Math

Grade 1

Aligned with Ohio's Learning Standards for Math (2018)

Department of Academic Services
Office of Teaching and Learning
Curriculum Division

COLUMBUS CITY SCHOOLS

Curriculum Map

Year-at-a-Glance

The Year-at-a-Glance provides the Math Framework and a high-level overview of the course by grading period.

- Link to the Math Framework
- Quarterly Standards Overview by Domain and Cluster

Scope and Sequence

The Scope and Sequence provides a detailed overview of each grading period, including:

- Standards
- Link to Critical Areas of Focus

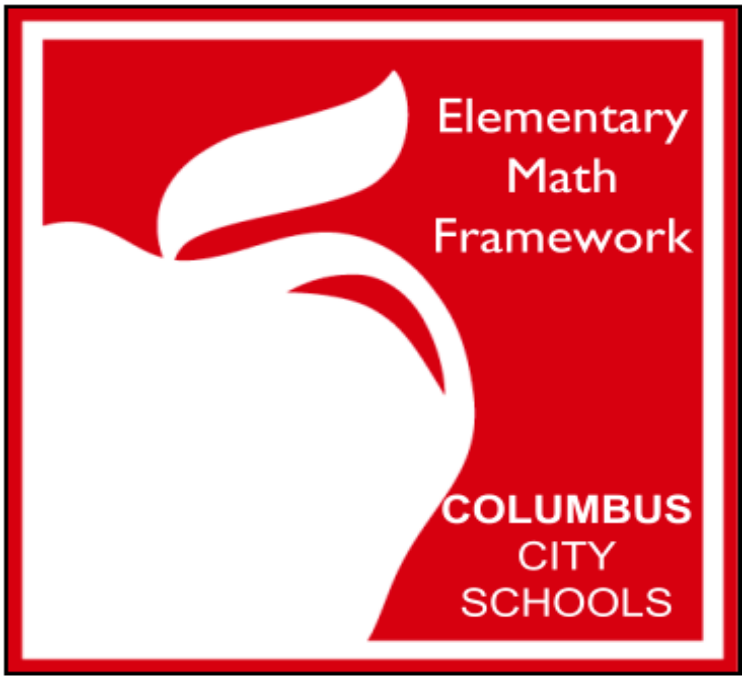
Curriculum and Instruction Guide

The Curriculum and Instruction Guide provides direction for standards-based instruction, including:

- Link to the Clear Learning Targets
- Essential Understandings
- Strategies and Approaches
- Assessment Opportunities
- Link to the Model Curriculum
- Timeline
- Mathematical Practices

The Math framework consists of components that support the shifts in mathematics education by the Common Core Standards that are identified in Ohio's Learning Standards for Mathematics. These shifts narrow the focus of topics taught in each grade level to provide for deeper understanding of topics presented, provide the ability to see the coherence of the topics across the grade levels and support more rigorous instruction. The best practices in the framework support these shifts and are applied during all phases of conceptual development. The practices provide students with opportunities to make connections, communicate, and demonstrate mathematical understanding.

Link to CCS Math Framework



Year-at-a-Glance

Grading Period 1	9 Weeks Operations and Algebraic Thinking			
	Add and subtract within 20. **1.OA.5** ***1.OA.6**	**Understand and apply properties of operations and the relationship between addition and subtraction. Work with addition and subtraction equations.** ***1.OA.3** ***1.OA.8**	**Understand and apply properties of operations and the relationship between addition and subtraction.** ***1.OA.4**	**Represent and solve problems involving addition and subtraction.** ***1.OA.1**

Grading Period 2	9 Weeks Operations and Algebraic Thinking Number and Operations in Base Ten				
	Represent and solve problems involving addition and subtraction. ***1.OA.1** **1.OA.2**	**Add and subtract within 20.** ***1.OA.6**	**Work with addition and subtraction equations.** ***1.OA.7**	**Understand place value.** ***1.NBT.2**	**Understand and apply properties of operations and the relationship between addition and subtraction.** ***1.OA.3**

Grading Period 3	9 Weeks Operations and Algebraic Thinking Number and Operations in Base Ten Measurement and Data				
	Represent and solve problems involving additions and subtraction. **Work with addition and subtraction equations.** ***1.OA.1** ***1.OA.8**	**Represent and interpret data.** **1.MD.4**	**Extend the counting sequence.** **Understand place value.** **1.NBT.1** ***1.NBT.2** ***1.NBT.3**	**Work with time and money.** **1.MD.3a** **1.MD.3b**	**Use place value understanding and properties of operations to add and subtract.** ***1.NBT.4** ***1.NBT.6**

Grading Period 4	9 Weeks Number and Operations in Base Ten Measurement and Data Geometry		
	Use place value understanding and properties of operations to add and subtract. ***1.NBT.4** ***1.NBT.5**	**Measure lengths indirectly and by iterating length units.** ***1.MD.1** ***1.MD.2**	**Reason with shapes and their attributes.** **1.G.1** **1.G.2** **1.G.3**

