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Alignment
January 2026

100%
Aligned

**Waterford
Early Learning:
Math & Science**

**Kentucky Academic
Standards
Math 2019 & Science
2022 K-2**

*Alignment content includes a sampling of Waterford Digital Activities and Resources

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This document provides a detailed alignment of **Waterford Early Learning** to Kentucky Academic Standards K-2 Math 2019 & Science 2022.

Alignment Description

This document aligns Kentucky Academic Standards K-2 Math 2019 & Science 2022 to Waterford.org's digital activities and supporting resources.

Waterford Digital Activities

Waterford programs include engaging, evidence-based digital activities anchored in the science of learning that progress through an adaptive learning path in reading, math, and science. These activities are also available for collaborative instruction at →teacher.waterford.org.

- **Classroom Playlists** enable teachers to harness learning technologies in whole-class instruction, flexible small groups, and personalized support for individual students.

Waterford Resources

Waterford provides an engaging, diverse collection of PDF resources tailored to boost children's learning experiences, empowering instruction in both classroom and home settings.

- **Teacher Resources** encompass class activities, reference materials, teacher guides, an array of books, and more.
- **Family Resources** encompass newsletters, activity sets, and reference materials, all available in both English and Spanish.

Waterford Curriculum Details

Waterford programs leverage the science of learning and evidence-based research to optimize reading development, accelerate learning, and target interventions for PreK–2nd grade learners.

Adaptive, Individualized Learning

Tailored instruction enables students to progress through the sequence at their own pace, offering multiple opportunities for practice as needed and more challenging activities when students are ready. This adaptation is automatic within the learning sequence. More information on the adaptive learning sequence can be found in →Waterford's Adaptive Learning Path in Action video.

Data-Informed Instruction

Administrators and teachers can use the program's reporting features to monitor progress in real-time, identify areas of difficulty, and utilize additional intervention tools in varied instructional settings. Examples of the reporting features can be found →here.

Research-Driven Development

Waterford is committed to ongoing development based on the latest research findings. Please note that this correlation is accurate as of the date on the cover.

Reading Sequence

Waterford's Reading Sequence is aligned to the Science of Reading, with explicit and systematic instruction. The sequence develops phonics; phonological awareness; comprehension and vocabulary; language concepts and writing; and fluency. More detailed information can be found in the →Reading Skills Scope & Sequence.

Math and Science Sequence

Waterford's Math and Science Sequence is designed around clear instructional principles. The math sequence develops numbers and operations (including counting and cardinality); operations and algebraic thinking; measurement and data; and geometry. The science sequence develops an understanding of physical, life, earth and space domains. More detailed information can be found in the →Math and Science Scope & Sequence.

SmartStart Sequence

Waterford's SmartStart Sequence is designed so learners are exposed to the foundational principles critical to kindergarten readiness. SmartStart combines the digital learning path with teacher resources to teach early reading, math, science, and social studies concepts as well as executive function, creative arts, health, and physical development. More detailed information can be found in the →SmartStart Scope & Sequence.

Table of Contents

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Mathematics		
Kindergarten		
Counting and Cardinality		
Cluster: Know number names and count the sequence.		
KY.K.CC.1 Count **a.** Count to 100 by ones and by tens. **b.** Count backwards from 30 by ones.	• Songs: Counting Backward • Books: A Space Adventure • Number Songs • Counting Songs • Number Counting • Order Numbers • Number Instruction • Count Down	• Count to 100 by Ones and Tens
KY.K.CC.2 Count forward beginning from a given number within the known sequence within 100 (instead of having to begin at 1).	• Count On • Counting Songs • Counting Puzzle • Dot-to-Dot	• Counting Forward
KY.K.CC.3 Represent numbers **a.** Write numbers from 0 to 20. **b.** Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	• Math Books • Counting Songs • Number Songs • Number Counting • Number Instruction	• Write Numbers 0–20

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Count to tell the number of objects.		
KY.K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality. **a.** 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. **b.** 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. **c.** Understand that each successive number name refers to a quantity that is one larger.	• Counting Songs • Number Songs • Number Counting • One-to-one Correspondence • Make and Count Groups • Number Instruction • Match Numbers	• Object Counting Basics
KY.K.CC.5 Given a number from 1-20, count out that many objects. **a.** Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle. **b.** Count to answer "how many?" questions with as many as 10 things in a scattered configuration.	• Counting Songs • Number Songs • Make and Count Groups • Number Counting • Number Instruction • Match Numbers • One-to-one Correspondence	• How Many?

