Kentucky Mathematics

# Grade 1

Adopted 2019

## Standards for Mathematical Practice

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

## Operations and Algebraic Thinking

**Represent and solve problems using addition and subtraction.**

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions. KY.1.OA.1
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings and equations with a symbol for one unknown number to represent the problem. KY.1.OA.2

**Understand and apply properties of operations and the relationship between addition and subtraction.**

3. Apply properties of operations as strategies to add and subtract. KY.1.OA.3
4. Understand subtraction as an unknown-addend problem. KY.1.OA.4

**Add and subtract within 20.**

5. Relate counting to addition and subtraction. KY.1.OA.5

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6. Add and subtract within 20. KY.1.OA.6

    a. Fluently add and subtract within 10. KY.1.OA.6.A

    b. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making 10; decomposing a number leading to a 10; using the relationship between addition and subtraction; creating equivalent but easier or known sums. KY.1.OA.6.B

**Work with addition and subtraction equations.**

7. Understand the meaning of the equal sign and determine if equations involving addition and subtraction are true or false. KY.1.OA.7

8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. KY.1.OA.8

## Numbers and Operations in Base Ten

**Extend the counting sequence.**

1. Count and represent numbers. KY.1.NBT.1

    a. Count forward to and backward from 120, starting at any number less than 120. KY.1.NBT.1.A

    b. In this range, read and write numerals and represent a number of objects with a written numeral. KY.1.NBT.1.B

**Understand place value.**

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

    a. 10 can be thought of as a bundle of ten ones — called a "ten." KY.1.NBT.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. KY.1.NBT.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). KY.1.NBT.2.C

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. KY.1.NBT.3

**Use place value understanding and properties of operations to add and subtract.**

4. Add within 100 including adding a two-digit number and a one-digit number. Add a two-digit number and a multiple of 10. KY.1.NBT.4

    a. Add within 100 using<ul><li>concrete models or drawings;</li><li>strategies based on place value;</li><li>properties of operations;</li><li>the relationship between addition and subtraction.</li></ul> KY.1.NBT.4.A

    b. Relate the addition strategy to a written method 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. KY.1.NBT.4.B

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

6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences). KY.1.NBT.6
    a. Subtract using:<ul><li>concrete models or drawings;</li><li>strategies based on place value;</li><li>properties of operations;</li><li>the relationship between addition and subtraction</li></ul> KY.1.NBT.6.A
    b. Relate the subtraction strategy to a written method and explain the reasoning used. KY.1.NBT.6.B

**Measurement and Data**

**Measure lengths indirectly and by iterating length units.**

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. KY.1.MD.1
2. Express the length of an object as a whole number of same-size length units, by laying multiple copies of a shorter object (the length unit) end to end with no gaps or overlaps. KY.1.MD.2

**Work with time and money.**

3. Assign values to time and money. KY.1.MD.3
    a. Tell and write time in hours and half-hours using analog and digital clocks. KY.1.MD.3.A
    b. Identify the coins by values (penny, nickel, dime, quarter). KY.1.MD.3.B

**Understand and apply the statistics process.**

4. Investigate questions involving categorical data. KY.1.MD.4
    a. Pose a question that can be answered by gathering data. KY.1.MD.4.A
    b. Determine strategy for gathering data from peers. KY.1.MD.4.B
    c. Organize and represent data in a table/chart with up to three categories. KY.1.MD.4.C
    d. Interpret data to answer questions about the table/chart that connects to the question posed, including total number of data points, how many in each category and how many more or less are in one category than in another. KY.1.MD.4.D

**Geometry**

**Reason with shapes and their attributes.**

1. Distinguish between defining attributes versus non-defining attributes; build and draw shapes to possess defining attributes. KY.1.G.1
2. Compose shapes. KY.1.G.2
    a. Compose two-dimensional shapes to create rectangles, squares, trapezoids, triangles, half-circles and quarter-circles composite shape and compose new shapes from the composite shapes. KY.1.G.2.A
    b. Use three-dimensional shapes (cubes, right rectangular prisms, right circular cones and right circular cylinders) to create a composite shape and compose new shapes from the composite shapes. KY.1.G.2.B

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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. KY.1.G.3