Scope and Sequence and Instructional Supports

Standards: The standards are listed for the grading period and linked to the Clear Learning Targets for that strand under the instructional supports.
Priority Standards: Standards that require emphasis and name the content that should be mastered to ensure a foundation for the following year.
Critical Area of Focus: The critical areas are designed to bring focus to the standards at each grade by describing the big ideas that educators can use to build their curriculum and to guide instruction.
Essential Understandings: Synthesizes what the students should understand - not just know and do - empowering them to connect concepts and knowledge across contents and grades.
Strategies and Approaches: Strategies and approaches are based on the Instructional Focus for the standards provided in the grade level Model Curriculum provided by ODE.
Assessment Opportunities: Assessment opportunities for the standard are samples to consider when checking for understanding. Some examples of formative assessments are verbal opportunities, exit tickets, checklists, written summaries, quizzes, common assessments and student journals.
Lesson Standards: The standards that will be explicitly taught during the daily lesson.
Supporting Standards: Additional standards to be taught in the daily lesson that align with and support mastery of the standards for the lesson.
Mathematical Practices: The Standards for Mathematical Practice describe the skills that mathematics educators should seek to develop in their students. The Mathematical Practices represent a picture of what it looks like for students to understand and do mathematics in the classroom and should be integrated into every mathematics lesson for all students.

* Indicates priority standards for 1st grade.

indicates a clickable link.

Educator Notes and One-Day Activities for Ohio Enhancement Activities can be found in our resources digital platform.

Scope and Sequence

Quarter 1		
	Standard	**Link to Ohio's Critical Area of Focus**
1.OA.5	Relate counting to addition and subtraction, e.g., by counting on[G] 2 to add 2.	#1 Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.
***1.OA.6**	Add and subtract within 20, demonstrating fluency[G] 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.	
***1.OA.3**	Apply properties of operations as strategies to add and subtract. *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).* Students need not use formal terms for these properties.	
***1.OA.8**	Determine the unknown whole number in an addition or subtraction equation relating 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.4**	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.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 Take 1	

		of the 1st grade standards.	

Instructional Supports

Click on the Clear Learning Targets to find vocabulary, learning targets, and sample questions.

Quarter 1				
Timeframe	**Clear Learning Targets**	**Essential Understandings**	**Strategies and Approaches**	**Assessment Opportunities**
35 days	**1.OA.5**	Addition occurs when counting forward. Subtraction occurs when counting back. Addition and subtraction are related (inverse operations).	Explain the relationship between counting and adding or subtracting. Scaffold previous learning; such as properties of operations, relationships between addition and subtraction. Use number lines and counters to model counting on.	Solve an equation and use grade-level appropriate mathematical language to justify the reasoning. Draw or construct a model to solve an equation and use grade-level appropriate language to explain the thinking.
	***1.OA.6**	Fluency means being efficient, accurate, and flexible with addition and subtraction strategies.	Explore the strategies of counting on, making 10, decomposing a number leading to a ten, using the relationship between addition and subtraction, or doubling. Use models to explore strategies. Compute efficiently, accurately, and flexibly	Solve an equation and use grade-level appropriate mathematical language to explain the strategy. Draw or construct a model to solve an equation and use grade-level appropriate language to explain the thinking.

				within 10. Develop a variety of strategies to add and subtract within 20. Demonstrate that problems can be solved in a variety of ways. Describe why some strategies are more efficient than others. Support students' use of grade-level appropriate mathematical language to explain and justify reasoning.	
		***1.OA.3**	The order of numbers in addition does not change the sum. The numbers in an addition problem can be rearranged or regrouped without changing the sum. For example, 6 + 7 = 10 + 3 is a use of the associative property where the numbers are regrouped rather than being rearranged.	Use visual and concrete models to explore the properties. Develop the conceptual understanding behind the use of the mathematical properties of addition (commutative and associative properties). Develop the conceptual understanding that adding and subtracting with zero gives the same number (Additive Identity Property). See Table 3 of the Standards.	Use a model to show two different ways to solve an addition problem and use grade-level appropriate language to explain the reasoning. Explain how a model can be rearranged to find the same sum and use grade-level appropriate language to explain the reasoning. Create a model or drawing that shows how a number does not change when you add 0 to another number. Explain the reasoning using grade-level appropriate mathematical language.
		***1.OA.8**	An equation can have an unknown in any position.	Use manipulatives to create a number bond.	Solve equations with the unknown (represented by an empty box or

