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Correlation Criteria: TENNESSEE ACADEMIC STANDARDS FOR MATH (2018) AND SCIENCE (2017) *for* KINDERGARTEN, 1ST, AND 2ND GRADES

JANUARY 2022

CURRICULUM *Correlation*

Waterford Reading Academy:

Math & Science

98%

Tennessee Academic Standards for Math (2018) and Science (2017)

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

TABLE OF CONTENTS

TENNESSEE ACADEMIC STANDARDS FOR MATH (2018) AND SCIENCE (2017)

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TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
MATH		
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.	• Number Songs
	• Counting Songs
	• Math Books
	• Counting Backward
	• Number Instruction
	• Number Counting
	• Order Numbers
	• Skip Count by 10
	• Skip Count by 5
	• Dot to Dot
	• Counting Puzzle
	• 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 beginning from a given number within the known sequence (instead of having to begin at 1).	• Count On
	• Counting Songs
	• Counting Puzzle
	• Dot-to-Dot
		• 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 number of objects with a written numeral 0-20.	• Math Books
	• Counting Songs
	• Number Songs
	• Number Counting
	• Number Instruction
	• Counting Puzzle
		• 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
B. Count to tell the number of objects.		
K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.	• Counting Songs • Number Counting • One-to-One Correspondence • Make and Count Groups • Match Numbers	• 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.4a. When counting objects, say the number names in the standard order, using One-to-One Correspondence.	• Make and Count Groups • Number Counting • Match Numbers • One-to-One Correspondence	• 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.4b. 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.	• Counting Songs • Number Counting • Counting Puzzle • Make and Count Groups	• 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.4c. Recognize that each successive number name refers to a quantity that is one greater.	• Make and Count Groups • Number Counting • Match Numbers • One-to-One Correspondence • Order Numbers • 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.5 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 • Make and Count Groups • Number Counting • Number Instruction • Numbers Review • Match Numbers • Bug Bits • 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.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.	• 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.7 Compare two given numbers up to 10, when written as numerals, using the terms greater than, less than, or equal to.	• Book: For the Birds
	• Greater Than, Less Than
	• More Than, Fewer Than
	• More Than
	• Fewer Than
		• 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
		  – Spinner
		  – Board game
		  – Number cards

Operations and Algebraic Thinking (OA)		
A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.		

K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.	• Songs: Addition; On the Bayou; Bakery Subtraction; Circus Subtraction; Subtract Those Cars
	• Book: Five Delicious Muffins
	• 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. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from *continued*.		

K.OA.A.2 Add and subtract within 10 to solve contextual problems using objects or drawings to represent the problem.	• Songs: Addition; 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
	• Flower Story Problems
	• Story Problem Strategies
		• 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
		  – Addition Newsletter
		  – Subtraction Newsletter
		  – Subtraction Flashcards

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
		• 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.	• Missing Addends • Count On • Act Out Addition • Flower Story Problems	• 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?

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from *continued*.		
K.OA.A.5 Fluently add and subtract within 10 using mental strategies.	• Songs: Addition; 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	
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 ten ones and some more ones by using objects or drawings. 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 (1 & 2)
Measurement and Data (MD)		
A. Describe and compare measurable attributes.		

K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	• 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

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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 see which object has more of/less of the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	• Songs: Measuring Plants; Savanna Size; Large, Larger, Largest; Let's Compare
	• 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
		  – Small, Medium, Large
		  – Measuring Length
		  – Measurable Attributes

B. Work with money.		
K.MD.B.3 Identify the penny, nickel, dime, and quarter and recognize the value of each.	• Songs: Save Your Pennies; Money • Coin Identification	
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 less 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 (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		
K.G.A.1 Describe objects in the environment using names of shapes. Describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, between, and next to.	• Songs: Positioning; Kites; Get Over the Bugs; Shapes, Shapes, Shapes; Up in the Air • Books: The Shape of Things; Imagination Shapes • Position • Over, Under, Above, Below • Inside, Outside, Between • Circle, Square, Triangle, Rectangle • Star, Semicircle, Octagon, Oval, Diamond • Simple Shapes • Solid Shapes • World Shapes • Above, Below, Next to, On	• 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 regardless of their orientations or overall size.	• Songs: Kites; Shapes, Shapes, Shapes; Up in the Air
	• Books: The Shape of Things; Imagination Shapes
	• Circle, Square, Triangle, Rectangle
	• Star, Semicircle, Octagon, Oval, Diamond
	• 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
		  – Shapes Flashcards