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Compare numbers.		
KY.K.CC.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.	• Songs: Greater Than, Less Than; More Than, Fewer Than • Books: For the Birds • Greater Than, Less Than • More Than, Fewer Than • More Than • Fewer Than • Make and Count Groups	• Greater, Less, or Equal
KY.K.CC.7 Compare two numbers between 1 and 10 presented as written numerals.	• Books: For the Birds • Greater Than, Less Than • More Than, Fewer Than • More Than • Fewer Than • Order Numbers • Make a Math Story	• Compare Two Numbers
Operations and Algebraic Thinking		
Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.		
Ky.K.OA.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; Subtract Those Cars; Circus Subtraction • Books: Five Delicious Muffins • Make and Count Groups • Add Groups • Subtract Groups • Act Out Addition • Act Out Subtraction	• Represent Addition and Subtraction with Objects

Kentucky Academic Standards K-2 Math & Science

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from *continued*.		
KY.K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, by using objects or drawings to represent the problem.	• Songs: Addition; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction • Books: Five Delicious Muffins • Add Groups • Subtract Groups • Minuends • Sums • Act Out Addition • Act Out Subtraction	• Addition and Subtraction Word Problems
KY.K.OA.3 Decompose numbers less than or equal to 10. **a.** Decompose numbers into two groups in more than one way by using objects or drawings and record each decomposition by a drawing or equation. **b.** Use objects or drawings to demonstrate equality as the balancing of quantities.	• Make and Count Groups • Add Groups • Subtract Groups • Act Out Subtraction	• Decompose Numbers
KY.K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number by using objects or drawings and record the answer with a drawing or equation.	• Missing Addends • Act Out Addition • Make 10	• Numbers That Make 10

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from *continued*.		
KY.K.OA.5 Fluently add and subtract within 5.	• Songs: Addition; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction • Books: Five Delicious Muffins • Add Groups • Subtract Groups • Minuends • Sums • Act Out Addition • Act Out Subtraction	
Numbers and Operations In Base Ten		
Cluster: Working with numbers 11–19 to gain foundations for place value.		
KY.K.NBT.1 Compose and decompose numbers from 11 to 19 using quantities (numbers with units) of ten ones and some further ones. Understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	• Place Value	• Tens and Ones
Measurement and Data		
Cluster: Describe and compare measurable attributes.		
KY.K.MD.1 Describe measurable attributes (length, height, weight, width, depth) of an object or a set of objects using appropriate vocabulary.	• Songs: Measuring Plants • Length	• Measurable Attributes

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Describe and compare measurable attributes *continued*.		
KY.K.MD.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.	• Songs: Savanna Size, Measuring Plants • Capacity • Length • Big and Little • Tall and Short • Heavy and Light • Big Little animals • Large Small Toys	• Comparing Objects
Cluster: Classify objects and count the number of objects in each category.		
KY.K.MD.3 Classify and sort objects or people by attributes. Limit objects or people in each category to be less than or equal to 10.	• Songs: Same and Different; All Sorts of Laundry • Books: Buttons, Buttons • Match • Sort • Make and Count Groups	• Classifying Objects
Cluster: Identify coins by name.		
KY.K.MD.4 Recognize and identify coins by name (penny, nickel, dime, quarter).	• Songs: Save Your Pennies • Coin Identification	

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Geometry		
Cluster: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		
KY.K.G.1 Name and describe shapes in the environment. **a.** Describe objects in the environment using names of shapes. **b.** Describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	• Songs: Position Cat; Kites; Get Over the Bugs; Shapes, Shapes, Shapes • Books: Up in the Air; The Shape of Things; Imagination Shapes • Position • Over, Under, Above, Below • Inside, Outside, Between • Circle, Square, Triangle, Rectangle • Star, Semicircle, Octagon, Oval, Rhombus • Simple Shapes • Solid Shapes • World Shapes • Above, Below, Next to, On	• Describing Objects
KY.K.G.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, Rhombus • Simple Shapes • Solid Shapes • World Shapes	• Shape Recognition
KY.K.G.3 Identify shapes as two-dimensional or three-dimensional.	• Solid Shapes • Space Shapes • Simple Shapes	• Two-Dimensional Shapes

