Missouri Mathematics

Grade 3

Adopted 2016

Number Sense and Operations in Base Ten

A. Use place value understanding and properties of operations to perform multi-digit arithmetic. 3.NBT.A

1. Round whole numbers to the nearest 10 or 100. 3.NBT.A.1
2. Read, write and identify whole numbers within 100,000 using base ten numerals, number names and expanded form. 3.NBT.A.2
3. Demonstrate fluency with addition and subtraction within 1000. 3.NBT.A.3
4. Multiply whole numbers by multiples of 10 in the range 10-90. 3.NBT.A.4

Number Sense and Operations in Fractions

A. Develop understanding of fractions as numbers. 3.NF.A

1. Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts. 3.NF.A.1
2. Understand that when a whole is partitioned equally, a fraction can be used to represent a portion of the whole. 3.NF.A.2
   a. Describe the numerator as representing the number of pieces being considered. 3.NF.A.2.A
   b. Describe the denominator as the number of pieces that make the whole. 3.NF.A.2.B
3. Represent fractions on a number line. 3.NF.A.3
   a. Understand the whole is the interval from 0 to 1. 3.NF.A.3.A
   b. Understand the whole is partitioned into equal parts. 3.NF.A.3.B
   c. Understand a fraction represents the endpoint of the length a given number of partitions from 0. 3.NF.A.3.C
4. Demonstrate that two fractions are equivalent if they are the same size, or the same point on a number line. 3.NF.A.4
5. Recognize and generate equivalent fractions using visual models, and justify why the fractions are equivalent. 3.NF.A.5
6. Compare two fractions with the same numerator or denominator using the symbols >, = or <, and justify the solution. 3.NF.A.6
7. Explain why fraction comparisons are only valid when the two fractions refer to the same whole. 3.NF.A.7

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Relationships and Algebraic Thinking

A. Represent and solve problems involving multiplication and division. 3.RA.A

1. Interpret products of whole numbers. 3.RA.A.1
2. Interpret quotients of whole numbers. 3.RA.A.2
3. Describe in words or drawings a problem that illustrates a multiplication or division situation. 3.RA.A.3
4. Use multiplication and division within 100 to solve problems. 3.RA.A.4
5. Determine the unknown number in a multiplication or division equation relating three whole numbers. 3.RA.A.5

B. Understand properties of multiplication and the relationship between multiplication and division. 3.RA.B

6. Apply properties of operations as strategies to multiply and divide. 3.RA.B.6

C. Multiply and divide within 100. 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. 3.RA.C.7
8. Demonstrate fluency with products within 100. 3.RA.C.8

D. Use the four operations to solve word problems. 3.RA.D

9. Write and solve two-step problems involving variables using any of the four operations. 3.RA.D.9
10. Interpret the reasonableness of answers using mental computation and estimation strategies including rounding. 3.RA.D.10

E. Identify and explain arithmetic patterns. 3.RA.E

11. Identify arithmetic patterns and explain the patterns using properties of operations. 3.RA.E.11

Geometry and Measurement

A. Reason with shapes and their attributes. 3.GM.A

1. Understand that shapes in different categories may share attributes and that the shared attributes can define a larger category. 3.GM.A.1
2. Distinguish rhombuses and rectangles as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to these subcategories. 3.GM.A.2
3. Partition shapes into parts with equal areas, and express the area of each part as a unit fraction of the whole. 3.GM.A.3

B. Solve problems involving the measurement of time, liquid volumes and weights of objects. 3.GM.B

4. Tell and write time to the nearest minute. 3.GM.B.4
5. Estimate time intervals in minutes. 3.GM.B.5
6. Solve problems involving addition and subtraction of minutes. 3.GM.B.6

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7. Measure or estimate length, liquid volume and weight of objects. 3.GM.B.7
8. Use the four operations to solve problems involving lengths, liquid volumes or weights given in the same units. 3.GM.B.8

C. Understand concepts of area. 3.GM.C

9. Calculate area by using unit squares to cover a plane figure with no gaps or overlaps. 3.GM.C.9
10. Label area measurements with squared units. 3.GM.C.10
11. Demonstrate that tiling a rectangle to find the area and multiplying the side lengths result in the same value. 3.GM.C.11
12. Multiply whole-number side lengths to solve problems involving the area of rectangles. 3.GM.C.12
13. Find rectangular arrangements that can be formed for a given area. 3.GM.C.13
14. Decompose a rectangle into smaller rectangles to find the area of the original rectangle. 3.GM.C.14

D. Understand concepts of perimeter. 3.GM.D

15. Solve problems involving perimeters of polygons. 3.GM.D.15
16. Understand that rectangles can have equal perimeters but different areas, or rectangles can have equal areas but different perimeters. 3.GM.D.16

Data and Statistics

A. Represent and analyze data. 3.DS.A

1. Create frequency tables, scaled picture graphs and bar graphs to represent a data set with several categories. 3.DS.A.1
2. Solve one-and two-step problems using information presented in bar and/or picture graphs. 3.DS.A.2
3. Create a line plot to represent data. 3.DS.A.3
4. Use data shown in a line plot to answer questions. 3.DS.A.4