Iowa Mathematics

Grade 2

Operations and Algebraic Thinking 2.OA

1 Represent and solve problems involving addition and subtraction. 2.OA.A

1 Use addition and subtraction within 100 to solve one- and twostep word problems involving the problem types listed below, with unknowns in all positions, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 2.OA.A.1

a Adding to. 2.OA.A.1.A

b Taking from. 2.OA.A.1.B

c Putting together. 2.OA.A.1.C

d Taking apart. 2.OA.A.1.D

e Comparing. 2.OA.A.1.E

2 Add and Subtract within 20. 2.OA.B

1 Fluently add and subtract within 20 using efficient mental strategies listed below. 2.OA.B.2

a Counting on. 2.OA.B.2.A

b Counting back. 2.OA.B.2.B

c Making ten. 2.OA.B.2.C

d Decomposing a number leading to a ten. 2.OA.B.2.D

e Using the relationship between addition and subtraction. 2.OA.B.2.E

f Creating equivalent, but easier or known sums. 2.OA.B.2.F

g Adding up to subtract. 2.OA.B.2.G

By the end of Grade 2, flexibly, efficiently and accurately find all sums of two one-digit numbers. Note: Fluency of this standard is critical by the end of grade.

3 Work with equal groups of objects to gain foundations for multiplication. 2.OA.C

1 Determine whether a group of objects (up to 20) has an odd or even number of members; write an equation to express an even number as a sum of two equal addends. For example, by pairing objects or counting them by 2s. 2.OA.C.3

2 Use repeated addition to find the total number of objects arranged in equal groups and rectangular arrays; write an equation to express the total as a sum of equal addends. 2.OA.C.4

Number and Operations in Base Ten 2.NBT

1. **Understand place value.** 2.NBT.A
   1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand the following as special cases. 2.NBT.A.1
      a. 100 can be thought of as a bundle of ten tens — called a "hundred." 2.NBT.A.1.A
      b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and zero tens and zero ones). For example: 706 equals 7 hundreds, 0 tens, and 6 ones. 2.NBT.A.1.B
   2. Count forward and backward within 1,000; skip-count forward and backward by 5s, 10s, and 100s. 2.NBT.A.2
   3. Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form. 2.NBT.A.3
   4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using terms “greater than”, “less than”, and “equal to”, connecting to the use of >, =, and < symbols. 2.NBT.A.4

2. **Use place value understanding and properties of operations to add and subtract.** 2.NBT.B
   1. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Note: Fluency of this standard is critical by the end of grade level. 2.NBT.B.5
   2. Add up to four two-digit numbers using strategies based on place value and properties of operations. 2.NBT.B.6
   3. Add and subtract within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. 2.NBT.B.7
   4. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. 2.NBT.B.8
   5. Explain why addition and subtraction strategies work, using place value and the properties of operations. Explanations may be supported by drawings or objects. 2.NBT.B.9

Measurement and Data 2.MD

1. **Measure and estimate lengths in standard units.** 2.MD.A
   1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. 2.MD.A.1
   2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. 2.MD.A.2
   3. Estimate lengths using units of inches, feet, centimeters, and meters. 2.MD.A.3
   4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard-length unit. 2.MD.A.4

2. **Relate addition and subtraction to length.** 2.MD.B
   1. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units. For example, by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. 2.MD.B.5
   2. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. 2.MD.B.6

3. **Work with time and money.** 2.MD.C
   1. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. 2.MD.C.7
   2. Describe the relationship among standard units of time: minutes, hours, days, weeks, months and years (such as 7 days in a week, 60 minutes in an hour, etc.). 2.MD.IA.C.1
   3. Identify nickels, quarters and dollars and know their values. 2.MD.IA.C.2
   4. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. For example, if you have 3 quarters, 2 dimes and 4 pennies, how many cents do you have? For this standard, it may be appropriate to record amounts using decimals but does not include adding and subtracting with decimals. 2.MD.C.8

4. **Represent and interpret data.** 2.MD.D
   1. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. 2.MD.D.9
   2. Use interviews, surveys, and observations to collect data that answer questions about students' interests and/or their environment. 2.MD.IA.D.1
   3. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple problems: put-together, take-apart, and compare, using information presented in a bar graph. 2.MD.D.10

Geometry 2.G

1 **Reason with shapes and their attributes.** 2.G.A

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify twodimensional shapes: triangles, quadrilaterals, rectangles, squares, trapezoids, pentagons, hexagons, circles, half-circles and quarter-circles, and three-dimensional figures: cubes, right rectangular prisms, right circular cones, and right circular cylinders. (Sizes are compared directly or visually, not compared by measuring.) 2.G.A.1
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares. 2.G.A.2
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. 2.G.A.3