K.G.A.3 Identify shapes as two-dimensional or 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
B. Analyze, compare, create, and compose shapes.		
K.G.B.4 Describe similarities and differences between two- and three-dimensional shapes, 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

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Analyze, compare, create, and compose shapes *continued*.		
K.G.B.5 Model shapes in the world by building and drawing shapes.	• 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 larger shapes using simple shapes and identify smaller shapes within a larger shape.	• 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. (See Table 1 - Addition and Subtraction Situations)	• Songs: Fact Families; Doubles
	• Book: Facts About Families
	• Addition and Subtraction Fact Families
	• Addition and Subtraction Relationship
	• Doubles
	• Subtract Doubles
	• Problem Solving Strategy
	• Story Problem Strategies
		• 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.	• Story Problem Strategies • Problem Solving Strategy	• 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
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. (Students need not use formal terms for these properties.)	• Addition and Subtraction Relationship
	• Addition Patterns
	• Commutative Property of Addition
	• Kingdom of Counting
	• Mental Math Games
		• Strategies to add and subtract.pdf: Apply properties of operations as strategies to add and subtract.
		   – Adding and Subtracting Bugs
		   – Concentration
		   – Related Facts

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Understand and apply properties of operations and the relationship between addition and subtraction *continued*.		
1.OA.B.4 Understand 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, using fact families and 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).	• Songs: Fact Families; Counting On • Books: Facts about Families; Circus 20; Painting by Number • 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 – Add _ and 1–5; _ and 6–10 – Order Property of Addition – Add Doubles +1 to 11 – Add Doubles to 20 – Add Doubles +1 to 21 – Make 10 – Subtract _ from – Subtract – Subtraction Patterns – Fact Families to 10; to 20 – Add and Subtract Doubles to 10; Doubles to 20 – Sets of flashcards: – Addition—horizontal; vertical – Subtraction—horizontal; vertical

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Add and subtract within 20 *continued*.		

1.OA.C.6 Fluently add and subtract within 20 using mental strategies. By the end of 1st grade, know from memory all sums up to 10.	• Song: Fact Families; Counting On
	• Books: Facts about Families; Circus 20; Painting by Number
	• 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
	• Missing Addends, Sums to 10
	• Mental Math Games
	• Speed Games
		• 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
		  – Add _ and 1–5; _ and 6–10
		  – Order Property of Addition
		  – Add Doubles +1 to 11
		  – Add Doubles to 20
		  – Add Doubles +1 to 21
		  – Make 10
		  – Subtract _ from
		  – Subtract
		  – Subtraction Patterns
		  – Fact Families to 10; to 20
		  – Add and Subtract Doubles to 10; Doubles to 20
		  – Sets of flashcards:
		  – Addition—horizontal; vertical
		  – Subtraction—horizontal; vertical

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

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
D. Work with addition and subtraction equations *continued*.		

1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation, with the unknown in any position (e.g., 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?).	• Addition Sentences
	• Subtraction Sentences
	• Missing Addends
	• Missing Minuends and Subtrahends
	• Mental Math Games
		• 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
		  – Add _ and 1–5; _ and 6–10
		  – Order Property of Addition
		  – Add Doubles +1 to 11
		  – Add Doubles to 20
		  – Add Doubles +1 to 21
		  – Make 10
		  – Subtract _ from
		  – Subtract
		  – Subtraction Patterns
		  – Fact Families to 10; to 20
		  – Add and Subtract Doubles to 10; Doubles to 20
		  – Sets of flashcards: Addition—horizontal; vertical; Subtraction—horizontal; vertical

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
Number and Operations In Base Ten (NBT)		
A. Extend the counting sequence.		

1.NBT.A.1 Count to 120, starting at any number. Read and write numerals to 120 and represent a number of objects with a written numeral. Count backward from 20.	• Song: Counting On
	• Books: Hooray, Hooray for the One Hundredth Day!; Painting by Number; Circus 20
	• Count On
	• 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

B. Understand place value.		

1.NBT.B.2 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
	• Expanded Notation
	• Add with Manipulatives
	• Number Recognition and Sense
		• Tens as a bundle of ones.pdf: 10 can be thought of as a bundle of ten ones—called a "ten."
		  – Popsicles to Ten
		• 11-19 broken down.pdf: The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
		  – Toss It
		  – Make a Number
		  – Numbers Flashcards
		  – Numbers 10–19
		  – More Numbers 10–19

1.NBT.B.3 Compare two two-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 (2-digit Numbers)
	• You Be the Teacher
		• 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