		The relationship between three numbers, such as number bonds or fact families can be used to solve problems.	Use a number bond model to show the relationship between addition and subtraction.	picture) in all positions. Compare expressions without calculating and use grade-level appropriate language to justify the reasoning.
	***1.OA.4**	The relationship between addition and subtraction allows solving for unknowns in any position.	Use manipulatives to create a number bond. Use a number bond model to show the relationship between addition and subtraction. Explore how subtraction can be used to solve mathematical situations with unknown addends. Explore the relationship between addition and subtraction to solve for unknowns in any position. See Table 1 of the Standards.	Solve an unknown in a subtraction problem by using a model of an addition problem. Explain the reasoning using grade-level appropriate mathematical language. Demonstrate the relationship between 3 numbers to create a subtraction problem with an unknown. Explain the reasoning using grade-level appropriate mathematical language.
	***1.OA.1**	Real-world mathematical situations can be represented using objects, drawings, and equations. An unknown can be in any position in a mathematical situation.	Model a mathematical situation using objects, drawing a picture, and using an equation. Reason with mathematical situations and determine the operation necessary. Solve four types of problems: add to, take from, pull together/take apart, and compare. See Table 1 in the Standards. Evaluate and solve mathematical situations involving three subtypes: result unknown, change unknown, and start unknown. See Table 1 in the Standard.	Students explain the reasoning they used to solve addition and subtraction problems that are based on mathematical situations in Table 1 of the Standards using grade-level appropriate mathematical language. Students solve and explain their reasoning for result unknown, change unknown, and start unknown problems using grade-level appropriate mathematical language.

			Solve problems with an unknown that is represented by an empty box or a picture.	

Link to Ohio's 1st Grade Model Curriculum

Timeline

Quarter 1									
Lesson Number	Lesson 0	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5		Lesson 6	Lesson 7
Lesson Standards	Introduction of discourse routine	1.OA.5	*1.OA.6	*1.OA.3 *1.OA.8	*1.OA.4	*1.OA.3 *1.OA.6 *1.OA.8	Mid-Unit Assessment	1.OA.5	*1.OA.1
Supporting Standards		*1.OA.1 *1.OA.6	*1.OA.1 1.OA.5	*1.OA.6	*1.OA.6 *1.OA.8			*1.OA.1 *1.OA.6	*1.OA.4 1.OA.5 *1.OA.6

Scope and Sequence

Quarter 2		
	Standard	**Link to Ohio's Critical Area of Focus**
***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 Take 1 of the 1st grade standards.	#1 Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.
***1.OA.7**	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 are true and which are false? 6 = 6; 7 =8 - 1; 5 + 2 = 2 + 5; 4 + 1 = 5 + 2.*	
***1.OA.6**	Add and subtract within 20, demonstrating fluency[G] 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.	
***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).	#2 Develop understanding of whole number relationships and place value, including grouping in tens and ones.
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	#1 Developing understanding of

		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.)	addition, subtraction, and strategies for addition and subtraction within 20.
	***1.OA.3**	Apply properties of operations as strategies to add and subtract. *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).* Students need not use formal terms for these properties.	

Instructional Supports

Click on the Clear Learning Targets to find vocabulary, learning targets, and sample questions.

Quarter 2				
Timeframe	**Clear Learning Targets**	**Essential Understandings**	**Strategies and Approaches**	**Assessment Opportunities**
19 days	***1.OA.1**	Real-world mathematical situations can be represented using objects, drawings, and equations. An unknown can be in any position in a mathematical situation.	Model a mathematical situation using objects, drawing a picture, and using an equation. Reason with mathematical situations and determine the operation necessary. Solve four types of problems: add to, take from, pull together/take apart, and compare. See Table 1 in the Standards. Evaluate and solve mathematical situations involving three subtypes: result unknown, change unknown, and start unknown. See Table 1 in the Standard. Solve problems with an unknown that is	Students explain the reasoning they used to solve addition and subtraction problems that are based on mathematical situations in Table 1 of the Standards using grade-level appropriate mathematical language. Students solve and explain their reasoning for result unknown, change unknown, and start unknown problems using grade-level appropriate mathematical language.

				represented by an empty box or a picture.	
		***1.OA.7**	An equal sign represents a relationship between two mathematical expressions. To be a true equation, quantities on both sides of the equal sign must have the same value. The total can go on the right or left side of the equal sign.	Use a balance model to explore the meaning of the equal sign. Use models to represent the meaning of the equal sign in an equation. Determine if both sides of an equation are equal (true) or unequal (false). Explain why equations in formats other than a + b = c are true or false, e.g., a = a, c = a + b, a = a + 0, a + b = b + a.	Recognize and explain the meaning of the equal symbol using grade-level appropriate mathematical language. Students evaluate an equation and explain their reasoning when determining if the equation is True or False using grade-level appropriate mathematical language. Students create models to explain their reasoning when evaluating if an equation is true or false.
		***1.OA.6**	Fluency means being efficient, accurate, and flexible with addition and subtraction strategies.	Explore the strategies of counting on, making 10, decomposing a number leading to a ten, using the relationship between addition and subtraction, or doubling. Use models to explore strategies. Compute efficiently, accurately, and flexibly within 10. Develop a variety of strategies to add and subtract within 20. Demonstrate that problems can be solved in a variety of ways.	Solve the equation and use grade-level appropriate mathematical language to explain the strategy. Draw or construct a model to solve an equation and use grade-level appropriate language to explain the thinking.

