CURRICULUM *Correlation*

Waterford Reading Academy:

Math & Science

100%

Tennessee State Math & Science Standards 2022

Correlation content includes both Waterford Digital Resources and Waterford Teacher Resources.

TABLE OF CONTENTS

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
MATHEMATICS		
KINDERGARTEN		
COUNTING AND CARDINALITY (CC)		
A. Know number names and the counting sequence.		

K.CC.A.1 Count to 100 by ones, fives, and tens. Count backward from 10.	• Counting Songs (See titles at end of document.)
	• Song: Counting Backward
	• Book: A Space Adventure
	• Number _ Counting (e.g., Number 2 Counting)
	• Finger Counting
	• Object Counting
	• Count with 5-Frames
	• Skip Counting
	• Counting Back
	• Count Down
		• Count to 100 by ones and tens.pdf Count to 100 by ones and tens.
		  – Missing Numbers
		  – Count on By 1
		  – Numbers 1-5
		  – Numbers 6-10
		  – Math Newsletter: Numbers 1, 2, 3, 4, and 5; Numbers 6, 7, 8, 9, 10, and 0; Numbers 1-20
		  – Count by 10s
		  – Numbers 60-69
		  – I Can Count to 100

K.CC.A.2 Count forward by ones beginning from any given number within the known sequence (instead of having to begin at 1).	• Song: Counting On
	• Count On
	• Counting Songs (See titles at end of document.)
		• Count forward.pdf: Count forward beginning with a given number within the known sequence.
		  – Let's Count On
		  – Toss and Count
		  – Count On by 1
		  – Math Newsletter: Count On
		  – Flashcards

K.CC.A.3 Write numbers from 0 to 20. Represent a quantity of objects with a written number 0-20.	• Counting Songs (See titles at end of document.)
	• Number Tracing
	• Object Counting
	• Count with 5-Frames
		• Write numbers 0-20.pdf: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20.
		  – Numbers Practice: 1–20
		  – Numbers 1–5
		  – Add groups
		  – Count on by 1
		  – Number Writing Practice: 0–20

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Know number names and the counting sequence *continued*.		
K.CC.A.4 Recognize, describe, extend, and create patterns and explain a simple rule for a pattern using concrete materials. Analyze the structure of the repeating pattern by identifying the unit (core) of the pattern.	• Song: Train Station Patterns • Book: How King Snake Got His Pattern • Patterns • Pattern: AB; ABB; ABC	
B. Count to tell the number of objects.		

K.CC.B.5 Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.5a. When counting objects 1-20, say the number names in the standard order, using one-to-one correspondence.
	• Counting Songs
	  (See titles at end of document.)
	• Number ___ Counting (e.g., Number 2 Counting)
	• Order Numbers
	• One-to-one Correspondence
	• Make and Count Groups
	• Finger Counting
	• Object Counting
	• Count with 5-Frames
	• Count with Scale
		• Object Counting Basics.pdf: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
		  – Number Walk

K.CC.B.5b. Recognize that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	• Make and Count Groups • Number _ Counting (e.g., Number 2 Counting) • Finger Counting • Object Counting • Count with 5-Frames • One-to-One Correspondence	• Object Counting Grouping.pdf: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. – Mixed Up Counting
K.CC.B.5c. Recognize that each successive number name refers to a quantity that is one greater and each previous number is one less.	• Make and Count Groups • Number _ Counting (e.g., Number 2 Counting) • One-to-One Correspondence • Count On by 1	• Object Counting Succession.pdf: Understand that each successive number name refers to a quantity that is one larger. – One by One

K.CC.B.6 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, a circle, or as many as 10 things in a scattered configuration. Given a number from 1-20, count out that many objects.	• Counting Songs
	• Number Songs
	  (See titles at end of document.)
	• Make and Count Groups
	• Number _ Counting (e.g., Number 2 Counting)
	• Finger Counting
	• Object Counting
	• Count with 5-Frames
	• One-to-one Correspondence
		• How many?.pdf: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
		  – Hoop Addition

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Compare Numbers.		

K.CC.C.7 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.	• Song: Greater Than, Less Than
	• Book: For the Birds
	• Greater Than, Less Than
	• More Than, Fewer Than
	• More Than
	• Fewer Than
	• Make and Count Groups
		• Greater, less, or equal.pdf: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
		  – Beans and More
		  – More Than Buttons
		  – Short Names, Long Names
		  – Noodle Necklaces
		  – Grouped Do Count!
		  – More Than, Fewer Than, Equal
		  – Which Has More? 1; 2
		  – Fewer Than
		  – More or Fewer
		  – Greater or Less
		  – More Than/Fewer Than Flashcard Sets

K.CC.C.8 Compare two given numbers up to 10, when written as numerals, using the terms greater than, less than, or equal to.	• Song: Greater Than, Less Than
	• Book: For the Birds
	• Greater Than, Less Than
	• More Than, Fewer Than
	• More Than
	• Fewer Than
	• Make and Count Groups
		• Compare two numbers.pdf: Compare two numbers between 1 and 10 presented as written numerals.
		  – More or Less Spinner
		  – Catch Me If You Can!
		  – Greater or Less
		  – Less or Greater

OPERATIONS AND ALGEBRAIC THINKING (OA)		
A. Represent and solve problems involving addition and subtraction.		

K.OA.A.1 Represent addition and subtraction with objects, fingers, drawings, acting out situations, verbal explanations, expressions, or equations.	• Songs: Pirates Can Add; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction
	• Book: Five Delicious Muffins
	• Make and Count Groups
	• Add Groups
	• Subtract Groups
	• Act Out Addition
	• Act Out Subtraction
		• Represent addition and subtraction with objects.pdf: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
		  – Addition Cubes
		  – Addition Stories
		  – Going Fishing
		  – Let's Count On
		  – Act it out Stories
		  – Manipulative Stories

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Represent and solve problems involving addition and subtraction *continued*.		

K.OA.A.2 Add and subtract within 10 to solve contextual problems with result/total unknown involving situations of add to, take from, and put together/take apart. Use objects, drawings, or equations to represent the problem.	• Songs: Pirates Can Add; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction
	• Book: Five Delicious Muffins
	• Add Groups
	• Subtract Groups
	• Minuends
	• Sums
	• Act Out Addition
	• Act Out Subtraction
		• Addition and subtraction word problems.pdf: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
		  – Additions Stories
		  – Act It Out Stories
		  – Manipulative Stories
		  – Edible Stories
		  – One, Two, Three, Show
		  – Circus Subtraction
		  – Partner Subtraction
		  – Farmer's Market
		  – Green and Speckled Frogs
		  – Cars and Trucks Subtraction
		  – Yummy Subtraction
		  – Act Out Addition
		  – Act Out Subtraction

K.OA.A.3 Decompose numbers less than or equal to 10 into addend pairs in more than one way (e.g., 5 = 2 + 3 and 5 = 4 + 1) by using objects or drawings. Record each decomposition using a drawing or writing an equation.	• Make and Count Groups
	• Subtract Groups
	• Add Groups
	• Act Out Subtraction
	• Make 10
		• Decompose numbers.pdf: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation.
		  – Addition Cubes
		  – Fact Families

K.OA.A.4 Find the number that makes 10, when added to any given number, from 1 to 9 using objects or drawings. Record the answer using a drawing or writing an equation.	• Make 10 • Missing Addends • Count On • Act Out Addition	• Numbers that make 10.pdf: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. – How Many More?
K.OA.A.5 Use mental strategies flexibly to develop fluency in addition and subtraction within 10.	• Songs: Pirates Can Add; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction • Book: Five Delicious Muffins • Add Groups • Subtract Groups • Minuends • Sums • Act Out Addition • Act Out Subtraction	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
NUMBER AND OPERATIONS IN BASE TEN (NBT)		
A. Work with numbers 11-19 to gain foundations for place value.		
K.NBT.A.1 Compose and decompose numbers from 11 to 19 into a group of ten ones and some more ones by using objects or drawings (e.g., 18 equals 10 + 8). Record the composition or decomposition using a drawing or by writing an equation.	• Place Value	• Tens and ones.pdf: Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. – Place Value 11-19
MEASUREMENT AND DATA (MD)		
A. Describe and compare measurable attributes.		
K.MD.A.1 Describe the measurable attributes of an object, such as length (long/short), height (tall/short), or weight (heavy/light).	• Song: Measuring Plants • Length	• Measurable attributes.pdf: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. – Filling Table – Order It Up – Straw Rulers – Measuring Walk – Heavy or Light – Make A Balance – Measurable Attributes

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Describe and compare measurable attributes *continued*.		

