins and bills | Reasoning |
| | <ul style="list-style-type: none"> given real-world situations determine correct change | Reasoning |
| M.O.4.5.4 DOK | solve real world problems using mean, median and mode. | |
| | <ul style="list-style-type: none"> solve real world problems using mean | Reasoning |
| | <ul style="list-style-type: none"> solve real world problems using median | Reasoning |

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| | <ul style="list-style-type: none"> • solve real world problems using mode. | Reasoning |
| Power Standard: none | | |
| M.O.4.3.7 DOK 1 | select, analyze and justify appropriate use of transformations (translations, rotations, flips) to solve geometric problems including congruency and tiling (tessellations). | |
| | <ul style="list-style-type: none"> • Select appropriate use of transformations to solve geometric problems including congruency | Reasoning |
| | <ul style="list-style-type: none"> • Select appropriate use of transformations to solve geometric problems including tiling | Reasoning |
| | <ul style="list-style-type: none"> • Analyze appropriate use of transformations to solve geometric problems including congruency | Reasoning |
| | <ul style="list-style-type: none"> • Analyze appropriate use of transformations to solve geometric problems including tiling | Reasoning |
| | <ul style="list-style-type: none"> • Justify appropriate use of transformations to solve geometric problems including congruency | Reasoning |
| | <ul style="list-style-type: none"> • Justify appropriate use of transformations to solve geometric problems including tiling | Reasoning |
| Power Standard: none | | |
| M.O.4.4.2 DOK 1 | Quantify area by finding the total number of same sized units that cover a shape, develop a rule and justify the formula for the area of a rectangle using the area model representing multiplication. | |
| | <ul style="list-style-type: none"> • Quantify area by finding the total number of same sized units that cover a shape | Reasoning |
| | <ul style="list-style-type: none"> • develop a rule for the area of a rectangle using the area model representing multiplication | Reasoning |
| | <ul style="list-style-type: none"> • justify the formula for the area of a rectangle using the area model representing multiplication | Reasoning |