				Describe why some strategies are more efficient than others. Support students' use of grade-level appropriate mathematical language to explain and justify reasoning.	
	22 days	***1.NBT.2**	A group of ten ones is now referred to as a "ten." A two-digit number is made up of tens and ones.	Use ten frames and number bonds to model numbers. Represent two-digit numbers with proportional objects, e.g., cubes, beads, ten-frames, sticks, etc. Compose and decompose two-digit numbers into tens and ones with proportional objects. Count groups of ten objects using decade numbers. Draw a picture or create a model to express the value of a number. Explain the reversal of digits, e.g., "How is 14 different than 41?"	When given a model of a two digit number, students identify the number of tens and ones in the number and use grade-level mathematical language to justify their answer. When given a number, students can create a model that represents the number of tens and ones in the number and is able to explain their reasoning using grade-level mathematical language.
		***1.OA.6**	Fluency means being efficient, accurate, and flexible with addition and subtraction strategies.	Explore the strategies of counting on, making 10, decomposing a number leading to a ten, using the relationship between addition and subtraction, or doubling. Use models to explore strategies.	Solve the equation and use grade-level appropriate mathematical language to explain the strategy. Draw or construct a model to solve an equation and use grade-level

				Compute efficiently, accurately, and flexibly within 10. Develop a variety of strategies to add and subtract within 20. Demonstrate that problems can be solved in a variety of ways. Describe why some strategies are more efficient than others. Support students' use of grade-level appropriate mathematical language to explain and justify reasoning.	appropriate language to explain the thinking.
		1.OA.2	Real-world mathematical situations can be represented using objects, drawings, and equations. Mathematical situations can include multiple addends.	Model a mathematical situation using objects, drawing a picture, and using an equation. Model using strategies of making ten and doubles to regroup numbers to solve problems. Model using associative as a strategy to solve problems.	Solve mathematical situations involving three addends with a sum to 20 and use grade-level appropriate language to explain the reasonableness of the answer. Students model how they combine numbers to solve a problem and use grade-level mathematical language to explain the strategy they used.
		***1.OA.3**	The order of numbers in addition does not change the sum. The numbers in an addition problem can be rearranged or regrouped without changing the sum. For example, 6 + 7 = 10 + 3 is a use of the associative property where the numbers are regrouped rather than	Use visual and concrete models to explore the properties. Develop the conceptual understanding behind the use of the mathematical properties of addition (commutative and associative properties).	Use a model to show two different ways to solve an addition problem and use grade-level appropriate language to explain the reasoning. Explain how a model can be rearranged to find the same sum and use grade-level appropriate language

		being rearranged.	Develop the conceptual understanding that adding and subtracting with zero gives the same number (Additive Identity Property). See Table 3 of the Standards.	to explain the reasoning. Create a model or drawing that shows how a number does not change when you add 0 to another number. Explain the reasoning using grade-level appropriate mathematical language.
	Link to Ohio's 1st Grade Model Curriculum			

Timeline

Quarter 2										
Lesson Number	Lesson 8	Lesson 9	Lesson 10	Unit Assessment	Lesson 11	Lesson 12	Lesson 13	Lesson 14	Mid-Unit Assessment	Lesson 15
Lesson Standards	*1.OA.1	*1.OA.7	*1.OA.6		*1.NBT.2	*1.OA.6	*1.OA.6	1.OA.2 *1.OA.3		*1.OA.6
Supporting Standards	*1.OA.6 *1.OA.8	*1.OA.6 *1.OA.8	*1.OA.4 *1.OA.8			*1.OA.1 *1.OA.3 *1.OA.7	*1.OA.7 *1.NBT.2	*1.OA.6		*1.OA.3 *1.NBT.2

Scope and Sequence

Quarter 3		
	Standard	**Link to Ohio's Critical Area of Focus**
***1.OA.8**	Determine the unknown whole number in an addition or subtraction equation relating 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 Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.
***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 of the 1st grade standards.	
1.MD.4	Organize, represent, and interpret data with up to three categories; as 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.	#3 Developing understanding of linear measurement and measuring lengths as iterating length units.
***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).	#2 Developing understanding of whole number relationships and place value, including grouping in tens and ones.
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.	

	***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 <.	
	1.MD.3a	Work with time. a. Tell and write time in hours and half-hours using analog and digital clocks.	#3 Developing understanding of linear measurement and measuring lengths as iterating length units.
	1.MD.3b	Work with money. b. Identify pennies and dimes by name and value.	#2 Developing understanding of whole number relationships and place value, including grouping in tens and ones.
	***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 Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.
	***1.NBT.6**	Subtract multiples of 10 in the range 10-90 form 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.	

Instructional Supports

Click on the Clear Learning Targets to find vocabulary, learning targets, and sample questions.