K.MD.A.2 Directly compare two objects with a measurable attribute in common, to describe which object has more of/less of the attribute. For example, directly compare the heights of two children and describe one child as taller/shorter.	• Songs: Measuring Plants; Savanna Size; Large, Larger, Largest
	• Length
	• Capacity
	• Big and Little
	• Tall and Short
	• Heavy and Light
	• Size
		• Comparing objects.pdf: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
		  – Filling Table
		  – Order It Up
		  – Straw Rulers
		  – Measuring Walk
		  – Heavy or Light
		  – Make A Balance
		  – Size Scavenger Hunt
		  – Big and Little Sort
		  – Boxes in a Line
		  – Teddy Bear Line-Up
		  – Magazine Sorting
		  – Tall and Short
		  – Big and Little
		  – Tall and Short
		  – Heavy and Light

B. Work with money.		

K.MD.B.3 Identify the penny, nickel, dime, and quarter based on their attributes (size and color) and recognize the value of each.	• Song: Save Your Pennies
	• Coin Identification
	• Coin Value
		• Coin Identification and Value.pdf: Identify U.S. coins, including pennies, nickels, dimes, and quarters, and understand their relative values. Determine the value of a collection of U.S. coins up to one dollar.
		  – Coin Hopscotch
		  – Counting Money
		  – Coin Corners

C. Classify objects and count the number of objects in each category.		

K.MD.C.4 Sort a collection of objects into a given category, with 10 or fewer in each category. Compare the categories by group size.	• Songs: Same and Different; All Sorts of Laundry
	• Book: Buttons, Buttons
	• Match
	• Matching
	• Sort
		• Classifying objects.pdf: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
		  – Let's Sort
		  – Sort

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
GEOMETRY (G)		
A. Identify and describe shapes and solids.		
K.G.A.1 Describe objects in the environment using names of shapes and solids (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, between, and next to.	• Songs: Position Cat; Kites; Get Over the Bugs; Monster Trucks; Shapes, Shapes, Shapes • Books: The Shape of Things; Imagination Shapes; Up In the Air • Position • Over, Under, Above, Below • Inside, Outside, Between • Above, Below, Next to, On • Over, Under, and Through • First, Middle, Last • Top, Beside, and Bottom • Circle, Square, Triangle, Rectangle • Star, Semicircle, Octagon, Oval, Rhombus • Simple Shapes • Solid Shapes • World Shapes	• Describing objects.pdf: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. – Shapes Scavenger Hunt

K.G.A.2 Correctly name shapes and solids (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) regardless of their orientations or overall size.	• Songs: Kites; Shapes, Shapes, Shapes
	• Books: The Shape of Things; Imagination Shapes
	• Circle, Square, Triangle, Rectangle
	• Star, Semicircle, Octagon, Oval, Rhombus
	• Simple Shapes
	• Solid Shapes
	• World Shapes
		• Shape recognition.pdf: Correctly name shapes regardless of their orientations or overall size.
		  – Shapes Scavenger Hunt
		  – Shapes and Positioning

K.G.A.3 Identify shapes (squares, circles, triangles, rectangles, and hexagons) as two-dimensional and solids (cubes, cones, cylinders, and spheres) as three-dimensional.	• Solid Shapes • Space Shapes • Simple Shapes	• Two-dimensional shapes.pdf: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). – Shapes and Positioning

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Analyze, compare, create, and compose shapes.		
K.G.B.4 Describe similarities and differences between two- and three-dimensional shapes/solids, in different sizes and orientations.	• Song: Corners and Sides • Simple Shapes • Solid Shapes • Space Shapes • Congruence • Tangrams • Similar Figures	• Compare shapes.pdf: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). – Comparing Shapes
K.G.B.5 Model shapes/solids in the world by building or drawing them.	• Geoboard	• Model shapes.pdf: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. – Building Shapes
K.G.B.6 Compose a figure using simple shapes/solids and identify smaller shapes/solids within the figure.	• Geoboard • Tangrams	• Form larger shapes.pdf: Compose simple shapes to form larger shapes. – Combining Shapes
GRADE 1		
OPERATIONS AND ALGEBRAIC THINKING (OA)		
A. Represent and solve problems involving addition and subtraction.		

1.OA.A.1 Add and subtract within 20 to solve contextual problems, with unknowns in all positions, involving situations of add to, take from, put together/take apart, and compare. Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.	• Songs: Fact Families; Doubles
	• Book: Facts About Families
	• Addition and Subtraction Fact Families
	• Addition and Subtraction Relationship
		• Word problems using subtraction within 20.pdf: 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.
		  – Guess and Check
		  – Model the Story

1.OA.A.2 Add three whole numbers whose sum is within 20 to solve contextual problems using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	• Add 3 One-digit Numbers	• Word problems adding 3 numbers.pdf: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. – Draw a Picture

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Understand and apply properties of operations and the relationship between addition and subtraction.		

1.OA.B.3 Apply properties of operations (additive identity, commutative, and associative) as strategies to add and subtract.	• Addition and Subtraction Relationship
	• Addition and Subtraction Fact Families
	• Subtraction Patterns
	• Commutative Property of Addition
		• Strategies to add and subtract.pdf: Apply properties of operations as strategies to add and subtract.
		  – Adding and Subtracting Bugs
		  – Concentration
		  – Related Facts

1.OA.B.4 Understand the relationship between addition and subtraction by representing subtraction as an unknown-addend problem. For example, to solve 10 – 8 = __, a student can use 8 + __ = 10.	• Missing Addends • Subtraction Patterns • Addition and Subtraction Fact Families	• Understand subtraction as an unknown addend problem.pdf: Understand subtraction as an unknown-addend problem. Add and subtract within 20. – Write each subtraction problem as an addition problem and solve it.
C. Add and subtract within 20.		

1.OA.C.5 Add and subtract within 20 using strategies such as counting on, counting back, making 10, related known facts, and composing/ decomposing numbers with an emphasis on making ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9 or adding 6 + 7 by creating the known equivalent 6 + 4 + 3 = 10 + 3 = 13 OR 6 + 6 + 1 = 12 + 1).	• Song: Counting On
	• Books: Circus 20; Painting By Number
	• Skip Count by 2
	• Count On
	• Make and Count Groups
	• Add Groups
	• Subtract Groups
		• Relate counting to addition and subtraction.pdf: Relate counting to addition and subtraction.
		  – Skip Counting Chant
		  – Jump Rope Counting
		  – Related Facts
		  – Count by 2a; 5s; 10s

1.OA.C.6 Use mental strategies flexibly and efficiently to develop fluency in addition and subtraction within 20. By the end of grade 1, know all sums and differences up to 10.	• Songs: Fact Families; Counting On
	• Books: Facts about Families
	• Addition and Subtraction Fact Families
	• Addition Sentences
	• Subtraction Sentences
	• Commutative Property of Addition
	• Addition and Subtraction Relationship
	• Missing Addends
	• Missing Minuends and Subtrahends
	• Add 3 One-digit Numbers
	• Subtraction Patterns
		• Add and subtract within 20.pdf: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
		  – The Three Little Bears
		  – Fact Family Bingo
		  – A Graph of Fact Families
		  – Bean Facts
		  – Draw a Picture
		  – Addition
		  – Number Pyramid
		  – Subtraction Sentences
		  – Model the Story
		  – Fact Families

