

# CURRICULUM *Correlation*

*Waterford Reading  
Academy:  
Math & Science*

**98%**

*Massachusetts  
Mathematics  
Curriculum  
Framework 2017 &  
Science and Technology  
Engineering  
Framework 2016*

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

# TABLE OF CONTENTS

## **MATHEMATICS CURRICULUM FRAMEWORK 2017 .....1**

### **KINDERGARTEN ..... 1**

|  |   |
|--|---|
| Counting and Cardinality: K.CC.....          | 1 |
| Operations and Algebraic Thinking K.OA.....  | 3 |
| Number and Operations in Base Ten K.NBT..... | 5 |
| Measurement and Data K.MD.....               | 5 |
| Geometry K.G.....                            | 7 |

### **GRADE 1 ..... 8**

|  |    |
|--|----|
| Operations and Algebraic Thinking 1.OA.....  | 8  |
| Number and Operations in Base Ten 1.NBT..... | 11 |
| Measurement and Data 1.MD.....               | 14 |
| Geometry 1.G.....                            | 15 |

### **GRADE 2 ..... 16**

|  |    |
|--|----|
| Operations and Algebraic Thinking 2.OA.....  | 16 |
| Number and Operations in Base Ten 2.NBT..... | 18 |
| Measurement and Data 2.MD.....               | 21 |
| Geometry 2.G.....                            | 24 |

## **SCIENCE AND TECHNOLOGY ENGINEERING FRAMEWORK 2016 .....25**

### **KINDERGARTEN ..... 25**

|   |    |
|---|----|
| Kindergarten: Earth and Space Sciences K-ESS..... | 25 |
| Kindergarten: Life Science K-LS.....              | 25 |
| Kindergarten: Physical Science K-PS.....          | 26 |

### **GRADE 1 ..... 26**

|  |    |
|--|----|
| Grade 1: Earth and Space Sciences 1-ESS..... | 26 |
| Grade 1: Life Science 1-LS.....              | 27 |
| Grade 1: Physical Science 1-PS.....          | 27 |

### **GRADE 2 ..... 28**

|  |    |
|--|----|
| Grade 2: Earth and Space Sciences 2-ESS..... | 28 |
| Grade 2: Life Science 2-LS.....              | 29 |
| Grade 2: Physical Science 2-PS.....          | 30 |
| Grade 2: Technology/Engineering 2-ETS.....   | 31 |