Quarter 3				
Timeframe	**Clear Learning Targets**	**Essential Understandings**	**Strategies and Approaches**	**Assessment Opportunities**
14 days	***1.OA.8**	An equation can have an unknown in any position. The relationship between three numbers, such as number bonds or fact families can be used to solve problems.	Use manipulatives to create a number bond. Use a number bond model to show the relationship between addition and subtraction.	Solve equations with the unknown (represented by an empty box or picture) in all positions. Compare expressions without calculating and use grade-level appropriate language to justify the reasoning.
	***1.OA.1**	Real-world mathematical situations can be represented using objects, drawings, and equations. An unknown can be in any position in a mathematical situation.	Model a mathematical situation using objects, drawing a picture, and using an equation. Reason with mathematical situations and determine the operation necessary. Solve four types of problems: add to, take from, pull together/take apart, and compare. See Table 1 in the Standards. Evaluate and solve mathematical situations involving three subtypes: result unknown, change unknown, and start unknown. See Table 1 in the Standard. Solve problems with an unknown that is	Students explain the reasoning they used to solve addition and subtraction problems that are based on mathematical situations in Table 1 of the Standards using grade-level appropriate mathematical language. Students solve and explain their reasoning for result unknown, change unknown, and start unknown problems using grade-level appropriate mathematical language.

			represented by an empty box or a picture.	
	1.MD.4	Categorical data results from sorting objects into two or three categories. Data can be organized in more than one way. Data can be represented (recorded with models, drawings, or graphic organizers) in more than one way. Data can be interpreted in more than one way. ● Addition, subtraction, and comparison are used to answer questions.	Sort up to 20 objects (1.OA.2) into as many as three categories. Organize real objects into a graph. Explore using manipulatives to represent quantities. Explore and record data using models, drawings, or graphic organizers. Interpret data verbally to answer questions about the following: ● the total number of data points; ● the number of data points in each category; and ● the number of data points in one category (more or less) compared to another. See Table 1of the Standards. Attend to precision.	Classify objects into two or three categories and complete a graph. Answer questions about the data and use grade-level language to justify the answer. Make comparisons between the number of objects in the categories on a graph and answer questions such as how many in a category or how many more or less in one category or another.
28 days	***1.NBT.2**	A group of ten ones is now referred to as a "ten." A two-digit number is made up of tens and ones.	Use ten frames and number bonds to model numbers. Represent two-digit numbers with proportional objects, e.g., cubes, beads, ten-frames, sticks, etc. Compose and decompose two-digit numbers into tens and ones with proportional objects.	When given a model of a two digit number, students identify the number of tens and ones in the number and use grade-level mathematical language to justify their answer. When given a number, students can create a model that represents the number of tens and ones in the

				Count groups of ten objects using decade numbers. Draw a picture or create a model to express the value of a number. Explain the reversal of digits, e.g., "How is 14 different than 41?"	number and is able to explain their reasoning using grade-level mathematical language.
		1.NBT.1	Rote counting is a repeating pattern. The cardinality of a group is the total number of objects in the group.	Use counting routines. Use and verbalize the successive number names' pattern for counting by ones and decades (by tens) sequence. Extend the rote counting sequence to 120 from different starting points. Recognize and explain a visual pattern in written numerals. Recognize and explain word patterns from 20–99. Recognize and explain numerals that have a repeating pattern between 20–99. Recognize and explain word patterns from 100–120. Recognize and explain numerals that have a repeating pattern between 100–120.	Students generate the counting pattern when given a starting number. Students identify one more than a number and write the numeral and use grade-level mathematical language to explain their reasoning.

			Write numerals 0–120. Represent objects with a written numeral (1–120).	
	***1.NBT.3**	Numbers can be compared. Symbols can be used to record the comparison between numbers. A numeral can stand for a different amount depending on its place or position in a number.	Use mathematical language (greater than, less than, equal to) to describe the relationship between numbers. Connect the mathematical language to the use of symbols (>, =, and <) when describing the relationship between the numbers. Use symbols to record a comparison of two two-digit numbers. Explore two-digit numbers to discover that the value of the tens place helps determine the size of a two-digit number. Generalize the understanding that the value of the tens place helps to compare two two-digit numbers. Read comparative statements from left to right. Write two true inequality statements using symbols and words for a pair of unequal numbers, e.g., 5 > 3 and 3 < 5.	Answer a comparison question. Use a model to justify a comparison answer. Pose comparison questions that encourage students to use their understanding of place value as a strategy to answer the question and have them justify their answer. Ex. If Megan has 32 cards and Evan has 23, who has the most? Use the comparison symbols to make the sentences true.
	1.MD.3 a-b	Time is a measurable attribute. Time is measured in hours and minutes.	**Time** Use concrete models to explore time. Recognize that numerals, or other markings,	Draw the hands on a clock to represent a given time on the hour or half hour.