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
D. Work with addition and subtraction equations.		
1.OA.D.7 Understand the meaning of the equal sign (e.g., 6 = 6; 5 + 2 = 4 + 3; 7 = 8 - 1). Determine if equations involving addition and subtraction are true or false.	• Song: Fact Families • Book: Facts About Families • Addition and Subtraction Fact Families • Addition and Subtraction Relationship • Commutative Property of Addition • Addition Sentences • Subtraction Sentences • Greater Than, Less Than • More Than, Fewer Than	• Equal sign.pdf: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. – Show Me! – Tricky Total – Domino Addition – Domino Subtraction – Playground Fact Snake
1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation with sums/ differences within 20, with the unknown in any position (e.g., 8 + ? = 11, 5 = ? – 3, 6 + 6 = ?).	• Addition Sentences • Subtraction Sentences • Missing Addends • Missing Minuends and Subtrahends	
NUMBER AND OPERATIONS IN BASE TEN (NBT)		
A. Extend the counting sequence.		
1.NBT.A.1 Count to 120, by ones, twos, and fives starting at any multiple of that number. Count backward from 20. Read and write numbers to 120 and represent a quantity of objects with a written number.	• Song: Counting On; Counting Backward • Book: A Space Adventure • Count On • Counting Back • Count Down • Number Chart	• Count to 120.pdf: 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. – Mystery Numbers – I Can Write Numbers to 99 – Numbers 20–29; 30–39; 40–49; 50–59; 60–69 – Counting to 89 – Counting Charts: – I Can Count to 50; 100; 99; 120
1.NBT.A.2 Recognize, describe, extend, and create patterns when counting by ones, twos, fives, and tens and use those patterns to predict the next number in the counting sequence up to 120 through counting or building with concrete materials. For example: 1, 3, 5, ...; 2, 4, 6, ...; 5, 10, 15, ...; etc.	• Song: Skip Counting • Skip Count: by 2; by 5; by 10 • Number Patterns • Number Chart • Patterns of 2-digit Numbers • Patterns of 3-digit Numbers	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Understand place value.		
1.NBT.B.3 Know that the digits of a two-digit number represent groups of tens and ones (e.g., 39 can be represented as 39 ones, 2 tens and 19 ones, or 3 tens and 9 ones).	• Song: Place Value • Place Value of 2-digit Numbers	• Tens as a bundle of ones.pdf: 10 can be thought of as a bundle of ten ones—called a "ten." – Popsicles to Ten
1.NBT.B.4 Compare two two-digit numbers based on the meanings of the digits in each place and use the symbols >, =, and < to show the relationship.	• Place Value • Greater Than, Less Than (2-digit Numbers)	• Compare two-digit numbers.pdf: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. – More or Less Spinner – Catch Me if You Can! – What Are You Looking For? – Two-Pile Sort
C. Use place value understanding and properties of operations to add and subtract.		
1.NBT.C.5 Add a two-digit number to a one-digit number and a two-digit number to a multiple of ten (within 100). Use concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.	• Addition • Add Tens • Add with Manipulatives • Add Vertical Squares • Add with Beads • Addition and Subtraction Relationship • Add with Regrouping Concept • Add 2-digit and 1-digit Numbers with Regrouping • Add 2-digit Numbers without Regrouping • Add 2-digit Numbers with Regrouping	• Adding within 100.pdf: 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). – Drawing Tens – Beans, Beans, and More Beans – The Kingdom of Popsicle Stick-Filled Purses – Straws and Macaroni – Bean Addition – Newsletter – Adding Tens and Ones – Color Adds Up – Cookies and Milk! – Addition of Two-Digit Numbers – Addition and Subtraction of Large Numbers

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Use place value understanding and properties of operations to add and subtract *continued*.		

1.NBT.C.6 Mentally find 10 more or 10 less than a given two-digit number without having to count by ones and explain the reasoning used.	• Song: Skip Counting
	• Book: Navajo Beads
	• Add
	• Subtract
	• Add Tens
	• Subtract Tens
	• Skip Count by 10
	• Number Chart
		• Ten more or less.pdf: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
		  – Ten-O
		  – Toss It
		  – Make a Number
		  – Subtract 10
		  – Flashcards
		  – Bingo
		  – Addition of Tens

1.NBT.C.7 Subtract multiples of 10 from any number in the range of 10-99 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	• Subtraction
	• Subtract Tens
	• Subtraction Patterns
	• Subtract
	• Place Value
	• Addition and Subtraction Relationship
		• Subtracting in 10s.pdf: Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90.
		  – Ten-O
		  – Bingo
		  – Subtract Multiples of 10

MEASUREMENT AND DATA (MD)		
A. 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. For example, to compare indirectly the heights of Bill and Susan: if Bill is taller than mother and mother is taller than Susan, then Bill is taller than Susan.	• Length
	• Nonstandard Units of Length
		• Order by length.pdf: Order three objects by length; compare the lengths of two objects indirectly by using a third object.
		  – Estimating Length
		  – A Fruit and Vegetable Measure

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Measure lengths indirectly and by iterating length units *continued*.		

1.MD.A.2 Measure the length of an object using non-standard units (paper clips, cubes, etc.) and express this length as a whole number of units.	• Length
	• Nonstandard Units of Length
		• Length Measurement.pdf: 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.
		  – Measures of Me
		  – Measure a Handful
		  – Estimating Length
		  – A Fruit and Vegetable
		  – Measure Up!
		  – Inches/Centimeters Rulers

B. Work with time and money.		

1.MD.B.3 Recognize a clock as a measurement tool. Tell and write time in hours and half-hours using analog and digital clocks.	• Song: Clock Hands
	• Books: Mr. Romano's Secret: A Time Story
	• Tell Time to the Hour
	• Tell Time to the Half-Hour
		• Hours and Half-hours.pdf: Tell and write time in hours and half-hours using analog and digital clocks.
		  – What Comes After, Before, Or Between?
		  – Make Your Own Clock
		  – Learning to Tell Time
		  – Matching Time
		  – What Numbers Are Missing?
		  – What Time Is It?
		  – Time of Day
		  – Clock flashcards

1.MD.B.4 Count the value of a set of like coins less than one dollar using the ¢ symbol only.	• Song: Money
	• Book: Bugs For Sale
	• Coin Value
	• Count Dimes, Nickels, and Pennies
	• Count Quarters, Dimes, Nickels, and Pennies
	• Count Nickels and Pennies or Dimes and Pennies
	• Equivalent Sums of Money
	• Quarters
		• Coin Identification and Value.pdf: Identify U.S. coins, including pennies, nickels, dimes, and quarters, and understand their relative values. Determine the value of a collection of U.S. coins up to one dollar.
		  – Coin Hopscotch
		  – Counting Money
		  – Coin Corners

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Represent and interpret data.		

1.MD.C.5 Organize, represent, and interpret data with up to three categories using pictographs, bar graphs, and tally charts. 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.	• Songs: Tallying; Graphing
	• Books: Painting by Number; One More Cat; The Booneville Nine
	• Tally Marks
	• Graphs
	• Make a Table
		• Data Categorization.pdf: 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.
		  – Ice-Cream Sundae
		  – Make a Real Object Graph
		  – Make a Weather Bar Graph
		  – Weather Flashcards
		  – Our Favorite Foods
		  – Make a Graph
		  – Make a Table
		  – How Many?
		  – Bugs!
		  – Use Graphs and Tables
		  – How Big Is Your Family?

