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Missouri Mathematics Standards  
Big Ideas Math®: Modeling Real Life,**

Grade 3



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Missouri Mathematics Standards  
Grade 3

Standard		Big Ideas Math®: Modeling Real Life, Grade 3
<b>NUMBER SENSE AND OPERATIONS IN BASE TEN: NBT</b>		
<b>3.NBT.A</b>	<b>Use place value understanding and properties of operations to perform multi-digit arithmetic.</b>	
3.NBT.A.1	Round whole numbers to the nearest 10 or 100.	Resources: 7.1, 7.2, 7.3, 7.4, 7.5 Assessment: Chapter 7 test
3.NBT.A.2	Read, write and identify whole numbers within 100,000 using base ten numerals, number names and expanded form.	Resources: Superteachermathworksheet.com Assessment: Assess 1:1 orally
3.NBT.A.3	Demonstrate fluency with addition and subtraction within 1000.	Resources: 7.4, 7.5, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 12.4 Assessment: Chapter 7 and 8 test
3.NBT.A.4	Multiply whole numbers by multiples of 10 in the range 10-90.	Resources: 9.1, 9.2, 9.3 Assessment: Chapter 9 test
<b>NUMBER SENSE AND OPERATIONS IN FRACTIONS: NF</b>		
<b>3.NF.A</b>	<b>Develop understanding of fractions as numbers.</b>	
3.NF.A.1	Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts.	Resources: 10.1, 10.2, 10.3, 10.4, 10.5 Assessment: Chapter 10 test
3.NF.A.2	Understand that when a whole is partitioned equally, a fraction can be used to represent a portion of the whole.  a) Describe the numerator as representing the number of pieces being considered. b) Describe the denominator as the number of pieces that make the whole.	Resources: 10.1, 10.2, 10.3, 10.4, 10.5  Assessment: Chapter 10 test
3.NF.A.3	Represent fractions on a number line.  a) Understand the whole is the interval from 0 to 1. b) Understand the whole is partitioned into equal parts. c) Understand a fraction represents the endpoint of the length a given number of partitions from 0.	Resources: 10.4, 10.5, 14.5, 14.6, 14.7  Assessment: Chapter 10 and 14 test

3.NF.A.4	Demonstrate that two fractions are equivalent if they are the same size or the same point on a number line.	Resources: 11.1, 11.2 Assessment: Chapter 11 test
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3.NF.A.5	Recognize and generate equivalent fractions using visual models, and justify why the fractions are equivalent.	Resources: 11.1, 11.2 Assessment: Chapter 11 test
3.NF.A.6	Compare two fractions with the same numerator or denominator using the symbols $>$ , $=$ or $<$ , and justify the solution.	Resources: 11.4, 11.5, 11.6, 11.7, 11.8 Assessment: Chapter 11 test
3.NF.A.7	Explain why fraction comparisons are only valid when the two fractions refer to the same whole.	Resources: 11.4, 11.5, 11.6, 11.7, 11.8 Assessment: Chapter 11 test

**RELATIONSHIPS AND ALGEBRAIC THINKING: RA**

<b>3.RA.A</b>	<b>Represent and solve problems involving multiplication and division.</b>	
3.RA.A.1	Interpret products of whole numbers.	Resources: 1.1, 1.2, 1.3, 1.4 Assessment: Chapter 1 test
3.RA.A.2	Interpret quotients of whole numbers.	Resources: 1.5, 1.6, 4.1, 4.2 Assessment: Chapter 1 test
3.RA.A.3	Describe in words or drawings a problem that illustrates a multiplication or division situation.	Resources: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 4.1, 4.2 Assessment: Chapter 1 and 4 test
3.RA.A.4	Use multiplication and division within 100 to solve problems.	Resources: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 14.5 Assessment: Chapter 1, 2, 3, and 4 tests
3.RA.A.5	Determine the unknown number in a multiplication or division equation relating three whole numbers.	Resources: 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.2, 5.4 Assessment: Chapter 2, 3, 4, and 5 tests
<b>3.RA.B</b>	<b>Understand properties of multiplication and the relationship between multiplication and division.</b>	
3.RA.B.6	Apply properties of operations as strategies to multiply and divide.	Resources: 1.4, 2.4, 2.5, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 9.3 Assessments: Chapter 1, 2, 3, 4, and 9 tests

<b>3.RA.C</b>	<b>Multiply and divide within 100.</b>	
3.RA.C.7	Multiply and divide with numbers and results within 100 using strategies such as the relationship between multiplication and division or properties of operations. Know all products of two one-digit numbers.	Resources: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.1, 5.2, 5.3, 5.4 Assessments: Chapter 2, 3, 4, and 5 tests
3.RA.C.8	Demonstrate fluency with products within 100.	Resources: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.1, 5.2, 5.3, 5.4 Assessment: chapter 2, 3, 4, and 5 tests