			Time can be measured using an analog clock with an hour hand (short) and minute hand (long). Time can be measured using a digital clock, e.g., 11 o'clock is represented as 11:00. A penny is worth 1 cent (1¢). A dime is worth 10 cents (10¢). The size of a coin does not determine its value.	on a clock represent the hours. Explore and explain an hour as 60 minutes and half of one hour as 30 minutes. Use mathematical vocabulary to identify clock types and parts, e.g., hour hand, minute hand, analog, digital, etc. Interpret time on the hour and half hour on analog and digital clocks. Write time symbolically using a colon (:) to separate hours and minutes. **Money** Use concrete models to explore money. Recognize and name a penny. Identify that a penny's value equals 1 cent. Count by 1's using pennies. Recognize and name a dime. Identify that a dimes value equals 10 cents or 10 pennies. Count by 10's using dimes. Identify and use the cent symbol "¢" to represent coin values.	When told a time, show the time on a digital and analog clock. Identify the amount of a group of coins and explain the strategy using grade-level appropriate mathematical language. Given an amount, create a model that represents that amount. Use grade-level appropriate mathematical language to justify your answer. Compare two different models that represent the same amount and use grade-level appropriate mathematical language to explain the differences.

			Use pennies and dimes as a manipulative to reinforce place value up to 100 cents.	
4 days	***1.NBT.4**	When adding numbers, the place and value of the digits is important for determining the sum. When adding two-digit numbers, tens are added to tens, ones are added to ones. When adding, sometimes it is necessary to compose a ten. The digit in the ones place will remain the same when finding 10 more or 10 less of another number, e.g., 18 + 10 = 28.	Use a hundred chart model to explore the addition of 10. Use concrete models or drawings and strategies based on place value, or the properties of operations to solve problems. Compose and decompose two-digit numbers for the purpose of addition. Explore and explain addition strategies by using models and/or drawings to justify thinking. Apply place value strategies for addition, and explain the reasoning used. Discover the pattern when finding 10 more than a given number.	Compute using strategies and models: ● Add a two-digit number and a one-digit number; ● Add a two-digit number and a multiple of 10; and Explain the pattern when adding a multiple of 10 using grade-level appropriate mathematical language. Record a numerical method with drawings and when appropriate equations.
	***1.NBT.6**	There is a relationship between addition and subtraction. When subtracting multiples of 10 from multiples of 10, the digit in the tens place changes and the digit in the ones place remains a zero, e.g., 60 − 20 = 40. When subtracting multiples of 10 from	Use a hundred chart model to explore subtraction of 10. Use concrete models, drawings, or the relationship between addition and subtraction to solve problems. Compose and decompose two-digit numbers for the purpose of subtraction.	Compute using strategies and models: ● Subtract multiples of 10 in the range of 10-90 from multiples of 10 in that same range. Explain the pattern when subtracting a multiple of 10 using grade-level

			any number, the digit in the tens place changes and the digit in the ones place remains the same, e.g., 82 − 30 = 52.	Explore and explain subtraction strategies by using models and/or drawings to justify thinking. Apply place value strategies for subtraction, and explain the reasoning used. Explore the use of different properties of operations and the relationship between subtraction and addition; explain the reasoning used. Discover the pattern when finding 10 less than a given number.	appropriate mathematical language. Record a numerical method with drawings and when appropriate equations.
	Link to Ohio's 1st Grade Model Curriculum				

Timeline

	Quarter 3												
Lesson Number	Lesson 16	Lesson 17	Lesson 18		Lesson 19	Lesson 20	Lesson 21	Lesson 22		Lesson 23	Lesson 24		Lesson 25
Lesson Standards	*1.OA.8	*1.OA.1	1.MD.4	Unit Assessment	*1.NBT.2	1.NBT.1	*1.NBT.2	*1.NBT.3	Mid-Unit Assessment	1.MD.3a	1.MD.3b See One-Day Activity for Ohio Enhancement Activities	Unit Assessment	*1.NBT.4 *1.NBT.6
Supporting Standards		*1.OA.6	*1.OA.1 1.OA.2					*1.NBT.2		1.G.3			*1.NBT.2

Scope and Sequence

	Quarter 4		
		Standards	**Link to Ohio's Critical Area of Focus**
	***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 Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.
	***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.MD.1**	Order three objects by length; compare the lengths of two objects indirectly by using a third object.	#3 Developing understanding of linear measurement and measuring lengths as iterating length units.
	***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. *Limit to context where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*	
	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.	#4 Reasoning about attributes of, and composing and decomposing geometric shapes.
	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 *halves, fourths*, and *quarters*, and use the *phrases half of, fourth of*, and *quarter of*. Describe the whole as two or four of the shares in real-world contexts. Understand for these examples that decomposing into more equal shares creates smaller shares.	

Instructional Supports

Click on the Clear Learning Targets to find vocabulary, learning targets, and sample questions.