GEOMETRY (G)		
A. Reason about shapes/solids and their attributes.		
1.G.A.1 Distinguish between attributes that define a shape (e.g., number of sides and vertices) versus attributes that do not define the shape (e.g., color, orientation, overall size); build and draw two-dimensional shapes to possess defining attributes.	• Song: Corners and Sides • Geoboard • Space Shapes	• Attributes.pdf: Distinguish between defining attributes versus non-defining attributes; build and draw shapes to possess defining attributes. – Sorting Shapes
1.G.A.2 Create a composite figure and use the composite figure to make new figures by using two-dimensional shapes (rectangles, squares, hexagons, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional solids (cubes, spheres, rectangular prisms, cones, and cylinders).	• Song: Kites • Book: Imagination Shapes • Space Shapes • Geoboard • Tangrams	• Form larger shapes.pdf: Compose simple shapes to form larger shapes. – Combining Shapes

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Reason about shapes/solids and their attributes *continued*.		

1.G.A.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 partitioning into more equal shares creates smaller shares.	• Song: Fractions
	• Books: Halves and Fourths and Thirds; Half For You and Half For Me
	• Equal-part Fractions
	• Label Parts of Fractions
		• Equal shares.pdf: 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.
		  – Make It Equal
		  – Fraction Friends
		  – Fraction Train
		  – Halves, Thirds, Fourths
		  – Equal Parts

GRADE 2		
OPERATIONS AND ALGEBRAIC THINKING (OA)		
A. Represent and solve problems involving addition and subtraction.		

2.OA.A.1 Add and subtract within 100 to solve one- and two-step contextual problems, with unknowns in all positions, involving situations of add to, take from, put together/ take apart, and compare. Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.	• Book: Painting by Number
	• Addition
	• Subtraction
	• Addition and Subtraction Facts
	• Subtraction Sentences
	• Missing Addends and Subtrahends
		• One- and two-step word problems within 100.pdf: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
		  – Animal Math
		  – Picture Problems
		  – Color the Chart
		  – Think About It Differently
		  – Act It Out
		  – Guess and Check

B. Add and subtract within 30.		
2.OA.B.2 Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know all sums of two one-digit numbers and related subtraction facts.	• Song: Fact Families; Doubles • Subtraction Patterns • Addition Facts to 20	• Adding and subtracting within 20.pdf: Fluently add and subtract within 20 using mental strategies. By end of grade 2, know from memory all sums of two one-digit numbers.

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Work with equal groups of objects to gain foundations for multiplication.		

2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends.	• Song: Odd Todd and Even Steven
	• Skip Count by 2
	• Addition Facts
		• Odd and even recognition.pdf: Determine whether a group of objects (up to 20) has an odd or even number of members.
		  – Missing Patterns
		  – Counting by 2s
		  – What's My Number?

2.OA.C.4 Use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. For example, a 3 by 4 array can be expressed as 3 + 3 + 3 + 3 = 12 or 4 + 4 + 4 = 12.	• Addition • Multiply Using Repeated Addition • Multiply Using Arrays	
D. Solve problems involving addition and subtraction and identify and explain patterns in arithmetic.		

2.OA.D.5 Identify arithmetic patterns in an addition or hundreds chart and explain them using properties of operations. For example, analyze patterns in the addition chart and observe an alternating pattern of even and odd numbers (because each time we move to the right one box or down one box, we are adding one more to our sum: (2 + 3) + 1 = 2 + (3 + 1)= 2 + 4 which uses the associative property of addition).	• Number Patterns
	• Number Chart
	• Patterns of 2-digit Numbers
	• Patterns of 3-digit Numbers
	• Number Sequences and Patterns
	• Addition and Subtraction Relationship
	• Commutative Properties of Addition
		• Add and subtract within 100.pdf: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
		  – Addition of Two-Digit Numbers
		  – Tic Tac Toe
		  – Subtraction of Two-Digit Numbers

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
NUMBER AND OPERATIONS IN BASE TEN (NBT)		
A. Understand place value.		
2.NBT.A.1 Know that the three digits of a three-digit number represent amounts of hundreds, tens, and ones (e.g., 706 can be represented in multiple ways as 7 hundreds, 0 tens, and 6 ones; 706 ones; or 70 tens and 6 ones).	• Song: Place Value • Place Value • Place Value of 3-digit Numbers	• Thinking of 100 as a bundle of ten 10s.pdf: 100 can be thought of as a bundle of ten tens—called a "hundred." – The Kingdom of Popsicle Stick-Filled Purses

2.NBT.A.2 Recognize, describe, extend, and create patterns when counting by ones, twos, fives, tens, and hundreds and use those patterns to predict the next number in the counting sequence up to 1000 through counting. For example: 111, 113, 115, …; 82, 84, 86, …; 370, 380, 390….; 100, 200, 300,…; etc.	• Song: Skip Counting
	• Skip Count
	• Skip Count by 10
	• Skip Count by 5
	• Skip Count by 2
	• Number Chart
	• Number Sequences and Patterns
		• Counting within 1000.pdf: Count within 1,000; skip-count by 5s, 10s, and 100s.
		  – Chart Patterns
		  – My 199 Picture; 200 Picture; 299 Picture; 300 Picture; 399 Picture; 400 Picture; 499 Picture; 500 Picture; 599 Picture; 600 Picture; 699 Picture; 700 Picture
		  – 900 Chart

2.NBT.A.3 Read and write numbers to 1000 using standard form, word form, and expanded form. . For example, write 234 as 200 + 30 + 4.	• Sequences of 2-digit Numbers
	• Sequences of 3-digit Numbers
	• Number Chart
	• Place Value
		• Read and write numbers to 1000.pdf: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
		  – Cube Trails
		  – Race for a Flat
		  – High/Low Number Cube Throw
		  – Lucky Five

2.NBT.A.4 Compare two three-digit numbers based on the meanings of the digits in each place and use the symbols >, =, and < to show the relationship.	• Greater Than, Less Than (3-digit Numbers)
	• Place Value of 3-digit Numbers
		• Less than, equal to, or greater than.pdf: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
		  – More or Less
		  – The Hands Have It!
		  – Larger or Smaller?
		  – Comparing Number Cards
		  – Number Cards
		  – <,>, = Cards
		  – Greater Than, Less Than, Equal To

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Use place value understanding and properties of operations to add and subtract.		

2.NBT.B.5 Fluently add and subtract within 100 using properties of operations, strategies based on place value, and/or the relationship between addition and subtraction.	• Place Value
	• Addition and Subtraction Relationship
	• Commutative Properties of Addition
	• Addition
	• Subtraction
	• Add without Regrouping
	• Add with Regrouping
	• Subtract without regrouping
	• Subtract with Regrouping
		• Add and subtract within 100.pdf: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
		  – Addition Flashcards
		  – Addition of Two-Digit Numbers
		  – Tic Tac Toe
		  – Subtraction of Two-Digit Numbers

2.NBT.B.6 Add up to four two-digit numbers using properties of operations and strategies based on place value.	• Add Two-digit Numbers with Regrouping • Commutative Properties of Addition • Place Value	• Adding four 2-digit numbers.pdf: Add up to four two-digit numbers using strategies based on place value and properties of operations. – Add Four Two-Digit Numbers

2.NBT.B.7 Add and subtract within 1000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used. (Explanations may include words, drawing, or objects.)	• Place Value
	• Addition and Subtraction Relationship
	• Commutative Properties of Addition
	• Addition
	• Subtraction
	• Add without Regrouping
	• Add with Regrouping
	• Subtract without regrouping
	• Subtract with Regrouping
	• Act Out Addition
	• Act Out Subtraction
		• Add and subtract within 1000.pdf: 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.
		  – Choose and Add
		  – Mix and Match Addition
		  – Expanded Subtraction
		  – Subtracting Repeats
		  – 999
		  – Prediction
		  – Up and Away
		  – Regrouping Treasure Hunt
		  – Play Ball
		  – Squirrel Facts

2.NBT.B.8 Mentally add or subtract 10 or 100 to/from any given number within 1000.	• Skip Count • Place Value • Number Chart • Number Patterns	• Mentally adding or subtracting 10 or 100.pdf: Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. – Spin and Solve

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
MEASUREMENT AND DATA (MD)		
A. Measure and estimate lengths in standard units.		