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

1.NBT.C.4 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
	• Doubles
	• Doubles Plus 1
	• Add with Manipulatives
	• Add Vertical Squares
	• Add with Beads
	• Add 2-digit and 1-digit Numbers with Regrouping
	• Add 2-digit and 1-digit Numbers with Regrouping
	• Add 2-digit Numbers without Regrouping
	• Add 2-digit Numbers with Regrouping
	• Add with Regrouping Concept
	• You Be the Teacher
		• Adding within 100.pdf: 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.
		  – 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
		  – 1 set of flashcards

1.NBT.C.5 Mentally find 10 more or 10 less than a given two-digit number without having to count by ones and explain the reasoning used.	• Add 10 and 6-10
	• Subtract 10 from 10-20
	• Skip Counting
		• 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.6 Subtract multiples of 10 from multiples of 10 in the range 10-90 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	• Subtraction
	• Subtraction Sentences
	• Subtract Tens
	• Subtraction Patterns
	• Subtract 10 from 10–20
	• Problem Solving Strategies: Look for a Pattern
	• Use Manipulatives
	• Mental Math Games
	• You Be the Teacher
		• 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

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
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
	• Story Problem Strategies: Nonstandard
		• 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

1.MD.A.2 Measure the length of an object using non-standard units and express this length as a whole number of units.	• Length
	• Nonstandard Units of Length
	• Story Problem Strategies: Nonstandard
		• 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 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; How Long is a Minute?
	• Tell Time to the Hour
	• Tell Time to the Half-Hour
	• Compare Minutes to Hours
	• Order Numbers on a Clock
		• 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

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
B. Work with time and money *continued*.		
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 • Count Dimes, Nickels, and Pennies • Count Quarters, Dimes, Nickels, and Pennies • Count Nickels and Pennies or Dimes and Pennies • Equivalent Sums of Money • Quarters	
C. Represent and interpret data.		
1.MD.C.5 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.	• Song: Tallying; Graphing • Book: One More Cat; Painting by Number • Tally Marks • Problem Solving Strategy: Make a Graph, Make a Table • Graphs • Make a Table • Story Problem Strategies: Graphs	• 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 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

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

1.G.A.2 Create a composite shape and use the composite shape to make new shapes by using two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, rectangular prisms, cones, and cylinders).	• Song: Kites; Shapes, Shapes, Shapes;
	• Space Shapes
	• Geoboard
	• Tangrams
		• Model shapes.pdf: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
		  – Building Shapes
		  – Form Larger Shapes.pdf: Compose simple shapes to form larger shapes.
		  – Combining Shapes

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
	• Book: Halves and Fourths and Thirds
	• 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

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
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
	• Problem Solving Strategies
	• Story Problem Strategies
	• 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 from memory all sums of two one-digit numbers and related subtraction facts.	• Song: Fact Families; Doubles
	• Mental Math Games
	• Speed Games
	• 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.
		  – Sets of flashcards:
		  – Addition—horizontal; vertical
		  – Subtraction—horizontal; vertical
		  – Addition and subtraction—horizontal and vertical

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
		• 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?

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
C. Work with equal groups of objects to gain foundations for multiplication *continued*.		
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.	• Addition • Multiply Using Repeated Addition • Multiply Using Arrays	
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 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 Count within 1000. Skip-count within 1000 by 5s, 10s, and 100s, starting from any number in its skip counting sequence.	• Song: Skip Counting
	• Skip Count
	• Skip Count by 10
	• Skip Count by 5
	• Story Problem Strategies: Skip Count
	• 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.	• Problem Solving Strategies (Make a List)
	• Story Problem Strategies: Sequences; Place Value
	• Sequences of 2-digit Numbers
	• Sequences of 3-digit Numbers
	• 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

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TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
A. Understand place value *continued*.		