Quarter 4				
Timeframe	**Clear Learning Targets**	**Essential Understandings**	**Strategies and Approaches**	**Assessment Opportunities**
16days	***1.NBT.5**	The digit in the ones place will remain the same when finding 10 more or 10 less of another number, e.g., 18 + 10 = 28. There is a relationship between addition and subtraction.	Use a hundred chart model to explore 10 more and 10 less. Discover the pattern when finding 10 more or 10 less than a given number. Mentally find 10 more or 10 less than a given number explaining the reasoning used	When given a number, identify 10 more or 10 less and use grade-level appropriate mathematical language to explain the strategy. Explain the pattern of a number that is 10 more than another number or ten less than another number. Use grade-level appropriate mathematical language to justify the reasoning.
	***1.NBT.4**	When adding numbers, the place and value of the digits is important for determining the sum.	Use a hundred chart model to explore the addition of 10.	Compute using strategies and models: • Add a two-digit number and a one-digit number;

			When adding two-digit numbers, tens are added to tens, ones are added to ones. When adding, sometimes it is necessary to compose a ten. The digit in the ones place will remain the same when finding 10 more or 10 less of another number, e.g., 18 + 10 = 28.	Use concrete models or drawings and strategies based on place value, or the properties of operations to solve problems. Compose and decompose two-digit numbers for the purpose of addition. Explore and explain addition strategies by using models and/or drawings to justify thinking. Apply place value strategies for addition, and explain the reasoning used. Discover the pattern when finding 10 more than a given number.	• Add a two-digit number and a multiple of 10; and Explain the pattern when adding a multiple of 10 using grade-level appropriate mathematical language. Record a numerical method with drawings and when appropriate equations.
15 days	***1.MD.1**	Length is a measurable attribute of an object. The length remains constant, even if its orientation or position is changed. Objects must be placed at the same endpoint for comparison. Lengths of two objects can be compared indirectly by using a third object.	Use non-standard objects to measure with. Use the same length unit when comparing measurements of two objects. Compare measurements of two objects to determine which is longer and shorter. Compare the lengths of two objects indirectly by using a third object. Use the comparison of two objects to place a third object in order from shortest to longest.	Use an object to compare its size to other objects and use grade-level appropriate mathematical language to explain the reasoning. Draw a picture that represents a statement about length and use grade-level appropriate mathematical language to justify the reasoning. Ex. I have three kids. Draw a picture that shows my kids in order from shortest to tallest. Pose reasoning comparison problems and have students justify their answer. Ex. The ruler is longer than the

					pencil. The pencil is longer than the crayon. The ruler is longer or shorter than the crayon?
		***1.MD.2**	Copies of a shorter object can be used to measure the length of a longer object. When measuring an object with nonstandard units, the same-size length unit is used. When measuring an object with nonstandard units, no gaps or overlaps occur.	Use various objects as a measurement tool. Explore measuring an object's length using multiple copies of various non-standard tools that result in whole number length units. Accurately align length units from one end to the other with no gaps or overlaps in a straight path. Count length units to determine the object's total length; express as a whole number of length units. Attend to precision.	Using a nonstandard measurement tool, students measure objects and identify the length of the object. Using two different lengths of a nonstandard measurement tool, have students measure an object with both tools and identify the length with each tool, Have students explain why the measurements are different.
	12 days	**1.G.1**	Rectangles, squares, trapezoids, and triangles are two-dimensional closed shapes having straight sides that meet at corners. Shapes have defining and non-defining attributes. Shapes can be represented through models and drawings using defining attributes.	Use concrete models. Distinguish between defining attributes and non-defining attributes. Explore classifying shapes based on defining attributes. Explore spatial reasoning.	Draw three different triangles but make each one in some different way. Explain your reasoning. Explain the attributes of a cube? Compare a hexagon to a square. Explain how they are alike and how they are different. Display a square. Say to students, " I am going to say a change I'm going to

			Color, size, and orientation are non-defining attributes.		make to this shape and you will tell me if the change will make the shape have a new name." Pose changes such as color, size, add one more side etc.
		1.G.2	Shapes can be combined to form larger shapes: • two-dimensional shapes with two-dimensional shapes • three-dimensional shapes with three-dimensional shapes	Use physical models or drawings. Create a composite shape from two-dimensional shapes. Compose new shapes from composite two-dimensional shapes. Create a composite shape from three-dimensional shapes. Compose new shapes from composite three-dimensional shapes.	Use two pattern blocks to make a trapezoid. Justify your answer. Use cubes to make a prism. Explain your reasoning. Give students a triangle and a trapezoid. Have students combine the two shapes to make a new shape. Identify your new shape and justify your answer.
		1.G.3	When dividing a shape into equal shares, the pieces all need to represent the same amount. As the number of equal shares in a shape increases, the size of each equal share decreases, e.g., Halves are larger than fourths. As the number of equal shares in a shape decreases, the size of each equal share increases, e.g., Quarters are less than halves.	Use paper models so students can experience dividing shapes into equal size shares. Explore and describe part-whole relationships. Relate two or four equal shares to circles and rectangles. Describe equal shares using the terms halves, fourths, quarters and the phrases half of, fourth of, quarter of in real-world contexts. Explore the decomposition of shapes into halves and fourths; decomposing them into more equal shares creates smaller shares.	Identify how many equal parts a shape is divided into and use appropriate vocabulary to identify the equal shares. Given a shape, how many different ways can you divide it into an equal given amount and justify the answer using grade-level appropriate mathematical language. Ex. Given a square, how many ways can you divide it into fourths? Show a same sized shape that has been divided into halves and fourths.