2.MD.A.1 Measure the length of an object in whole number units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	• Song: Measuring Plants
	• Book: Birds at My House
	• Length
	• Measurement Tools
	• Standard Units of Length
		• Measurement tools.pdf: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
		  – Ready, Set, Measure
		  – Treasure Hunt
		  – Centimeter Ruler
		  – Inch Ruler
		  – Let's Measure in Centimeters!
		  – Let's Measure in Inches!

2.MD.A.2 Measure the length of an object using two different whole number units of measure and describe how the two measurements relate to the size of the unit chosen.	• Length • Standard Units of Length • Measurement Tools	• Measuring the same object two ways.pdf: 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. – Ready, Set, Measure

2.MD.A.3 Estimate lengths using whole number units of inches, feet, yards, centimeters, and meters.	• Song: Measuring Plants
	• Length
	• Standard Units of Length
	• Measurement Tools
		• Estimating lengths.pdf: Estimate lengths using units of inches, feet, centimeters, and meters.
		  – Ready, Set, Measure
		  – Treasure Hunt
		  – Let's Measure in Centimeters!
		  – Let's Measure in Inches!
		  – Measuring Perimeter

2.MD.A.4 Measure, using whole number lengths, to determine how much longer one object is than another and express the difference in terms of a standard unit of length.	• Length
	• Standard Units of Length
		• Measure length.pdf: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
		  – Ready, Set, Measure
		  – Treasure Hunt

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Relate addition and subtraction to length.		

2.MD.B.5 Add and subtract within 100 to solve contextual problems, with the unknown in any position, involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown to represent the problem.	• Book: Yangshi's Perimeter
	• Addition
	• Subtraction
	• Length
	• Standard Units of Length
		• Add and subtract word problems within 100. pdf: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
		  – Perimeter Walkabout
		  – How Far Around?
		  – Measuring Perimeter

2.MD.B.6 Represent whole numbers as lengths from 0 on a number line and know that the points corresponding to the numbers on the number line are equally spaced. Use a number line to represent whole number sums and differences of lengths within 100.	• Number Line • Length	
C. Work with time and money.		

2.MD.C.7 Tell and write time in quarter hours and to the nearest five minutes (in a.m. and p.m.) using analog and digital clocks.	• Songs: Telling Time; Clock Hands
	• Tell Time
	• Time to Five Minutes
	• Tell Time to the Quarter Hour
	• Tell Time to the Minute
	• Tell Time to the Hour
	• Tell Time to the Half-hour
		• Tell and write time.pdf: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
		  – Matching Clocks
		  – Cartoon Captions
		  – Time to 5 Minutes

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Work with time and money *continued*.		

2.MD.C.8 Solve contextual problems involving amounts less than one dollar including quarters, dimes, nickels, and pennies using the ¢ symbol appropriately. Solve contextual problems involving whole number dollar amounts up to $100 using the $ symbol appropriately.	• Songs: Money; Save Your Pennies
	• Book: Bugs For Sale
	• Coin Identification
	• Coin Value
	• Quarters
	• Count Dimes, Nickels, and Pennies
	• Count Quarters, Dimes, Nickels, and Pennies
	• Count Nickels and Pennies or Dimes and Pennies
	• Make Change
	• Count Coins
	• Count Bills and Coins
	• Equivalent Sums of Money
		• Money word problems.pdf: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
		  – Supermarket Hunt
		  – Shopping for My Family
		  – Money Combinations
		  – Money Sums
		  – Pizza Parlor
		  – How Much Back?
		  – Coin Count
		  – Bills and Coins
		  – Let's Count Coins
		  – Money Addition
		  – Change is Good!
		  – Make 45¢

D. Represent and interpret data.		

2.MD.D.9 Given a set of data, create a line plot, where the horizontal scale is marked off in whole-number units.	• Measurement Tools	• Generating measurement data.pdf: 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.
		  – Measuring Inches
		  – Ready, Set, Measure
		  – Let's Measure in Centimeters!
		  – Let's Measure in Inches!

2.MD.D.10 Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories. Solve addition and subtraction problems related to the data in a graph.	• Song: Graphing
	• Graphs
	• Bar Graphs
	• Picture Graphs
	• Use Graphs and Tables
		• Graphs.pdf: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
		  – Questions and Answers
		  – Library Book Survey
		  – Playground Survey
		  – Rock Collections
		  – Use Graphs and Tables

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
GEOMETRY (G)		
A. Reason about shapes and their attributes.		

2.G.A.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. Draw two-dimensional shapes having specified attributes (as determined directly or visually, not by measuring), such as a given number of angles/vertices or a given number of sides of equal length.	• Songs: Shapes, Shapes, Shapes; Corners and Sides; Kites
	 • Book: The Shape of Things
	 • Space Shapes
	 • World Shapes
		• Draw shapes.pdf: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
		   – Making Shapes
		   – Shapes Review

2.G.A.2 Partition a rectangle into rows and columns of same-sized squares and find the total number of squares.	• Song: Fractions
	 • Fractions of Regions
		• Fractions.pdf: Partition circles and rectangles into two, three, or four equal shares, de-scribe 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.
		   – Frenzied Fraction Fun
		   – Fabulous Fractions

2.G.A.3 Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and a fourth of, and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	• Song: Fractions
	 • Books: Halves and Fourths and Thirds; The Fraction Twins
	 • Fractions
	 • Label Parts of Fractions
	 • Fractions of Regions
	 • Fractions of Groups
		• Fractions.pdf: Partition circles and rectangles into two, three, or four equal shares, de-scribe 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.
		   – Frenzied Fraction Fun
		   – Fabulous Fractions

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
SCIENCE		
KINDERGARTEN		
K.PS1: Matter and Its Interactions		
1) Plan and conduct an investigation using patterns to classify different kinds of materials by their observable properties (i.e. absorbency, color, texture, hardness, and flexibility), by their uses, and by whether they occur naturally or are manufactured.	• Book: Buttons, Buttons • Matter • Materials • Natural Resources • Uses of Plants • Uses of Water • Solid, Liquid, Gas • Changes in Matter • Experiments: Density; Heat	• By Nature or by People?.pdf: Practice identifying natural resources and resources made by people. *Engagement:* • Learning Together: Natural Resources
2) Conduct investigations to understand that matter can exist in different states (i.e. solid and liquid) and has properties that can be observed and tested.	• Book: Pancakes Matter • Matter • Changes in Matter • Solid, Liquid, Gas • Heat Changes Water • States of Water	*Engagement:* • Learning Together: Solids, Liquids, and Gases
3) Construct an evidence-based account of how an object made of a small set of pieces (e.g. blocks, snap cubes) can be disassembled and made into a new object.	• Songs: The Scientific Method; Inventing • Books: I Want to Be a Scientist Like Wilbur and Orville Wright; Inventions All Around • Inventions	*Engagement:* • Learning Together: Inventions
K.PS4: Waves and Their Applications in Technologies for Information Transfer		
1) Record data from an investigation using senses to detect light, sound, and vibrations and communicate observations.	• Songs: The Scientific Method; Five Senses • Book: What Sounds Say • Science Tools • Light Exploration • Light Sources • Sound Exploration • Sound Waves • Pitch and Volume • Sight • Hearing • Touch	*Engagement:* • Learning Together: Sound; The World Around Us