<b>3.RA.D</b>	<b>Use the four operations to solve word problems.</b>	
3.RA.D.9	Write and solve two-step problems involving variables using any of the four operations.	Resources: 5.4, 8.11, 9.4, 9.5, 14.5, 14.6, 14.7 Assessment: chapter 5, 8 9 and 14
3.RA.D.10	Interpret the reasonableness of answers using mental computation and estimation strategies including rounding.	Resources: 5.4, 8.11, 9.4, 9.5, 14.5, 14.6, 14.7 Assessment: Chapter 5, 8, 9 and 14
<b>3.RA.E</b>	<b>Identify and explain arithmetic patterns.</b>	
3.RA.E.11	Identify arithmetic patterns and explain the patterns using properties of operations.	Resources: 2.1, 2.2, 2.3, 2.4, 5.1, 5.2 Assessment: chapter 2 and 5 tests
<b>GEOMETRY AND MEASUREMENT: GM</b>		
<b>3.GM.A</b>	<b>Reason with shapes and their attributes.</b>	
3.GM.A.1	Understand that shapes in different categories may share attributes and that the shared attributes can define a larger category.	Resources: 13.1, 13.2, 13.3, 13.4 Assessment: Chapter 13 test
3.GM.A.2	Distinguish rhombuses and rectangles as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to these subcategories.	Resources: 13.1, 13.2, 13.3, 13.4 Assessment: Chapter 13 tests
3.GM.A.3	Partition shapes into parts with equal areas, and express the area of each part as a unit fraction of the whole.	Resources: 10.1, 10.2, 10.3 Assessment: Chapter 10
<b>3.GM.B</b>	<b>Solve problems involving the measurement of time, liquid volumes and weights of objects.</b>	

3.GM.B.4	Tell and write time to the nearest minute.	Resources: 12.1, 12.2, 12.3, 12.4 Assessment: Chapter 12 test
3.GM.B.5	Estimate time intervals in minutes.	Resources: 12.1, 12.2, 12.3, 12.4 Assessment: Chapter 12 test
3.GM.B.6	Solve problems involving addition and subtraction of minutes.	Resources: 12.1, 12.2, 12.3, 12.4 Assessment: Chapter 12 test
3.GM.B.7	Measure or estimate length, liquid volume and weight of objects.	Resources: 12.5, 12.6, 12.7, 12.8 Assessment: Chapter 12 test
3.GM.B.8	Use the four operations to solve problems involving lengths, liquid volumes or weights given in the same units.	Resources: 12.5, 12.6, 12.7, 12.8 Assessment: Chapter 12 test

<b>3.GM.C</b>	<b>Understand concepts of area.</b>	
3.GM.C.9	Calculate area by using unit squares to cover a plane figure with no gaps or overlaps.	Resources: 6.1, 6.2, 6.3, 15.4, 15.5 Assessment: Chapter 6 and 15 test
3.GM.C.10	Label area measurements with squared units.	Resources: 6.1, 6.2, 6.3, 15.4, 15.5 Assessment: Chapter 6 and 15 test
3.GM.C.11	Demonstrate that tiling a rectangle to find the area and multiplying the side lengths result in the same value.	Resources: 6.3 Assessment: Chapter 6 test
3.GM.C.12	Multiply whole-number side lengths to solve problems involving the area of rectangles.	Resources: 6.3, 6.4, 6.5 Assessment: Chapter 6 test
3.GM.C.13	Find rectangular arrangements that can be formed for a given area.	Resources: 6.3 Assessment: Chapter 6 test
3.GM.C.14	Decompose a rectangle into smaller rectangles to find the area of the original rectangle.	Resources: 6.5 Assessment: Chapter 6 test
<b>3.GM.D</b>	<b>Understand concepts of perimeter.</b>	
3.GM.D.15	Solve problems involving perimeters of polygons.	Resources: 15.1, 15.2, 15.3, 15.4, 15.5 Assessment: Chapter 15 test

3.GM.D.16	Understand that rectangles can have equal perimeters but different areas, or rectangles can have equal areas but different perimeters.	Resources: 15.4, 15.5 Assessment: Chapter 15 test
<b>DATA AND STATISTICS: DS</b>		
<b>3.DS.A</b>	<b>Represent and analyze data.</b>	
3.DS.A.1	Create frequency tables, scaled picture graphs and bar graphs to represent a data set with several categories.	Resources: 14.1, 14.2, 14.3, 14.4 Assessment: Chapter 14 test
3.DS.A.2	Solve one- and two-step problems using information presented in bar and/or picture graphs.	Resources: 14.1, 14.2, 14.3, 14.4 Assessment: Chapter 14 test
3.DS.A.3	Create a line plot to represent data.	Resources: 14.5, 14.6, 14.7 Assessment: Chapter 14 test
3.DS.A.4	Use data shown in a line plot to answer questions.	Resources: 14.5, 14.6, 14.7 Assessment: Chapter 14 test