



Anthony Wayne Local Schools
Course of Study
First Grade Math

Anthony Wayne Local Schools Mathematics Belief Statements

All Generals will experience an innovative and engaging curriculum with instruction that is personalized, promotes creativity and application, and provides real-world experiences that facilitate deeper learning.

AWLS believes Mathematics instruction should:

- identify skill gaps for individual students and work to close them
- include engaging learning activities where all learners can grow through productive struggle.
- develop strong number sense with the ability to manipulate numbers and perform mental math with an emphasis on subitizing
- provide scenarios where real world problems help to provide a path towards being future ready students.
- develop strong mathematical modeling and reasoning skills that continually build on prior knowledge.
- encourage students to be risk takers, demonstrate resilience and grit, while solving complex mathematical problems.
- encourage flexibility, creativity, and communication while working collaboratively with peers.
- include consistent and cohesive academic vocabulary through all grade-levels that is utilized by both teachers and students

First Grade Mathematics Course Description

Students in 1st grade will work toward mastery of the Ohio Learning Standards. Students will learn content in several domains of mathematics including: Number sense, number order, adding and subtracting (within 20), place value, geometry, time (½ hour to hour), graphing, money (identify dimes and pennies), problem solving, fractions (whole and half), and measurement (standard and non to the inch). This will be done through a combination of manipulatives and instruction.

MATHEMATICS	
Operations and Algebraic Thinking	
Represent and solve problems involving addition and subtraction.	
1.OA.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, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. See Table 1, page 16

MATHEMATICS	
1.OA.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)
Understand and apply properties of operations and the relationship between addition and subtraction.	
1.OA.3	Apply properties of operations as strategies to add and subtract. <i>For example, if $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known (Commutative Property of Addition); to add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$ (Associative Property of Addition).</i> Students need not use formal terms for these properties.
1.OA.4	Understand subtraction as an unknown-addend problem. <i>For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.</i>
Add and subtract within 20	
1.OA.5	Relate counting to addition and subtraction, e.g., by counting on 2 to add 2.
1.OA.6	Add and subtract within 20, demonstrating fluency ⁶ with various strategies for addition and subtraction within 10. Strategies may include counting on; making ten, e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$; decomposing a number leading to a ten, e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$; using the relationship between addition and subtraction, e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$; and creating equivalent but easier or known sums, e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$.
Work with addition and subtraction equations.	
1.OA.7	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. <i>For example, which of the following equations are true and which are false? $6 = 6$; $7 = 8 - 1$; $5 + 2 = 2 + 5$; $4 + 1 = 5 + 2$.</i>
1.OA.8	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations: $8 + \square = 11$; $5 = \square - 3$; $6 + 6 = \square$.</i>
Numbers and Operations in Base Ten	
Extend the counting sequence.	

MATHEMATICS	
1.NBT.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
Understand place value.	
1.NBT.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 10 can be thought of as a bundle of ten ones — called a “ten;” the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones; and 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.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.
Use place value understanding and properties of operations to add and subtract.	
1.NBT.4	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; record the strategy with a written numerical method (drawings and, when appropriate, equations) and explain the reasoning used. Understand that when adding two-digit numbers, tens are added to tens; ones are added to ones; and sometimes it is necessary to compose a ten.
1.NBT.5	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.6	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (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; relate the strategy to a written method and explain the reasoning used.
Measurement and Data	
Measure lengths indirectly and by iterating length units.	
1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
1.MD.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. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i>

MATHEMATICS	
Work with time and money.	
1.MD.3	Work with time and money. a. Tell and write time in hours and half-hours using analog and digital clocks. b. Identify pennies and dimes by name and value.
Represent and interpret data.	
1.MD.4	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.
Geometry	
Reason with shapes and their attributes.	
1.G.1	Distinguish between defining attributes, e.g., triangles are closed and three-sided, versus non-defining attributes, e.g., color, orientation, overall size; build and draw shapes that possess defining attributes.
1.G.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or 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 shape. Students do not need to learn formal names such as "right rectangular prism."
1.G.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i> , <i>fourths</i> , and <i>quarters</i> , and use the phrases <i>half of</i> , <i>fourth of</i> , and <i>quarter of</i> . Describe the whole as two of or four of the shares in real-world contexts. Understand for these examples that decomposing into more equal shares creates smaller shares.