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.LS1: From Molecules to Organisms: Structures and Processes		
1) Use information from observations to identify the differences between plants and animals and how they live and grow.	• Songs: Food From Plants; Plant or Animal • Book: A Seed Grows • Animal Life Cycle and Growth • Plant Life Cycle and Growth • Food From Plants • Plant or Animal • Plants and Animals	*Engagement:* • Learning Together: Living Things
2) Recognize differences between living organisms and non-living materials and sort them into groups by observable physical attributes.	• Song: Living and Nonliving • Living or Nonliving • Plants and Animals Need Air • Rock Cycle • Natural Resources	*Engagement:* • Learning Together: Living Things
3) Explain how animals, including humans, use their five senses to interact with the environment.	• Song: Five Senses • Book: I Wish I Had Ears Like a Bat • Sight • Hearing • Touch • Smell • Taste	
K.LS3: Heredity: Inheritance and Variation of Traits		
1) Collect and analyze observational data to show that young living things are like, but not exactly like, their parents.	• Song: Traits • Books: George and Jack; Mine • Traits of Living Things	• More-To-Explore Experiment: Traits
K.ESS2: Earth's Systems		
1) Make observations to gather weather data (i.e. precipitation, wind, temperature, cloud cover) using tools (e.g. thermometer, rain gauge).	• Song: Precipitation • Book: Whatever the Weather • Weather Tools • Calendar/Graph Weather • Weather Patterns • Clouds	*Engagement:* • Learning Together: Weather; The Weather Around Us
2) Use simple graphs and pictorial weather symbols to describe weather patterns that occur over time (i.e. hourly, daily).	• Weather • Calendar/Graph Weather • Weather Patterns • Clouds	• Weather Cards *Engagement:* • Learning Together: Weather; The Weather Around Us

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.ESS2: Earth's Systems *continued*		
3) Develop and use models to predict weather and identify patterns in spring, summer, autumn, and winter.	• Songs: Seasons; Precipitation • Book: That's What I Like: A Book About Seasons • Weather • Calendar/Graph Weather • Weather Patterns • Clouds • Spring • Summer • Fall • Winter	*Engagement:* • Learning Together: Weather; The Weather Around Us
K.ESS3: Earth and Human Activity		
1) Use a model to represent the way the environment meets the basic needs (shelter, food, water) of living things (including humans) and the places they live.	• Song: Four Ecosystems • Book: Where in the World Would You Go Today? • Oceans • Mountains • Deserts • Rainforests	*Engagement:* • Learning Together: Our Earth
2) Explain the purpose of weather forecasting to prepare for, and respond to, severe weather in Tennessee.	• Songs: Precipitation; Storms • Book: Whatever the Weather • Weather Tools • Calendar/Graph Weather	
3) Communicate solutions that will reduce the impact from humans on land, water, air, and other living things in the local environment.	• Songs: Conservation; Pollution Rap • Pollution and Recycling • Care of Water • Care of Earth	• More-To-Explore Experiment: Recycling *Engagement:* • Learning Together: Our Earth
K.ETS1: Engineering Design		
1) Apply an engineering design approach to identify and solve practical problems.	• Songs: Inventing; Problem Solving • Books: Inventions All Around; I Want to Be a Scientist Like Wilbur and Orville Wright • Inventions	• More-To-Explore Experiment: Recycling; Simple Machines
2) Use drawings and labels to communicate ideas and designs accurately.	• Books: How Did the Chicken Cross the Road?; Inventions All Around • Simple Machines	
3) Ask and answer questions about the scientific world and gather information using the senses.	• Science Investigation	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.ETS2: Links Among Engineering, Technology, Science, and Society		
1) Use appropriate tools (e.g. magnifying glass, rain gauge, basic balance scale) to make observations and answer testable scientific questions.	• Song: The Scientific Method • Science Tools • Science Investigation	
FIRST GRADE		
1.PS3: Energy		
1) Make observations to determine how sunlight warms Earth's surfaces (i.e. sand, soil, rocks, and water).	• Song: Sun Blues • Sun • Water Cycle • Heat Sources and Uses	*Engagement:* • Learning Together: The Sky Above Us
1.PS4: Waves and Their Application in Technologies for Information Transfer		
1) Make observations to construct an evidence-based account that objects are visible when light shines on them or if they produce their own light (e.g., very hot objects), and that different amounts of light influence what we can see.	• Books: My Family Campout; Lightning Bugs • Light Properties • Light Sources • Properties of Light • Light Exploration • Light Experiment	
2) Conduct an investigation to describe how the path of a beam of light can be changed by interactions with different materials (i.e. light passes through, some light passes through, light changes directions, or light is blocked which can cause shadows).	• Book: My Family Campout • Light Properties • Light Sources • Properties of Light • Light Exploration • Light Experiment	
1.LS1: From Molecules to Organisms: Structures and Processes		
1) Develop and use a model to explain the structure of plants (i.e., roots, stems, leaves, flowers, fruits) and describe the function of the parts (taking in water and air, producing food, making new plants).	• Song: Plants Are Growing • Functions of Plant Parts • Plants	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
1.LS1: From Molecules to Organisms: Structures and Processes *continued*		
2) Observe and analyze how living organisms grow and change over time.	• Song: Plants Are Growing • Book: A Seed Grows • Animal Life Cycle and Growth • Plant Life Cycle and Growth • Plants and Animals	*Engagement:* • Learning Together: Living Things
3) Analyze and interpret data from observations to describe how plants respond to changes in the environment (e.g., turn leaves toward the sun).	• Plants • Plants Need Water • Plants and Animals Need Air • Plant Experiment	• More-To-Explore Experiment: Water for Plants; Light for Plants *Engagement:* • Learning Together: Plants
1.LS2: Ecosystems: Interactions, Energy, and Dynamics		
1) Conduct an experiment to show how plants depend on air, water, minerals from soil, and light to grow and thrive.	• Plants • Plants Need Water • Plants and Animals Need Air • Plant Experiment	• More-To-Explore Experiment: Water for Plants; Light for Plants *Engagement:* • Learning Together: Plants
2) Obtain and communicate information to classify plants by where they grow (i.e., water, land) and the plant's physical characteristics.	• Book: I Want to Be a Scientist Like Alexander von Humboldt • Backyards • Deserts • Rainforests • Mountains • Oceans • Prairies • Wetlands	*Engagement:* • Learning Together: Places on Earth
3) Develop and use models to show how plants and animals depend on their surroundings and other living things to meet their needs in the places they live.	• Food Chains • Nature Detective • Backyards • Deserts • Rainforests • Mountains • Oceans • Prairies • Wetlands	*Engagement:* • Learning Together: Places on Earth

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
1.ESS1: Earth's Place in the Universe		
1) Use observations or models of the sun, moon, and stars to describe patterns that can be predicted.	• Songs: The Moon; Sun Blues • Books: Moon Song; Star Pictures • Sun • Moon • Constellations	• More-To-Explore Experiment: The Moon ***Engagement:*** • Learning Together: The Sky Above Us
2) Observe natural objects in the sky that can be seen from Earth with the naked eye and recognize that a telescope, used as a tool, can provide greater detail of objects in the sky.	• Songs: The Moon; Sun Blues • Books: Moon Song; Star Pictures • Science Tools • Sun • Moon • Constellations	• More-To-Explore Experiment: The Moon ***Engagement:*** • Learning Together: The Sky Above Us
3) Make observations to predict patterns between sunrise and sunset, and the change of seasons.	• Song: Seasons • Book: That's What I Like: A Book About Seasons • Sun • Spring • Summer • Fall • Winter	
1.ETS1: Engineering Design		
1) Apply an engineering design approach to identify and solve practical problems.	• Song: Inventing • Books: Inventions All Around; I Want to Be a Scientist Like Wilbur and Orville Wright • Inventions	• More-To-Explore Experiment: Recycling; Simple Machines
2) Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved.	• Books: How Did the Chicken Cross the Road?; Inventions All Around • Simple Machines	
3) Develop a simple sketch, drawing, or physical model that communicates solutions to others.	• Books: How Did the Chicken Cross the Road?; Inventions All Around • Simple Machines • Science Investigation	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
SECOND GRADE		
2.PS2: Motion and Stability: Forces and Interactions		
1) Analyze the push or the pull that occurs when objects collide or are connected.	• Song: Push and Pull • Book: Mr. Mario's Neighborhood • Push and Pull	*Engagement:* • Learning Together: How It Works
2) Plan and carry out an investigation to demonstrate how pushing and/or pulling an object affects the motion of the object within a system.	• Song: Push and Pull • Book: Mr. Mario's Neighborhood • Push and Pull	*Engagement:* • Learning Together: How It Works
2.PS3: Energy		
1) Demonstrate how a stronger push or pull makes things go faster and how faster speeds during a collision can cause a bigger change in the shape of the colliding objects.	• Song: Push and Pull • Book: Mr. Mario's Neighborhood • Push and Pull	*Engagement:* • Learning Together: How It Works
2) Make observations and conduct experiments to provide evidence that friction produces heat and reduces or increases the motion of an object.	• Heat Sources and Uses	
1.LS1: From Molecules to Organisms: Structures and Processes		
1) Plan and conduct investigations to demonstrate the cause and effect relationship between vibrating materials and sound.	• Song: Sound • Book: What Sounds Say • Sound Waves	• More-To-Explore Experiment: Sound
2) Use tools and materials to design and build a device to understand that light and sound travel in waves and can send signals over a distance.	• Song: Inventing • Books: I Want to Be a Scientist Like Thomas Edison; Inventions All Around • Light Properties • Light Sources • Properties of Light • Light Exploration • Light Experiment	• More-To-Explore Experiment: Sound