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

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.	• Mental Math Games
	• Story Problem Strategies: Add with Regrouping; Subtract with Regrouping
	• Add without Regrouping
	• Add with Regrouping
	• Subtract without regrouping
	• Subtract with Regrouping
	• Speed Games
	• 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 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

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

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.	• 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
		  – Number Cards

2.NBT.B.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100– 900.	• Mental Math Games • Speed Games • 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 (with spinner and numbers cards)

2.NBT.B.9 Explain why addition and subtraction strategies work using properties of operations and place value. (Explanations may include words, drawing, or objects.)	• Addition
	• Subtraction
	• Add with Regrouping Concept
	• Subtract with Regrouping Concept
	• Place Value
	• Number Line
	• You Be the Teacher
	• Commutative Properties of Addition
	• Act Out Addition
	• Act Out Subtraction
		• Explaining addition and subtraction strategies.pdf: Explain why addition and subtraction strategies work, using place value and the properties of operations.
		  – Cube Trails
		  – Race for a Flat
		  – High/Low Number Cube Throw
		  – Lucky Five
		  – Hundreds, Tens, Ones Chart
		  – Numbers Cards

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 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 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 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 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

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 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
	 • Story Problem Strategies
	 • 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
	 • You Be the Teacher: Tell Time
		• 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

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

2.MD.C.8 Solve contextual problems involving dollar bills, quarters, dimes, nickels, and pennies using ¢ and $ symbols 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
	• Story Problem Strategies
	• You Be the Teacher
		• 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 Generate measurement data by measuring lengths of several objects to the nearest whole unit. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.		• 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 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
	• Graphing
	• 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 or a given number of sides of equal length.	• Song: Kites
	• Geoboard
	• Songs: Shapes, Shapes, Shapes; Corners and Sides
	• 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
	• Story Problem Strategies: Fractions of Regions, Fractions of Groups
	• You Be the Teacher: Fractions of Regions
		• Fractions.pdf: Partition circles and rectangles into two, three, or four equal shares, describe 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

SCIENCE		
KINDERGARTEN		
K.PS1: Matter and Its Interactions		
1) Plan and conduct an investigation to describe and classify different kinds of materials including wood, plastic, metal, cloth, and paper by their observable properties (color, texture, hardness, and flexibility) and whether they are natural or human-made.	• Materials • Solid, Liquid, Gas • Natural Resources • Magnets	• Learning Together: How It Works
2) Conduct investigations to understand that matter can exist in different states (solid and liquid) and has properties that can be observed and tested.	• Books: Pancakes Matter; Warm Soup for Dedushka • Changes in Matter • Solid, Liquid, Gas	• Learning Together: How It Works

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.PS1: Matter and Its Interactions *continued*		
3) Construct an evidence-based account of how an object made of a small set of pieces (blocks, snap cubes) can be disassembled and made into a new object.	• Tangrams • Geoboard	
K.LS1: From Molecules to Organisms: Structures and Processes		
1) Use information from observations to identify differences between plants and animals (locomotion, obtainment of food, and take in air/gasses).	• Book: Everybody Needs to Eat • Plant or Animal • Animals Need Water • Animal Teeth • Plants and Animals Need Air • Plants • Plant Experiment *Resources*: • Science Cards 2 Plant or Animal • Plant or Animal? Sorting Mat	
2) Recognize differences between living organisms and non-living materials and sort them into groups by observable physical attributes.	• Living or Nonliving • Plants and Animals Need Air • Water • Sun *Resources*: • Living or Nonliving? • Which Ones Will Grow	• Learning Together: Living Things
3) Explain how humans use their five senses in making scientific findings.	• Five Senses • Touch • Smell • Sight • Taste • Hearing	• HomeLink Newsletter: Five Senses
K.LS3.1: Heredity: Inheritance and Variation of Traits		
1) Make observations to describe that young plants and animals resemble their parents.	• Books: George and Jack; Mine; The Old Maple Tree; A Seed Grows • Animal Life Cycle and Growth	• More to Explore Experiment: Traits

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.ESS2: Earth's Systems		
1) Analyze and interpret weather data (precipitation, wind, temperature, cloud cover) to describe weather patterns that occur over time (hourly, daily) using simple graphs, pictorial weather symbols, and tools (thermometer, rain gauge).	• Song: Seasons • Book: That's What I Like: A Book About Seasons • Calendar/Graph Weather • Weather Patterns • Clouds • Spring • Summer • Fall • Winter	• Learning Together: Weather; The Weather Around Us • Weather Cards
2) Develop and use models to predict weather and identify patterns in spring, summer, autumn, and winter.	Waterford encourages everyone to have writing, drawing, and art materials available for children's creations. • Song: Seasons • Book: That's What I Like: A Book About Seasons • Calendar/Graph Weather • Weather Patterns • Clouds • Spring • Summer • Fall • Winter	• Learning Together: The Weather Around Us
K.ESS3: Earth and Human Activity		
1) Use a model to represent the relationship between the basic needs (shelter, food, water) of different plants and animals (including humans) and the places they live.	• Song: Four Ecosystems • Book: Where in the World Would You Go Today? • Oceans • Mountains • Deserts • Rainforests	• 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 • Learning Together: Our Earth

