Colorado Extended Evidence Outcomes: Mathematics

Grade 3

Number & Operations in Base Ten: Use place value understanding and properties of operations to perform multi-digit arithmetic. A range of algorithms may be used. 3.NBT.A

1. **Use place value understanding to round whole numbers 1-50 to the nearest 10.** 3.NBT.A.1
2. **Add and subtract within 50 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** 3.NBT.A.2
3. **Multiply one-digit whole numbers by 10 to produce products in the range 10-100 (e.g., 4 x 10, 10 x 10) using strategies based on place value and properties of operations.** 3.NBT.A.3

Number & Operations—Fractions: Develop understanding of fractions as numbers. 3.NF.A

1. **Describe a fraction 1 as the quantity formed by 1 part when a whole is *bb* partitioned into b parts.** 3.NF.A.1
   a. Limit b to be 2, 3, or 4 parts. 3.NF.A.1.A
2. **Describe a fraction as a number on the number line.** 3.NF.A.2
   a. Represent 1 , 1 , 2 , 1 , and 3 on the number line. 3.NF.A.2.A
3. **Explain equivalence of 1 . and 2 . using a number line as well as part/whole 2 4 models.** 3.NF.A.3

Operations & Algebraic Thinking: Represent and solve problems involving multiplication and division. 3.OA.A

1. **Interpret products of whole numbers, e.g., interpret 2 x 4 as the total number of objects in 2 groups of 4 objects each. Limit the whole numbers to numbers less than or equal to 5.** 3.OA.A.1
2. **Interpret whole-number quotients of whole numbers, (e.g., interpret 10 divided by 2 as the number of objects in each share when 10 objects are partitioned equally into 2 groups, or as a number of shares when 10 objects are partitioned into equal shares of 2 objects each).** 3.OA.A.2
   a. Limit dividends to numbers less than or equal to 12 and divisors less than or equal to 6. 3.OA.A.2.A
3. **Use multiplication and division within 12 to solve problems in situations involving equal groups, arrays, and measurement quantities (e.g., by using objects, drawings, and other written ways to represent the problem).** 3.OA.A.3
   a. Use repeated addition as a multiplication strategy and repeated subtraction as a division strategy. 3.OA.A.3.A

	4 **Determine the unknown whole number in a multiplication or division equation given a rectangular array with either an unknown number of rows or columns or an unknown total.** 3.OA.A.4 a Limit the product to 12 or fewer. 3.OA.A.4.A
Operations & Algebraic Thinking: Apply properties of multiplication and the relationship between multiplication and division. 3.OA.B	**5** **Apply properties of operations as strategies to multiply and divide (students need not use formal terms for these properties).** 3.OA.B.5 a Examples: If 3 x 2 = 6 is known, then 2 x 3 = 6 is also known (commutative property of multiplication). 2 x 3 x 1 can be found by 2 x 3 = 6, then 6 x 1 = 6, or by 3 x 1 = 3, then 2 x 3 =6 (associative property of multiplication). 3.OA.B.5.A
	6 **Interpret division as an unknown factor problem.** 3.OA.B.6 a For example, find 12 divided by 3 by finding the number that makes 12 when multiplied by 3. 3.OA.B.6.A
Operations & Algebraic Thinking: Multiply and divide within 100. 3.OA.C	**7** **Multiply and divide within 12, using strategies such as the relationship between multiplication and division (e.g., knowing that 2 x 6 = 12, one knows 12 divided by 2 is 6) or properties of operations).** 3.OA.C.7
Operations & Algebraic Thinking: Solve problems involving the four operations, and identify and explain patterns in arithmetic. 3.OA.D	**8** **Use addition and subtraction within 50 to solve one- and two-step word problems.** 3.OA.D.8 a Use multiplication and subtraction within 12 to solve one-step word problems (this EEO includes problems involving whole number calculations). 3.OA.D.8.A
	9 **Identify arithmetic patterns (including patterns in the addition table or multiplication table) equivalent to counting by 2s, 3s, 4s, 5s, and 10s (EE:3.A.D.9).** 3.OA.D.9
Measurement & Data: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. 3.MD.A	**1** **Tell time to the nearest half hour on analog and digital clocks.** 3.MD.A.1
	2 **Identify appropriate tools for measuring liquid volumes, like measuring cups and spoons, and for measuring masses, such as scales and balances.** 3.MD.A.2
Measurement & Data: Represent and interpret data. 3.MD.B	**3** **Use a scaled picture graph and a scaled bar graph to answer "how many" or "how many more/less" questions.** 3.MD.B.3
	4 **Generate measurement data by measuring lengths using rulers, yardsticks, meter sticks, and measuring tapes marked with units and half-units.** 3.MD.B.4 a Match the measurement data to a given line plot, where the horizontal scale is marked off in whole-number and half-number units. 3.MD.B.4.A

Measurement & Data: Geometric measurement: Use concepts of area and relate area to multiplication and to addition. 3.MD.C

5 **Recognize area as an attribute of plane figures and associate unit square grids with measuring area.** 3.MD.C.5

6 **Measure areas by counting unit squares (square cm, square in) marked on a figure to measure.** 3.MD.C.6

7 **Use concepts of area and relate area to the operations of multiplication and addition.** 3.MD.C.7

- a the area of a rectangle by tiling it, and show that the area is the same as would be found by multiplying the side lengths. 3.MD.C.7.A
- b The area of the rectangle should not exceed 12 square units. 3.MD.C.7.B

Measurement & Data: Geometric measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. 3.MD.D

8 **Solve real-world and mathematical problems involving perimeters of squares, rectangles, and triangles, including finding the perimeter given the side lengths.** 3.MD.D.8

Geometry: Reason with shapes and their attributes. 3.G.A

1 **Identify examples of shapes that share some attributes (e.g., squares and rectangles have four sides) but do not share other attributes (e.g., squares have four equal sides but rectangles don't necessarily have four equal sides).** 3.G.A.1

2 **Recognize that shapes can be partitioned into equal areas.** 3.G.A.2