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
1.LS1: From Molecules to Organisms: Structures and Processes *continued*		
3) Obtain information to describe how devices communicate over a distance using light or sound.	• Song: Inventing • Books: I Want to Be a Scientist Like Thomas Edison; Inventions All Around • Light Properties • Light Sources • Properties of Light • Light Exploration • Light Experiment	• More-To-Explore Experiment: Sound
2.LS1: From Molecules to Organisms: Structures and Processes		
1) Use evidence and observations to explain that many animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air.	• Song: Animal Bodies • Books: I Wish I Had Ears Like a Bat; Animal Bodies; Fawn Eyes; Everybody Needs to Eat • Animal Behavior • Animal Teeth • Animal Bodies • Animal Tracks	
2) Obtain and communicate information to classify animals (i.e., vertebrates: mammals, birds, amphibians, reptiles, fish; and invertebrates: insects) based on their physical characteristics.	• Songs: Invertebrates • Books: Guess What I Am; Creepy Crawlers • Animal Groups • Animal Teeth • Animal Tracks • Mammals • Birds • Amphibians • Reptiles • Fish • Invertebrates • Insects	*Engagement:* • Learning Together: Vertebrates; Invertebrates
3) Identify ways in which some animals, both parents and offspring, participate in behaviors that help the offspring survive.	• Song: Animal Bodies • Animal Behavior • Animal Bodies	

Waterford.org
CURRICULUM

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.LS2: Ecosystems: Interactions, Energy, and Dynamics		
1) Develop and use models to compare how animals depend on their surroundings and other living things to meet their needs in the places they live.	• Songs: Animal Bodies; Four Ecosystems; Food From Plants • Books: Animal Bodies; Where in the World Would You Go Today? • Ecosystems • Food From Plants • Herbivores, Carnivores, and Omnivores • Animal Bodies • Animal Behavior	*Engagement:* • Learning Together: Places on Earth
2) Predict what happens to animals when the environment changes (temperature, cutting down trees, wildfires, pollution, salinity, drought, land preservation).	• Songs: Conservation; Pollution Rap; I Am Part of All I See • Pollution and Recycling • Food Chains • Care of Water • Care of Earth • Care of Air	*Engagement:* • Learning Together: Our Earth
2.ESS1: Earth's Place in the Universe		
1) Recognize that some of Earth's natural processes are cyclical, while others have a beginning and an end. Some events happen quickly, while others occur slowly over time.	• Songs: The Four Seasons; Rock Cycle • Books: That's What I Like: A Book About Seasons; Whatever the Weather; Fossils Under Our Feet • Rock Cycle • Water Cycle • Fossils • Spring • Summer • Fall • Winter • Water	• More-To-Explore Experiment: Rocks
2.ESS2: Earth's Systems		
1) Compare the effectiveness of multiple solutions designed to slow or prevent wind or water from changing the shape of the land.	• Waterford encourages everyone to have writing, drawing, and art materials available for children's creations.	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.ESS2: Earth's Systems *continued*		
2) Observe and analyze how blowing wind and flowing water can move Earth materials (soil, rocks) from one place to another, changing the shape of a landform and affecting the habitats of living things.	• Song: Rock Cycle • Rock Cycle • Water Cycle • Soil	
3) Develop and compare simple maps of different land areas to observe the shapes and kinds of land (rock, soil, sand) and water (river, stream, lake, pond).	• Songs: Water; Precipitation; Water Is All Around; Water Cycle • Water Sources • Water • Water Cycle • Care of Water • Oceans	*Engagement:* • Learning Together: Places on Earth
4) Use information obtained from reliable sources to explain that water is found in the ocean, rivers, streams, lakes, and ponds, and may be solid or liquid.	• Songs: Water; Uses of Water; Precipitation; Water Is All Around • Water Sources • Water • Water Cycle • States of Water • Heat Changes Water	*Engagement:* • Learning Together: Places on Earth
2.ETS1: Engineering Design		
1) Apply an engineering design approach to identify and solve practical problems.	• Songs: Inventing; Problem Solving • Books: Inventions All Around; I Want to Be a Scientist Like Wilbur and Orville Wright • Inventions	• More-To-Explore Experiment: Recycling; Simple Machines
2) Recognize that to solve a problem, one may need to break the problem into parts, address each part, and then bring the parts back together.	• Song: Problem Solving • Books: How Did the Chicken Cross the Road?; Inventions All Around; I Want to Be a Scientist Like: Wilbur and Orville Wright; Thomas Edison; Isaac Newton • Simple Machines • Inventions	
3) Compare and contrast solutions to a design problem by using evidence to point out strengths and weaknesses of the design.	• Song: Problem Solving • Books: How Did the Chicken Cross the Road?; Inventions All Around • Simple Machines • Science Investigation	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.ETS2: Links Among Engineering, Technology, Science, and Society		
1) Use appropriate tools to make observations, record data, and refine design ideas.	• Songs: The Scientific Method; Graphing • Science Tools • Science Investigation • Calendar/Graph Weather • Graphs • Bar Graphs • Picture Graphs	
2) Predict and explain how human life and the natural world would be different without current technologies.	• Books: The Germs; Seeing Fingers; Noise? What Noise?; I Want to Be a Scientist Like: Antoni Van Leeuwenhoek; Isaac Newton; Louis Pasteur; Wilbur and Orville Wright; Thomas Edison • Care of Earth • Care of Water • Care of Air	

PRE-MATH & SCIENCE

Math Books

Zero In My Toybox; One Day on the Farm; Two Feet; Look for Three; Four Fine Friends; Grandpa's Great Athlete: A Book About 5; Hide and Seek Six; Just Seven; Eight at the Lake; 9 Cat Night; Ten for My Machine; The Search for Eleven; The Tasty Number Twelve; Thirteen in My Garden; Fourteen Camel Caravan; Fifteen on a Spring Day; Dinner for Sixteen; The Seventeen Machine; Eighteen Carrot Stew; Nineteen Around the World; Twenty Clay Children; Poor Wandering 1; Snowy Twos Day; 1, 2, 3, 4 in the Jungle; Give Me 5; Suzy Ladybug; 7 Train; 8 Octopus Legs; Highway 9; 10 Astronauts; When I Saw 11; I Love the Number 12; 13 Clues; 14 Camels; Fun 15; 16 Ants; Counting to 17; 18 Carrot Stew; 19 Around the World; 20 Fingers and Toes

Science Books

That's What I Like: A Book about Seasons; I Want to Be a Scientist Like Jane Goodall; Mr. Mario's Neighborhood; Mela's Water Pot; I Want to Be a Scientist Like Wilbur and Orville Wright; Follow the Apples!; I Want to Be a Scientist Like George Washington Carver; Guess What I Am; Where in the World Would You Go Today?; Star Pictures; I Wish I Had Ears Like a Bat; Creepy Crawlers

Counting Songs

Asian Counting, Marching Band Counting, Flower Counting, Country Counting, Dixieland Counting, Funky Counting, Reggae Counting, Salsa Counting, Techno Counting, Bagpipe Counting, Counting on the Mountain