### **WATERFORD BOOKS AND RELATED ACTIVITIES ..... 32**

### **WATERFORD FAMILY ENGAGEMENT RESOURCES ..... 33**

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>MATHEMATICS CURRICULUM FRAMEWORK 2017</b>   |   |   |
| <b>KINDERGARTEN</b>  |   |   |
| <b>Counting and Cardinality: K.CC</b>  |   |   |
| <b>K.CC.A. Know number names and the count sequence.</b>   |   |   |
| K.CC.A.1. Count to 100 by ones and by tens.  | <ul style="list-style-type: none"> <li>• Number Songs</li> <li>• Counting Songs</li> <li>• Number Counting</li> <li>• Number Instruction</li> <li>• Skip Counting</li> <li>• Counting Puzzle</li> </ul> | <ul style="list-style-type: none"> <li>• Count to 100 by ones and tens.pdf: Count to 100 by ones and tens.                             <ul style="list-style-type: none"> <li>- Missing Numbers</li> <li>- Count On By 1</li> <li>- Numbers 1-5</li> <li>- Numbers 6-10</li> <li>- Math Newsletters</li> <li>- Count By 10s</li> <li>- Numbers 60-69</li> <li>- I Can Count to 100</li> </ul> </li> </ul> |
| K.CC.A.2. Count forward beginning from a given number within the known sequence (instead of having to begin at one).                         | <ul style="list-style-type: none"> <li>• Count On</li> <li>• Counting Songs</li> <li>• Counting Puzzle</li> <li>• Dot-to-Dot</li> </ul>   | <ul style="list-style-type: none"> <li>• Count forward.pdf: Count forward beginning with a given number within the known sequence.                             <ul style="list-style-type: none"> <li>- Let's Count On</li> <li>- Toss and Count</li> <li>- Count On by 1</li> <li>- Math Newsletter: Count On</li> <li>- Flashcards</li> </ul> </li> </ul>   |
| K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). | <ul style="list-style-type: none"> <li>• Math Books</li> <li>• Counting Songs</li> <li>• Number Songs</li> <li>• Number Counting</li> <li>• Number Instruction</li> <li>• Counting Puzzle</li> </ul>    | <ul style="list-style-type: none"> <li>• Write numbers 0-20.pdf: Write numbers from 0 to 20. Represent a number of objects with a written numeral.                             <ul style="list-style-type: none"> <li>- Numbers Practice: 1-20</li> <li>- Numbers 1-5</li> <li>- Add groups</li> <li>- Count on by 1</li> <li>- Number Writing Practice: 0-20</li> </ul> </li> </ul>                      |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>KK.CC.B. Count to tell the number of objects.</b>   |   |   |
| <i>KK.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.</i>   |   |   |
| KK.CC.B.4a. 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.  | <ul style="list-style-type: none"> <li>• Counting Songs</li> <li>• Number Songs</li> <li>• Number Counting</li> <li>• Order Numbers</li> <li>• One-to-one Correspondence</li> <li>• Make and Count Groups</li> <li>• Number Instruction</li> <li>• Counting Puzzle</li> <li>• Dot-to-Dot</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Number Walk</li> </ul> </li> </ul>  |
| KK.CC.B.4b. 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.  | <ul style="list-style-type: none"> <li>• Make and Count Groups</li> <li>• Number Counting</li> <li>• Match Numbers</li> <li>• One-to-One Correspondence</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Mixed Up Counting</li> </ul> </li> </ul>                        |
| KK.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger. Recognize the one more pattern of counting using objects.   | <ul style="list-style-type: none"> <li>• Make and Count Groups</li> <li>• Number Counting</li> <li>• Match Numbers</li> <li>• One-to-One Correspondence</li> <li>• Order Numbers</li> <li>• Count On by 1</li> </ul>  | <ul style="list-style-type: none"> <li>• Object Counting Succession.pdf: Understand that each successive number name refers to a quantity that is one larger.                             <ul style="list-style-type: none"> <li>- One by One</li> </ul> </li> </ul>  |
| <b>KK.CC.B. Count to tell the number of objects.</b>   |   |   |
| KK.CC.B.5. 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. | <ul style="list-style-type: none"> <li>• Counting Songs</li> <li>• Number Songs</li> <li>• Make and Count Groups</li> <li>• Number Counting</li> <li>• Number Instruction</li> <li>• Numbers Review</li> <li>• Match Numbers</li> <li>• Bug Bits</li> <li>• One-to-one Correspondence</li> </ul>    | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Hoop Addition</li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|---|---|--|
| <b>KK.CC.C. Compare numbers.</b>  |   |  |
| <p>KK.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 for groups with up to 10 objects, e.g., by using matching and counting strategies.</p> | <ul style="list-style-type: none"> <li>• Book: For the Birds</li> <li>• Greater Than, Less Than</li> <li>• More Than, Fewer Than</li> <li>• More Than</li> <li>• Fewer Than</li> <li>• Make and Count Groups</li> </ul>   | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Beans and More</li> <li>- More Than Buttons</li> <li>- Short Names, Long Names</li> <li>- Noodle Necklaces</li> <li>- Groups Do Count!</li> <li>- More Than, Fewer Than, Equal</li> <li>- Which Has More?</li> <li>- Fewer Than</li> <li>- More or Fewer</li> <li>- Greater or Less</li> <li>- More Than/Fewer Than Flashcard Sets</li> </ul> </li> </ul> |
| <p>KK.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals.</p>   | <ul style="list-style-type: none"> <li>• Book: For the Birds</li> <li>• Greater Than, Less Than</li> <li>• More Than, Fewer Than</li> <li>• More Than</li> <li>• Fewer Than</li> </ul>  | <ul style="list-style-type: none"> <li>• Compare two numbers.pdf: Compare two numbers between 1 and 10 presented as written numerals.</li> <li>• More or Less Spinner                             <ul style="list-style-type: none"> <li>- Catch Me If You Can!</li> <li>- Greater or Less</li> <li>- Less or Greater</li> <li>- Spinner</li> <li>- Board game</li> <li>- Number cards</li> </ul> </li> </ul>  |