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: analyze, compare, create, and compose shapes.		
KY.K.G.4 Describe the similarities, differences and attributes of two and three dimensional shapes using different sizes and orientations.	• Songs: Corners and Sides • Simple Shapes • Solid Shapes • Space Shapes • Congruence • Tangrams • Similar Figures	• Compare Shapes
KY.K.G.5 Model shapes in the world by building figures from components and drawing shapes.	• Geoboard • Tangrams	• Model Shapes
KY.K.G.6 Compose simple shapes to form larger shapes.	• Geoboard • Tangrams	• Form Larger Shapes
Grade 1		
Operations and Algebraic Thinking		
Cluster: Represent and solve problems using addition and subtraction.		
KY.1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.	• Addition and Subtraction Fact Families • Addition and Subtraction Relationship	• Word Problems Using Subtraction within 20
KY.1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	• Add 3 One-digit Numbers	• Word Problems Adding 3 Numbers

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Understand and apply properties of operations and the relationship between addition and subtraction.		
KY.1.OA.3 Apply properties of operations 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
KY.1.OA.4 Understand subtraction as an unknown-addend problem.	• Missing Addends • Subtraction Patterns • Addition and Subtraction Fact Families	• Understand Subtraction as an Unknown Addend Problem
Cluster: Add and subtract within 20.		
KY.1.OA.5 Relate counting to addition and subtraction.	• Songs: Counting On; Addition; Find the Difference • Books: Circus 20; Painting by Number • Make and Count Groups • Add Groups • Subtract Groups	• Relate Counting to Addition and Subtraction
KY.1.OA.6 Add and subtract within 20. **a.** Fluently add and subtract within 10. **b.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making 10; decomposing a number leading to a 10; using the relationship between addition and subtraction; creating equivalent but easier or known sums.	• 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 • Subtraction Patterns	• Add and Subtract within 20

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Work with addition and subtraction equations.		
KY.1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	• Songs: Fact Families • Books: 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
KY.1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	• Addition Sentences • Subtraction Sentences • Addition and Subtraction Fact Families • Missing Addends	
Numbers and Operations in Base Ten		
Cluster: Extend the counting sequence.		
KY.1.NBT.1 Count and represent numbers. **a.** Count forward to and backward from 120, starting at any number less than 120. **b.** In this range, read and write numerals and represent a number of objects with a written numeral.	• Songs: Counting On; Counting Backward • Books: A Space Adventure; Circus 20; • Count On • Count Down • Number Chart	• Count to 120

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Understand place value.		
KY.1.NBT.2 Understand the two digits of a two-digit number represents amounts of tens and ones. Understand the following as special cases: **a.** 10 can be thought of as a bundle of ten ones—called a "ten." **b.** The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. **c.** The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	• Songs: Place Value • Place Value of 2-digit Numbers • Place Value	• Tens as A Bundle of Ones • 11-19 Broken Down • Ten Groupings
KY.1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	• Songs: Greater Than, Less Than; More Than, Fewer Than • Place Value • Greater Than, Less Than (2-digit Numbers)	• Compare Two-Digit Numbers

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Use place value understanding and properties of operations to add and subtract.		
KY.1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number. Add a two-digit number and a multiple of 10. **a.** Add within 100 using concrete models or drawings; strategies based on place value; properties of operations; the relationship between addition and subtraction. **b.** Relate the addition strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	• Addition • Add Vertical Squares • 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
KY.1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	• Songs: Skip Counting • Add • Subtract • Add Tens • Subtract Tens • Skip Count by 10 • Number Chart	• Ten More or Less

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Use place value understanding and properties of operations to add and subtract *continued*.		
KY.1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences). **a.** Subtract using: concrete models or drawings; strategies based on place value; properties of operations; the relationship between addition and subtraction **b.** Relate the subtraction strategy to a written method and explain the reasoning used.	• Subtraction • Subtraction Sentences • Subtract Tens • Subtraction Patterns • Subtract • Place Value • Addition and Subtraction Relationship • Use Manipulatives	• Subtracting in 10s
Measurement and Data		
Cluster: Measure lengths indirectly and by iterating length units.		
KY.1.MD.1 order three objects by length; compare the lengths of two objects indirectly by using a third object.	• Length • Nonstandard Units of Length	• Order by Length
KY.1.MD.2 Express the length of an object as a whole number of same size length units, by laying multiple copies of a shorter object (the length unit) end to end with no gaps or overlaps.	• Length • Nonstandard Units of Length	• Length Measurement