Number Songs

Count to 31; Hotel 100; Zero Is a Big Round Hole; Poor Wandering 1; Snowy Twos Day; 1, 2, 3, 4 in the Jungle; Give Me 5; Suzy Ladybug; 7 Train; 8 Octopus Legs; Highway 9; 10 Astronauts; When I Saw 11; I Love the Number 12; 13 Clues; 14 Camels; Fun 15; 16 Ants; Counting to 17; 18 Carrot Stew; 19 Around the World; 20 Fingers and Toes

BASIC MATH & SCIENCE

Math & Science Books

One More Cat; Can You Guess? A Story for Two Voices; I Want to Be a Scientist Like Carl Linnaeus; I Want to Be a Scientist Like Antoni van Leeuwenhoek; Whatever the Weather; I Want to Be a Mathematician Like Sophie Germain; Water Is All Around; Mr. Romano's Secret: A Time Story; A Seed Grows; How Long is a Minute?; Marty's Mixed-up Mom; I Want to Be a Scientist Like Louis Pasteur; Pancakes Matter; Jump Rope Rhymes; Facts About Families; Fifteen Bayou Band; Hooray, Hooray for the One Hundredth Day!; Symmetry and Me; Animal Bodies; Everybody Needs to Eat; The Circus Came to Town; I Want to Be a Mathematician Like Thales; Bugs for Sale; Heads or Tails; Your Backyard; The Birds, the Beasts and the Bat; Halves and Fourths and Thirds; We All Exercise; Circus 20; Red Rock, River Rock; Painting by Number; I Want to Be a Scientist Like Joanne Simpson; Navajo Beads; Where in the World Would You Go Today?; I Want to Be a Scientist Like Wilbur and Orville Wright

FLUENT MATH & SCIENCE

Math & Science Books

The Snow Project; Chloe's Cracker Caper; What Sounds Say; Fossils Under Our Feet; The Boonville Nine; I Want to Be a Scientist Like Alexander von Humboldt; I Want to Be a Scientist Like Marie Curie; I Want to Be a Scientist Like Stephen Hawking; George and Jack; The Old Maple Tree; A Dinosaur's First Day; I Want to Be a Scientist Like Isaac Newton; My Family Campout; I Want to Be a Scientist Like Thomas Edison; Warm Soup for Dedushka; How Did the Chicken Cross the Road?; Inventions All Around; The Beginning of Numbers; I Want to Be a Mathematician Like Ada Byron Lovelace; Lightning Bells; Tyrannosaurus X 1; Halves and Fourths and Thirds; Navajo Beads; Red Rock, River Rock; I Want to Be a Mathematician Like Srinivasa Ramanujan; The Fraction Twins; Yangshi's Perimeter; I Want to Be a Mathematician Like Archimedes; Birds at My House; Painting by Number; The Fable Fair

SUPPORT

Professional Services offers a continuum of customizable services. Learn more here.

CONTINUAL DEVELOPMENT

As a nonprofit research institute, Waterford.org is continually developing resources with the latest research findings. Please note that this correlation is accurate as of the date on the cover.

WATERFORD *Family Engagement Resources*

SPANISH FAMILY ENGAGEMENT RESOURCES

All Waterford books and many of the resources available to families at mentor.waterford.org can be found in Spanish or with Spanish support.

SONGS

Beginning Math Songs

Odd Todd and Even Steven; Salsa Counting; On the Bayou—Addition; Subtract Those Cars; More Than, Fewer Than; A Nice Addition; Marching Band Counting; Doubles 1–5; Multiply by 0

Nursery Songs and Rhymes

Rhyming Words; A: The Apple Tree; B: Bluebird, Bluebird; C: Pat-a-Cake; D: Hey Diddle, Diddle; E: One Elephant Went Out to Play; F: The Farmer in the Dell; G: Ten Little Goldfish; H: All the Pretty Little Horses; I: Mother, Mother, I Am Ill; J: Jack and Jill; K: Three Little Kittens; L: Mary Had a Little Lamb; M: Little Miss Muffett; N: I Touch My Nose Like This (Spanish); O: Polly, Put the Kettle On; P: This Little Pig; Q: Quack, Quack, Quack; R: Little Rabbit (Chinese); S: Eensy, Weensy Spider; T: Tortillas, Tortillas (Spanish); U: The Bus; V: My Valentine; W: Wee Willie Winkie; X: A-hunting We Will Go; Y: Yankee Doodle

Beginning Reading Songs

Comma, Comma, Comma; Homophone Monkey; Antonym Ant; Apples and Bananas; Old MacDonald's Vowels; ABC Show and Tell Sounds; ABC Tongue Twisters; ABC Picture Sounds; Sheep in the Shadows; C-K Rap; S Steals the Z; Blends; Blicky Licky Land; Apostrophe Pig; Capital Letters—Days; Charley Chick; Adjectives Describe; Lazy Letter Q; Nouns; Verbs; Adverbs; Irregular Verbs; Preposition Cat; Verbs that Link; Consonants; Pronouns, Sneaky Magic E; Silent Letters—G-H; Silent Letters—W; Drop Magic E; Bossy Mr. R; P-H and G-H Say Fff; Schwa Sound; Double the Fun; Strange Spelling; More Than One; Reading Detective—Peek at the Story

Many of these songs are available on the Waterford.org YouTube channel.

WEEKLY HOMELINK NEWSLETTERS

Weekly newsletters (28 in all) are available for teachers to share with families. The newsletters explain what children are learning during the week and provide resources and activities to involve families.

MATH HOMELINK NEWSLETTERS

Match, Position, Shapes, Counting, Patterns Sort, Size, Number Sense (1–10), Order (1–10), Count On, Measurement (length), Count Down, Addition (10), Numbers 11–15, Numbers 16–20

SCIENCE HOMELINK NEWSLETTERS

The World Around Us (5 senses), Living Things (living v. non-living), Plants, Vertebrates, Invertebrates, The Sky Above Us (sun, moon, stars), Our Earth (recycle, ecosystems), How it Works (push/pull, solid/liquid, magnets, materials)

READING HOMELINK NEWSLETTERS

Alphabet Knowledge
Comprehension and Vocabulary

Sum Up: Remember Order, Sum Up: Remember Details, Peek at the Story, Guess and Check, Connect to Me, Build Knowledge

Readiness Skills Letters

Naming Parts of the Body; First, Next, Last; One-to-One Correspondence; Opposites; Look at Details (identify same and different)

Phonological Awareness Letters

What Is Rhyming?, Which Words Rhyme?, Sentences Are Made Up of Words, Making Compound Words, Breaking Compound Words, What Is a Syllable?, Put Syllables Together to Make Words, Break Words into Syllables, The First Sound in a Word, Words with the Same First Sound, Making Words from First Sounds and the Rest

WATERFORD MENTOR

Waterford Mentor is a secure website where families can log in to see their child's usage and learning achievements. Waterford families also receive short messages with ideas on how to engage in their child's learning and have access to hundreds of resources and activities.
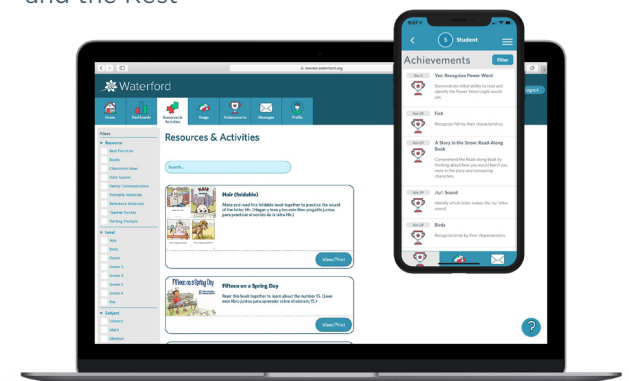
Waterford Mentor is available online and in the Mentor app (for iOS and Android).