				Explore and explain which figures are correctly partitioned into halves or fourths. Explore spatial reasoning.	Compare the size pieces and explain the reasoning.
	Link to Ohio's 1st Grade Model Curriculum				

Timeline

Quarter 4													
Lesson Number	Lesson 26	Lesson 27	Lesson 28	Lesson 29		Lesson 30	Lesson 31	Lesson 32		Lesson 33	Lesson 34	Lesson 35	
Lesson Standards	*1.NBT.5	*1.NBT.4	*1.NBT.4	*1.NBT.4	Unit Assessment	*1.MD.1	*1.MD.1	*1.MD.2	Unit Assessment	1.G.1	1.G.2	1.G.3	Unit Assessment
Supporting Standards	*1.NBT.2	*1.NBT.2	*1.OA.3	*1.OA.3								1.MD.3	

Mathematical Practices

Mathematical Practice Standards Taught Throughout the Year		
1. Make sense of problems and persevere in solving them	**2. Reason abstractly and quantitatively**	**3. Construct viable arguments and critique the reasoning of others**
In Grade 1, students realize that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They are willing to try other approaches.	Younger students recognize that a number represents a specific quantity. They connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. In first grade students make sense of quantities and relationships while solving tasks. They represent situations by decontextualizing tasks into numbers and symbols. For example, "There are 60 children on the playground and some children go line up. If there are 20 children still playing, how many children lined up?" Students translate the situation into the equation: 60 – 20 = ☐ and then solve the task. Students also contextualize situations during the problem solving process. For example, students refer to the context of the task to determine they need to subtract 20 from 60 because the total number of children on the playground is the total number less than 20 that are still playing. Students might also reason about ways to partition two-dimensional geometric figures into halves and fourths.	First graders construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also practice their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking.", and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. They decide if the explanations make sense and ask questions. For example, "There are 15 books on the shelf. If you take some books off the shelf and there are now 7 left, how many books did you take off the shelf?" Students might use a variety of strategies to solve the task and then share and discuss their problem solving strategies with their classmates.

Mathematical Practice Standards Taught Throughout the Year		
4. Model with mathematics	**5. Use appropriate tools strategically**	**6. Attend to precision**
In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. First grade students model real-life mathematical situations with a number sentence or an equation and check to make sure equations accurately match the problem context. Students use concrete models and pictorial representations while solving tasks and also write an equation to model problem situations. For example, to solve the problem, "There are 11 bananas on the counter. If you eat 4 bananas, how many are left?" students could write the equation $11 - 4 = 7$. Students also create a story context for an equation such as $13 - 7 = 6$.	In first grade, students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, first graders decide it might be best to use colored chips to model an addition problem. In first grade students use tools such as counters, place value (base ten) blocks, hundreds number boards, number lines, concrete geometric shapes (e.g., pattern blocks, 3-dimensional solids), and virtual representations to support conceptual understanding and mathematical thinking. Students determine which tools are the most appropriate to use. For example, when solving $12 + 8 =$, students explain why place value blocks are more appropriate than counters.	As young children begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and when they explain their own reasoning. In Grade 1, students use precise communication, calculation, and measurement skills. Students are able to describe their solutions strategies to mathematical tasks using grade-level appropriate vocabulary, precise explanations, and mathematical reasoning. When students measure objects iteratively (repetitively), they check to make sure there are no gaps or overlaps. Students regularly check their work to ensure the accuracy and reasonableness of solutions.

Mathematical Practice Standards Taught Throughout the Year	
7. Look for and make use of structure	**8. Look for and express regularity in repeated reasoning**
First graders begin to discern a pattern or structure. For instance, if students recognize 12 + 3 = 15, then they also know 3 + 12 = 15. (Commutative property of addition.) To add 4 + 6 + 4, the first two numbers can be added to make a ten, so 4 + 6 + 4 = 10 + 4 = 14. While solving addition problems, students begin to recognize the commutative property, for example 7 + 4 = 11, and 4 + 7 = 11. While decomposing two-digit numbers, students realize that any two-digit number can be broken up into tens and ones, e.g. 35 = 30 + 5, 76 = 70 + 6. Grade 1 students make use of structure when they work with subtraction as a missing addend problem, such as 13 − 7 = can be written as 7 + = 13 and can be thought of as how much more do I need to add to 7 to get to 13?	Grade 1 students begin to look for regularity in problem structures when solving mathematical tasks. For example, students add three one-digit numbers by using strategies such as "make a ten" or doubles. Students recognize when and how to use strategies to solve similar problems. For example, when evaluating 8 + 7 + 2, a student may say, "I know that 8 and 2 equals 10, then I add 7 to get to 17. It helps if I can make a 10 out of two numbers when I start." Students use repeated reasoning while solving a task with multiple correct answers. For example, solve the problem, "There are 12 crayons in the box. Some are red and some are blue. How many of each could there be?" Students use repeated reasoning to find pairs of numbers that add up to 12, e.g., the 12 crayons could include 6 of each color (6 + 6 = 12), 7 of one color and 5 of another (7 + 5 = 12), etc.