Iowa Mathematics

Grade 1

Operations and Algebraic Thinking 1.OA

1 Represent and solve problems involving addition and subtraction. Standard Rigor S 1.OA.A

1 Use addition and subtraction within 20 to solve 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. 1.OA.A.1

- a Adding to. 1.OA.A.1.A
- b Taking from. 1.OA.A.1.B
- c Putting together. 1.OA.A.1.C
- d Taking apart. 1.OA.A.1.D
- e Comparing. 1.OA.A.1.E

2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. For example, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2

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2 Understand and apply properties of operations and the relationship between addition and subtraction. 1.OA.B

1 Apply properties of operations, (commutative and associative), as strategies to add and subtract. For example, Commutative property of addition, if 8 + 3 = 11 is known then, 3 + 8 = 11 is also known. Associative property of addition, to add, 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. 1.OA.B.3

2 Understand subtraction as an unknown-addend problem. For example, subtract 10 − 8 by finding the number that makes 10 when added to 8. 1.OA.B.4

3 Add and subtract within 20. 1.OA.C

1 Use counting and subitizing strategies to explain addition and subtraction. 1.OA.IA.C.1

a Relate counting to addition and subtraction (for example, by counting on 2 to add 2). 1.OA.IA.C.1.A

b Use conceptual subitizing in unstructured arrangements with totals up to 10 and structured arrangements anchored to 5 or 10 (for example, 10 frames, double ten frames, math rack) with totals up to 20 to relate the compositions and decompositions to addition and subtraction. 1.OA.IA.C.1.B

2 Relate counting forward and backward to addition and subtraction, add or subtract 1 or 2. 1.OA.C.5

3 Add and subtract within 20, using strategies such as: 1.OA.C.6

a Counting on. 1.OA.C.6.A

b Making ten (for example, 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14). 1.OA.C.6.B

c Decomposing a number leading to a ten (for example, 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9). 1.OA.C.6.C

d Using the relationship between addition and subtraction (for example, knowing that 8 + 4 = 12, one knows 12 − 8 = 4). 1.OA.C.6.D

e Creating equivalent but easier or known sums (for example, adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). 1.OA.C.6.E

f Counting up to subtract. 1.OA.C.6.F

4 Fluently add and subtract within 10 using efficient mental strategies. 1.OA.IA.C.2

a Counting on. 1.OA.IA.C.2.A

b Making ten. 1.OA.IA.C.2.B

c Decomposing a number leading to a ten. 1.OA.IA.C.2.C

d Using the relationship between addition and subtraction. 1.OA.IA.C.2.D

e Creating equivalent, but easier or known sums. 1.OA.IA.C.2.E

f Counting up to subtract. 1.OA.IA.C.2.F

By the end of Grade 1, flexibly, efficiently, and accurately find all sums within 10. Note: Fluency of this standard is critical by the end of grade level.

4 **Work with addition and subtraction equations.** 1.OA.D

1 Understand the meaning of the equal sign and determine if equations involving addition and subtraction are true or false. For example, which of the following equations is true and which is false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 3 = 5 + 2. 1.OA.D.7

2 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + □ = 11, 5 = □ − 3, 6 + 6 = □. 1.OA.D.8

Number and Operations in Base Ten 1.NBT

1 **Extend the counting sequence.** 1.NBT.A

1 Count forward and backward starting with any given number within the range of 0–120, In this range, read and write numerals and represent a number of objects with a written numeral. 1.NBT.A.1

2 **Understand place value.** 1.NBT.B

1 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases. 1.NBT.B.2

a 10 can be thought of as a bundle of ten ones — called a "ten." 1.NBT.B.2.A

b The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. 1.NBT.B.2.B

c The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). 1.NBT.B.2.C

2 Compare two two-digit numbers based on meanings of the tens and ones digits, using phrases as greater than, less than or equal to, connecting to the use of >, =, and < symbols. 1.NBT.B.3

3 **Use place value understanding and properties of operations to add and subtract.** 1.NBT.C

1 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.4

2 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.NBT.C.5

3 Subtract multiples of 10 in the range 10 to 90 from multiples of 10 in the range 10 to 90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the reasoning used. 1.NBT.C.6

Measurement and Data 1.MD

1 Measure lengths indirectly and by iterating length units. 1.MD.A

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. 1.MD.A.1
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. 1.MD.A.2

2 Work with time and money. 1.MD.B

1. Tell and write time in hours and half-hours using analog and digital clocks. 1.MD.B.3
2. Identify pennies and dimes and their values. Count a mixed collection of dimes and pennies to determine the cent value (total not to exceed 100 cents). 1.MD.IA.B.1

3 Represent and interpret data. 1.MD.C

1. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. 1.MD.C.4

Geometry 1.G

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

1. Distinguish between defining attributes (for example, triangles are closed and three-sided) versus non-defining attributes (for example, color, orientation, overall size); build and draw shapes to possess defining attributes. 1.G.A.1
2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or threedimensional shapes (cubes, rectangular prisms, cones and cylinders) to create a composite shape, and compose new shapes from the composite shape. Students do not need to learn formal names for these shapes. 1.G.A.2
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. 1.G.A.3