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Work with time and money.		
KY.1.MD.3 assign values to time and money. **a.** Tell and write time in hours and half-hours using analog and digital clocks. **b.** Identify the coins by values (penny, nickel, dime, quarter).	• Songs: Clock Hands; Money; Save Your Pennies • Books: Mr. Romano's Secret: A Time Story • Tell Time to the Hour • Tell Time to the Half-Hour • Coin Identification • Count Quarters, Dimes, Nickels, and Pennies	• Hours and Half-Hours
Cluster: Understand and apply the statistics process.		
KY.1.MD.4 Investigate questions involving categorical data. **a.** Pose a question that can be answered by gathering data. **b.** Determine strategy for gathering data from peers. **c.** organize and represent data in a table/chart with up to three categories. **d.** Interpret data to answer questions about the table/chart that connects to the question posed, including total number of data points, how many in each category and how many more or less are in one category than in another.	• Songs: Tallying; Graphing • Books: One More Cat; Painting by Number; Milton's Mittens • Tally Marks • Graphs • Make a Table	• Data Categorization
Geometry		
Cluster: Reason with shapes and their attributes.		
KY.1.G.1 Distinguish between defining attributes versus non-defining attributes; build and draw shapes to possess defining attributes.	• Songs: Corners and Sides; Kites • Geoboard • Space Shapes	• Attributes

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Reason with shapes and their attributes *continued*.		
KY.1.G.2 Compose shapes. **a.** Compose two-dimensional shapes to create rectangles, squares, trapezoids, triangles, half-circles, quarter-circles and composite shapes to compose new shapes from the composite shapes. **b.** Use three-dimensional shapes (cubes, right rectangular prisms, right circular cones and right circular cylinders) to create a composite shape and compose new shapes from the composite shapes.	• Songs: Kites • Simple Shapes • Space Shapes • Geoboard • Tangrams	• Form Larger Shapes
KY.1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	• Songs: Fractions • Books: Halves and Fourths and Thirds; Half For You and Half For Me • Equal-part Fractions • Label Parts of Fractions	• Equal Shares

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Grade 2		
Operations and Algebraic Thinking		
Cluster: Represent and solve problems involving addition and subtraction.		
KY.2.OA.1 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 by using drawings and equations with a symbol for the unknown number to represent the problem.	• Books: Painting by Number • Addition • Subtraction • Missing Addends and Subtrahends • Subtraction Sentences • Addition and Subtraction Facts	• Solving One-and Two-Step Word Problems within 100
Cluster: Add and subtract within 20.		
KY.2.OA.2 Fluently add and subtract within 20 using mental strategies.	• Songs: Fact Families • Speed Games • Subtraction Patterns • Addition Facts to 20	• Adding and Subtracting within 20
Cluster: Work with equal groups of objects to gain foundations for multiplication.		
KY.2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members; write an equation to express an even number as a sum of two equal addends.	• Songs: Odd Todd and Even Steven • Skip Count by 2 • Addition Facts	• Odd and Even Recognition
KY.2.OA.4 Use 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	

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Numbers and Operations In Base Ten		
Cluster: Understand place value.		
2.NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand the following as special cases: **a.** 100 can be thought of as a bundle of ten tens—called a "hundred." **b.** The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	• Songs: Place Value • Place Value of 3-digit Numbers	• Thinking of 100 as A Bundle of Ten 10s
KY.2.NBT.2 Count forwards and backwards within 1000; skip- count by 5s, 10s, and 100s.	• Songs: Skip Counting; Counting Backward • Books: A Space Adventure • Skip Count • Skip Count by 10 • Skip Count by 5 • Number Sequences and Patterns	• Counting within 1000
KY.2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	• Sequences of 2-digit Numbers • Sequences of 3-digit Numbers • Number Chart • Place Value • Expanded Notation	• Read and Write Numbers to 1000
KY.2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	• Greater Than, Less Than (3-digit Numbers) • Place Value of 3-digit Numbers	• Less Than, Equal To, or Greater Than

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Use place value understanding and properties of operations to add and subtract.		
KY.2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, 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
KY.2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.	• Add Two-digit Numbers with Regrouping • Commutative Properties of Addition • Place Value	• Adding Four 2-Digit Numbers
KY.2.NBT.7 Add and subtract within 1000. **a.** Represent and solve addition and subtraction problems using... • concrete models or drawings; • strategies based on place value; • properties of operations; • the relationship between addition and subtraction and; • relate drawings and strategies to expressions or equations. **b.** 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.	• 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

