Indiana Mathematics

Grade 3

Adopted 2023

Mathematics Process Standards

1. **Make sense of problems and persevere in solving them.** 3.PS.1
2. **Reason abstractly and quantitatively.** 3.PS.2
3. **Construct viable arguments and critique the reasoning of others.** 3.PS.3
4. **Model with mathematics.** 3.PS.4
5. **Use appropriate tools strategically.** 3.PS.5
6. **Attend to precision.** 3.PS.6
7. **Look for and make use of structure.** 3.PS.7
8. **Look for and express regularity in repeated reasoning.** 3.PS.8

Number Sense

NS. Students represent and round whole numbers up to 10,000. Students model, compare, and generate simple equivalent unit and non-unit fractions. 3.NS

1. Read and write whole numbers up to 10,000. Use words, models, standard form, and expanded form to represent and show equivalent forms of whole numbers up to 10,000. 3.NS.1
2. Model unit fractions as the quantity formed by 1 part when a whole is partitioned into equal parts; model non-unit fractions as the quantity formed by iterations of unit fractions. 3.NS.2
3. Model a non-unit fraction on a number line by marking equal lengths from 0, identifying each part as a unit fraction and locating the non-unit fraction as the endpoint on the number line. 3.NS.3
4. Use fraction models to represent two simple equivalent fractions with attention to how the number and size of the parts differ even though the quantities are the same. Use this principle to generate simple equivalent fractions (e.g., ½ = 2/4, 4/6 = 2/3). 3.NS.4
5. Compare two fractions with the same numerator or the same denominator by reasoning about their size based on the same whole. Record the results of comparisons with the symbols > , = , or < , and justify the conclusions (e.g., by using a visual fraction model). 3.NS.5
6. Use place value understanding to round two- and three-digit whole numbers to the nearest 10 or 100. 3.NS.6

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Computation and Algebraic Thinking

CA. Students use modeling and conceptual strategies to multiply and divide numbers within 100 in real-world situations. Students apply concepts and strategies of addition and subtraction to solve real-world problems and investigate number patterns through the application of concepts of multiplication and more complex concepts of addition within 100. 3.CA

1. Fluently add and subtract multi-digit whole numbers using strategies and algorithms based on place value, properties of operations, and relationships between addition and subtraction. 3.CA.1
2. Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem). 3.CA.2
3. Model the concept of multiplication of whole numbers using equal-sized groups, arrays, area models, and equal intervals on a number line. Model the properties of 0 and 1 in multiplication using objects or drawings. 3.CA.3
4. Model the concept of division of whole numbers with the following models: partitioning, sharing, and an inverse of multiplication. Model the properties of 0 and 1 in division using objects or drawings. 3.CA.4
5. Multiply and divide within 100 using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. 3.CA.5
6. Demonstrate fluency with mastery of multiplication facts and corresponding division facts of 0 to 10. 3.CA.6
7. Solve real-world problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem). 3.CA.7
8. Create, extend, and give an appropriate rule for number patterns within 100 (including patterns in the addition table or multiplication table). 3.CA.8

Geometry

G. Students continue to investigate and classify more complex two-dimensional shapes based on their attributes. 3.G

1. Define, identify, and classify four-sided shapes such as rhombuses, rectangles, and squares as quadrilaterals. Identify and draw examples and non-examples of quadrilaterals. 3.G.1
2. Identify, describe, and draw points, lines, and line segments using appropriate tools (e.g., ruler, straightedge, and technology), and use these terms when describing two-dimensional shapes. 3.G.2
3. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole (i.e., ½, 1/3, 1/4, 1/6, 1/8). 3.G.3

Me

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Students use appropriate tools, computation strategies, and relationships of measurement to solve real-world problems including more specific

measurements of length, weight, temperature, mass, time, and money. Students investigate and model the area of rectangles and perimeter of all polygons. 3.M

1. Estimate and measure the mass of objects in grams (g) and kilograms (kg) and the volume of objects in quarts (qt), gallons (gal), and liters (l). Add, subtract, multiply, or divide to solve one-step, real-world problems involving masses or volumes that are given in the same units or obtained through investigation. 3.M.1
2. Choose and use appropriate units and tools to estimate and measure length, weight, and temperature. Estimate and measure length to a quarter-inch, weight in pounds, and temperature in degrees Celsius and Fahrenheit. 3.M.2
3. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes (e.g., by representing the problem on a number line diagram). 3.M.3
4. Find the value of any collection of coins and bills. Write amounts less than a dollar using the ¢ symbol and write larger amounts using the $ symbol in the form of dollars and cents (e.g., $4.59). Solve real-world problems to determine whether there is enough money to make a purchase. 3.M.4
5. Find the area of a rectangle with whole-number side lengths by modeling with unit squares, and show that the area is the same as would be found by multiplying the side lengths. Identify and draw rectangles with the same perimeter and different areas or with the same area and different perimeters. 3.M.5
6. Find perimeters of polygons given the side lengths or given an unknown side length. 3.M.6

Data Analysis

DA. Students collect and present data in multiple manners and solve multi-step problems with the data. 3.DA

1. Collect, organize, and graph data from observations, surveys, and experiments using scaled bar graphs and pictographs. Solve real-world problems by analyzing and interpreting the data using grade-level computation and comparison strategies. 3.DA.1