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
K.ETS1: Engineering Design		
1) Ask and answer questions about the scientific world and gather information using the senses.	• Song: The Scientific Method • Science Investigation	
2) Describe objects accurately by drawing and/or labeling pictures.	Waterford encourages everyone to have writing, drawing, and art materials available for children's creations.	
K.ETS2: Links Among Engineering, Technology, Science, and Society		
1) Use appropriate tools (magnifying glass, rain gauge, basic balance scale) to make observations and answer testable scientific questions.	• Science Tools • Weather Tools	
FIRST GRADE		
1.PS3: Energy		
1) Make observations to determine how sunlight warms Earth's surfaces (sand, soil, rocks, and water).	• Songs: Water; Plants Are Growing; Sun Blues • Book: My Family Campout • Sun	
1.PS4: Waves and Their Application in Technologies for Information Transfer		
1) Use a model to describe how light is required to make objects visible. Summarize how Illumination could be from an external light source or by an object giving off its own light.	• Books: I Want to Be a Scientist Like Thomas Edison; I Want to Be a Scientist Like Isaac Newton • Properties of Light • Light Experiment	
2) Determine the effect of placing objects made with different materials (transparent, translucent, opaque, and reflective) in the path of a beam of light.	• Book: My Family Campout • Light Properties • Properties of Light	
1.LS1: From Molecules to Organisms: Structures and Processes		
1) Recognize the structure of plants (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 • Plants • Functions of Plant Parts	• Learning Together: Plants; Green and Growing

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
1.LS1: From Molecules to Organisms: Structures and Processes *continued*		
2) Illustrate and summarize the life cycle of plants.	Waterford encourages everyone to have writing, drawing, and art materials available for children's creations. • Songs: Plants Are Growing; Measuring Plants • Books: Little Tree; The Old Maple Tree; A Seed Grows • Plant Experiment • Plant Life Cycle and Growth	
3) Analyze and interpret data from observations to describe how changes in the environment cause plants to respond in different ways.	• Song: Measuring Plants • Plant Experiment • Plant Life Cycle and Growth	• More to Explore Experiment: Water for Plants; Light for 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.	• Song: Water • Book: Mela's Water Pot • Sun • Plants • Plants and Animals Need Air • Water • Plant Experiment	• Learning Together: Plants; Green and Growing • More to Explore Experiment: Water for Plants; Light for Plants
2) Obtain and communicate information to classify plants by where they grow (water, land) and the plant's physical characteristics.	• Wetlands • Polar Lands • Prairies • Backyards	
3) Recognize how plants depend on their surroundings and other living things to meet their needs in the places they live.	• Plant Life Cycle and Growth • Functions of Plant Parts • Wetlands • Polar Lands • Prairies • Backyards • Food Chains • Polar Lands Food Chain • Prairies Food Chain • Wetlands Food Chain	

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; My Family Campout • Sun • Moon • Constellations	• More to Explore Experiment: The Moon • 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.	• Book: I Want to Be a Scientist Like Stephen Hawking	• Learning Together: The Sky Above Us
3) Analyze data to predict patterns between sunrise and sunset, and the change of seasons.	• Sun, Moon, and Earth • Sun • Spring • Summer • Fall • Winter	
1.ETS1: Engineering Design		
1) Solve scientific problems by asking testable questions, making short-term and long-term observations, and gathering information.	• Song: The Scientific Method • Science Investigation	
1.ETS2: Links Among Engineering, Technology, Science, and Society		
1) Use appropriate tools (magnifying glass, basic balance scale) to make observations and answer testable scientific questions.	• Science Tools	