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Use place value understanding and properties of operations to add and subtract *continued*.		
KY.2.NBT.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 • Skip Count • Place Value • Number Chart • Number Patterns	• Mentally Adding or Subtracting 10 or 100
KY.2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.	• Addition • Subtraction • Add with Regrouping Concept • Subtract with Regrouping Concept • Place Value • Addition and Subtraction Relationship • Commutative Properties of Addition • Act Out Addition • Act Out Subtraction	• Explaining Addition and Subtraction Strategies
Measurement and Data		
Cluster: Measure and estimate lengths in standard unit.		
KY.2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	• Songs: Measuring Plants • Books: Birds at My House • Length • Measurement Tools • Standard Units of Length	• Measurement Tools
KY.2.MD.2 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.	• Length • Standard Units of Length • Measurement Tools	• Measuring the Same Object Two Ways

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Measure and estimate lengths in standard unit *continued*.		
KY.2.MD.3 Estimate lengths using units of inches, feet, centimeters, and meters.	• Songs: Measuring Plants • Length • Standard Units of Length • Measurement Tools	• Estimating Lengths
KY.2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of either a customary or metric standard length unit.	• Length • Standard Units of Length	• Measure Length
Cluster: Relate addition and subtraction to length.		
KY.2.MD.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown number to represent the problem.	• Books: Yangshi's Perimeter • Addition • Subtraction • Length • Standard Units of Length	• One- and Two-Step Word Problems within 100
KY.2.MD.6 Represent whole numbers as lengths from 0 on a number line with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram.	• Number Line • Length	

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Work with time and money.		
KY.2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	• Songs: Telling Time; Clock Hands • Tell Time • Tell Time to Five Minutes • Tell Time to the Quarter Hour • Tell Time to the Hour • Tell Time to the Half-hour	• Tell and Write Time
KY.2.MD.8 Solve word problems with adding and subtracting within 100, (not using dollars and cents simultaneously) using the $ and ¢ symbols appropriately (not including decimal notation).	• Songs: Money; Save Your Pennies • Books: Bugs For Sale; Fudge 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	• Solve Money Word Problems
Cluster: Understand and apply the statistics process.		
KY.2.MD.9 Investigate questions involving measurements. **a.** Identify a statistical question focused on measurements. **b.** Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. **c.** Show the measurements by making a dot plot, where the horizontal scale is marked off in whole-number units.	• Songs: Measuring Plants • Number Line • Measurement Tools	• Generating Measurement Data

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Cluster: Understand and apply the statistics process *continued*.		
KY.2.MD.10 Create a pictograph 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.	• Songs: Graphing; Tallying • Books: One More Cat; Painting by Number • Graphing • Bar Graphs • Picture Graphs • Use Graphs and Tables	• Graphs
Geometry		
Cluster: Reason with shapes and their attributes.		
KY.2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or sides. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes (identify number of faces).	• Songs: Shapes, Shapes, Shapes; Corners and Sides; Kites • Books: The Shape of Things • Space Shapes • World Shapes • Geoboard	• Draw Shapes
KY.2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	• Songs: Fractions • Fractions of Regions	
KY.2.G.3 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.	• Songs: Fractions • Books: Halves and Fourths and Thirds; The Fraction Twins; Half For You and Half For Me • Fractions • Label Parts of Fractions • Geoboard • Fractions of Regions • Fractions of Groups	• Fractions

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Science		
Kindergarten		
K. Physical Science		
K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	• Songs: Push and Pull • Books: Mr. Mario's Neighborhood • Push and Pull	• How It Works
K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	• Songs: Push and Pull • Push and Pull	
K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.	• Sun	• Light For Plants
K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area..	• Science Tools • Measurement Tools • Sun • Weather Tools	• Measurement Tools • Weather
K. Life Science		
K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.	• Songs: Water; Food From Plants • Books: Mela's Water Pot; Everybody Needs to Eat • Sun • Plants • Water • Plants and animals Need Air • Healthy Plants' Needs	• Water For Plants • Green and Growing