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	• Learning Together: How It Works
2) Evaluate the effects of different strengths and directions of a push or a pull on the motion of an object.	• Song: Push and Pull • Book: Mr. Mario's Neighborhood • Push and Pull	• Learning Together: How It Works
3) Recognize the effect of multiple pushes and pulls on an object's movement or non-movement.	• Song: Push and Pull • Book: Mr. Mario's Neighborhood • Push and Pull	• 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	
2) Make observations and conduct experiments to provide evidence that friction produces heat and reduces or increases the motion of an object.		
2.PS4: Waves and Their Applications in Technologies for Information Transfer		
1) Plan and conduct investigations to demonstrate the cause and effect relationship between vibrating materials (tuning forks, water, bells) 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.	• Light Properties • Properties of Light • Sound Waves	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.PS4: Waves and Their Applications in Technologies for Information Transfer *continued*		
3) Observe and demonstrate that waves move in regular patterns of motion by disturbing the surface of shallow and deep water.	• Sound Waves	
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 • Book: Animal Bodies • Animal Bodies • Animal Groups • Animal Teeth	
2) Obtain and communicate information to classify animals (vertebrates-mammals, birds, amphibians, reptiles, fish, invertebrates-insects) based on their physical characteristics.	• Songs: Vertebrates; Invertebrates • Books: Guess What I Am; Creepy Crawlers • Vertebrates • Invertebrates • Mammals • Fish • Birds • Amphibians • Reptiles • Animal Groups	• Learning Together: Vertebrates; Invertebrates • Invertebrates • Mammal Attribute Poster • Fish Poster • Amphibian Attribute Poster • Reptile Attribute Poster
3) Use simple graphical representations to show that species have unique and diverse life cycles.	• Animal Life Cycle and Growth • Amphibians	
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.	• Herbivores, Carnivores, and Omnivores • Food Chains • Polar Lands Food Chain • Prairies Food Chain • Wetlands Food Chain	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.LS2: Ecosystems: Interactions, Energy, and Dynamics *continued*		
2) Predict what happens to animals when the environment changes (temperature, cutting down trees, wildfires, pollution, salinity, drought, land preservation).	• Care of Water • Care of Earth	• Learning Together: Our Earth
2.LS3: Heredity: Inheritance and Variation of Traits		
1) Use evidence to explain that living things have physical traits inherited from parents and that variations of these traits exist in groups of similar organisms.	• Books: George and Jack; A Seed Grows • Build Knowledge: Mine	• More to Explore Experiment: Traits
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 • 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.		
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.	• Rock Cycle	

TENNESSEE STANDARDS	WATERFORD DIGITAL RESOURCES	WATERFORD TEACHER RESOURCES
2.ESS2: Earth's Systems *continued*		
3) Compare simple maps of different land areas to observe the shapes and kinds of land (rock, soil, sand) and water (river, stream, lake, pond).	• Song: Rocks • Soil • Water Sources • Rocks • Wetlands • Polar Lands • Prairies • Backyards	
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.	• Book: Water Is All Around • Water Sources • Water • Oceans	
2.ETS1: Engineering Design		
1) Define a simple problem that can be solved through the development of a new or improved object or tool by asking questions, making observations, and gather accurate information about a situation people want to change.	• 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) Develop a simple sketch, drawing, or physical model that communicates solutions to others.	Waterford encourages everyone to have writing, drawing, and art materials available for children's creations. • Book: How Did the Chicken Cross the Road? • Simple Machines	
3) 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: Inventing • Books: Inventions All Around; I Want to Be a Scientist Like Wilbur and Orville Wright; How Did the Chicken Cross the Road? • Inventions	
4) Compare and contrast solutions to a design problem by using evidence to point out strengths and weaknesses of the design.	• Books: I Want to Be a Scientist Like Wilbur and Orville Wright; How Did the Chicken Cross the Road? • Inventions	

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.	Waterford encourages everyone to have writing, drawing, and art materials available for children's creations. • Science Tools	
2) Predict and explain how human life and the natural world would be different without current technologies.	• Books: Inventions All Around; I Want to Be a Scientist Like Wilbur and Orville Wright • Inventions	

PRE-MATH & SCIENCE

Math Books

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; 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; Z: The Zulu Warrior

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; Chip Chop; Adjectives Describe; Lazy Letter Q; Nouns; Verbs; Adverbs; Irregular Verbs; Preposition Ship; 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.
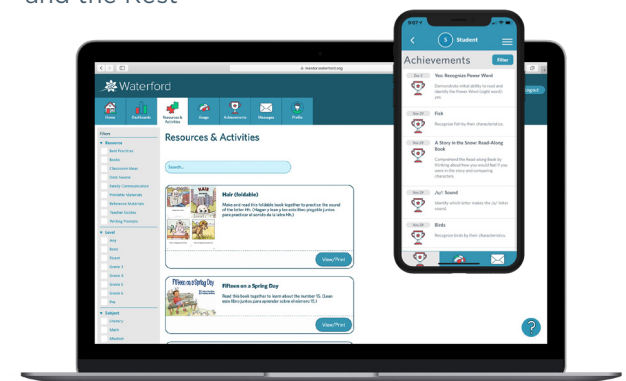
Waterford Mentor is available online and in the Mentor app (for iOS and Android).