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
K. **Earth and Space Science**		
K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.	• Songs: Seasons • Books That's What I Like: A Book About Seasons • Weather • Calendar/Graph Weather • Weather Patterns • Clouds	• Weather • The Weather Around Us • Weather Cards
K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.	• Books: Winter Snoozers; Birds at My House; The Old Maple Tree	
K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	• Songs: Four Ecosystems • Books: Where in the World Would You Go Today? • Oceans • Mountains • Deserts • Rainforests	• Our Earth
K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.	• Songs: Seasons • Books That's What I Like: A Book About Seasons • Weather • Calendar/Graph Weather • Weather Patterns • Clouds	• Weather • The Weather Around Us • Weather Cards
K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	• Songs: Conservation; Pollution Rap • Pollution and Recycling • Care of Water • Care of Earth	• Recycling • Our Earth

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Grade 1		
1. Waves: Light and Sound		
1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	• Songs: Sound • Books: What Sounds Say • Sound Waves	• Sound
1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated.	• Books: My Family Campout; Lightning Bugs • Light Properties • Properties of Light	
1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.	• Books: My Family Campout • Light Properties • Properties of Light	
1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.	• Songs: Inventing • Books: I Want to Be a Scientist Like Thomas Edison; Inventions All Around	
1. Structure, Function, and Information Processing		
1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	• Books: I Wish I Had Ears Like a Bat; Animal Bodies; Fawn Eyes • Deserts	
1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.	• Songs: Animal Bodies • Animal Behavior • Animal Bodies	

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
1. Structure, Function, and Information Processing *continued*		
1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	• Books: George and Jack; A Seed Grows; Mine • Build Knowledge	• Traits
1. Space Systems: Patterns and Cycles		
1-ESS1-1. Use observations 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	• The Moon • The Sky Above Us
1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.	• Sun • Spring • Summer • Fall • Winter	

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
Grade 2		
2. Structure and Properties of Matter		
2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	• Books: Warm Soup for Dedushka • Changes in Matter • Movement of Heat • States of Water • Materials	
2-PS1-2. analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.	• Books: Warm Soup for Dedushka • Heat Movement • Movement of Heat • Heat Experiment	
2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.	• Books: I Want to Be a Scientist Like Wilbur and Orville Wright; Inventions All Around • Geoboard • Tangrams	
2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	• Books: Warm Soup for Dedushka; Pancakes Matter • Changes in Matter • Movement of Heat	
2. Interdependent Relationships in Ecosystems		
2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.	• Songs: Plants Are Growing • Sun • Water • Plant Experiment • Healthy Plants' Needs	• Light For Plants
2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.	• Books: The Bee's Secret; The Old Maple Tree	

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Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
2. Interdependent Relationships in Ecosystems *continued*		
2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.	• Songs: Animal Bodies; Four Ecosystems • Books: Animal Bodies; Where in the World Would You Go Today? • Ecosystems • Animal Bodies • Animal Behavior	• Places On Earth
2. Earth's Systems: Processes that Shape the Earth		
2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.	• 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	• Rocks
2-ESS2-1. Compare 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.	
2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.	• Songs: Water; Precipitation; Water Is All Around • Water Sources • Water • Water Cycle • Care of Water • Oceans	

Kentucky Standards	Waterford Digital Resources	Waterford Teacher Resources
2. Earth's Systems: Processes that Shape the Earth *continued*		
2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.	• Songs: Water; Uses of Water; Precipitation; Water Is All Around • Water Sources • Water • Water Cycle • Care of Water • States of Water • Heat Changes Water	

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Pre-Math and 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 / Fun 15 / 16 Ants / Counting to 17 / 18 Carrot Stew / 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

Marching Band Counting / Flower Counting / Country 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 Fish to Catch / Fun 15 / 16 Ants / Counting to 17 / 18 Carrot Stew / 19 On the Beach / 20 Fingers and Toes

Basic Math and Science

Math and Science Books

One More Cat / Can You Guess? A Story for Two Voices / 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 / Navajo Beads / Where in the World Would You Go Today? / I Want to Be a Scientist Like Wilbur and Orville Wright

Fluent Math and Science

Math and 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.

Research-Driven Development

Waterford is committed to ongoing development based on the latest research findings. Please note that this correlation is accurate as of the date on the cover.

Family Engagement Resources

Spanish Family Engagement Resources

All Waterford books and many of the resources available to families at →family.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 / O: Polly, Put the Kettle On / P: This Little Pig / Q: Quack, Quack, Quack / R: Little Rabbit / S: Eensy, Weensy Spider / U: The Bus / V: My Valentine / W: Wee Willie Winkle / 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 Family

Waterford Family 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 Family is available online and in the Waterford Family app (for iOS and Android).