| <b>Operations and Algebraic Thinking K.OA.</b>  |   |  |
| <b>K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>   |   |  |
| <p>K.OA.A.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>  | <ul style="list-style-type: none"> <li>• Songs: Addition; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction</li> <li>• Book: Five Delicious Muffins</li> <li>• Make and Count Groups</li> <li>• Add Groups</li> <li>• Subtract Groups</li> <li>• Act Out Addition</li> <li>• Act Out Subtraction</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Addition Cubes</li> <li>- Addition Stories</li> <li>- Going Fishing</li> <li>- Let's Count On</li> <li>- Act it out Stories</li> <li>- Manipulative Stories</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from <i>continued</i> .   |   |  |
| <p>K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>  | <ul style="list-style-type: none"> <li>• Songs: Addition; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction</li> <li>• Book: Five Delicious Muffins</li> <li>• Add Groups</li> <li>• Subtract Groups</li> <li>• Minuends</li> <li>• Sums</li> <li>• Act Out Addition</li> <li>• Act Out Subtraction</li> <li>• Flower Story Problems</li> <li>• Story Problem Strategies</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Additions Stories</li> <li>- Act It Out Stories</li> <li>- Manipulative Stories</li> <li>- Edible Stories</li> <li>- One, Two, Three, Show</li> <li>- Circus Subtraction</li> <li>- Partner Subtraction</li> <li>- Farmer’s Market</li> <li>- Green and Speckled Frogs</li> <li>- Cars and Trucks Subtraction</li> <li>- Yummy Subtraction</li> <li>- Act Out Addition</li> <li>- Act Out Subtraction</li> <li>- Addition Newsletter</li> <li>- Subtraction Newsletter</li> <li>- Subtraction Flashcards</li> </ul> </li> </ul> |
| <p>K.OA.A.3. 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 (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</p> | <ul style="list-style-type: none"> <li>• Make and Count Groups</li> <li>• Add Groups</li> <li>• Subtract Groups</li> <li>• Act Out Subtraction</li> <li>• Subtract Doubles</li> </ul>   | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Addition Cubes</li> <li>- Fact Families</li> </ul> </li> </ul>  |
| <p>K.OA.A.4. 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.</p>   | <ul style="list-style-type: none"> <li>• Missing Addends</li> <li>• Count On</li> <li>• Act Out Addition</li> <li>• Flower Story Problems</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- How Many More?</li> </ul> </li> </ul>  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|--|--|--|
| K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from <i>continued</i> .   |  |  |
| K.OA.A.5. Fluently add and subtract within 5, including zero.  | <ul style="list-style-type: none"> <li>• Songs: Addition; On the Bayou; Bakery Subtraction; Subtract Those Cars; Circus Subtraction</li> <li>• Book: Five Delicious Muffins</li> <li>• Add Groups</li> <li>• Subtract Groups</li> <li>• Minuends</li> <li>• Sums</li> <li>• Act Out Addition</li> <li>• Act Out Subtraction</li> </ul> |  |
| <b>Number and Operations in Base Ten K.NBT</b>   |  |  |
| K.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 further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$ ); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. | <ul style="list-style-type: none"> <li>• Place Value</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Place Value 11–19</li> </ul> </li> </ul> |
| <b>Measurement and Data K.MD</b>   |  |  |
| K.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.  | <ul style="list-style-type: none"> <li>• Song: Measuring Plants</li> <li>• Length</li> </ul>   | <ul style="list-style-type: none"> <li>• Measurable attributes.pdf: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.                             <ul style="list-style-type: none"> <li>- Filling Table</li> <li>- Order It Up</li> <li>- Straw Rulers</li> <li>- Measuring Walk</li> <li>- Heavy or Light</li> <li>- Make A Balance</li> <li>- Measurable Attributes</li> </ul> </li> </ul>                    |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|---|---|---|
| <b>K.MD.A. Describe and compare measurable attributes <i>continued</i>.</b>   |   |   |
| <p>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. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p> | <ul style="list-style-type: none"> <li>• Songs: Savanna Size, Measuring Plants</li> <li>• Capacity</li> <li>• Length</li> <li>• Order Size</li> <li>• Big and Little</li> <li>• Tall and Short</li> <li>• Heavy and Light</li> <li>• Size</li> <li>• Match</li> </ul> | <ul style="list-style-type: none"> <li>• Comparing objects.pdf: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.                             <ul style="list-style-type: none"> <li>- Filling Table</li> <li>- Order It Up</li> <li>- Straw Rulers</li> <li>- Measuring Walk</li> <li>- Heavy or Light</li> <li>- Make A Balance</li> <li>- Size Scavenger Hunt</li> <li>- Big and Little Sort</li> <li>- Boxes in a Line</li> <li>- Teddy Bear Line-Up</li> <li>- Magazine Sorting</li> <li>- Tall and Short</li> <li>- Big and Little</li> <li>- Tall and Short</li> <li>- Heavy and Light</li> <li>- Small, Medium, Large</li> <li>- Measuring Length</li> <li>- Measurable Attributes</li> </ul> </li> </ul> |
| <b>K.MD.B. Classify objects and count the number of objects in each category.</b>   |   |   |
| <p>K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category (up to and including 10) and sort the categories by count.</p>   | <ul style="list-style-type: none"> <li>• Songs: Same and Different; All Sorts of Laundry</li> <li>• Book: Buttons, Buttons</li> <li>• Match</li> <li>• Sort</li> <li>• Make and Count Groups</li> </ul>   | <ul style="list-style-type: none"> <li>• Classifying objects.pdf: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.                             <ul style="list-style-type: none"> <li>- Let’s Sort</li> <li>- Sort</li> </ul> </li> </ul>  |



| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>Geometry K.G.</b>   |   |  |
| <b>K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>  |   |  |
| <p>K.G.A.1. 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.</p>  | <ul style="list-style-type: none"> <li>• Songs: Positioning; Kites; Get Over the Bugs; Shapes, Shapes, Shapes; Up in the Air</li> <li>• Books: The Shape of Things; Imagination Shapes</li> <li>• Position</li> <li>• Over, Under, Above, Below</li> <li>• Inside, Outside, Between</li> <li>• Circle, Square, Triangle, Rectangle</li> <li>• Star, Semicircle, Octagon, Oval, Diamond</li> <li>• Simple Shapes</li> <li>• Solid Shapes</li> <li>• World Shapes</li> <li>• Above, Below, Next to, On</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Shapes Scavenger Hunt</li> </ul> </li> </ul>   |
| <p>K.G.A.2. Correctly name shapes regardless of their orientation or overall size.</p>   | <ul style="list-style-type: none"> <li>• Songs: Kites; Shapes, Shapes, Shapes; Up in the Air</li> <li>• Books: The Shape of Things; Imagination Shapes</li> <li>• Circle, Square, Triangle, Rectangle</li> <li>• Star, Semicircle, Octagon, Oval, Diamond</li> <li>• Simple Shapes</li> <li>• Solid Shapes</li> <li>• World Shapes</li> </ul>   | <ul style="list-style-type: none"> <li>• Shape recognition.pdf: Correctly name shapes regardless of their orientations or overall size.                             <ul style="list-style-type: none"> <li>- Shapes Scavenger Hunt</li> <li>- Shapes and Positioning</li> <li>- Shapes Flashcards</li> </ul> </li> </ul>   |
| <p>K.G.A.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).</p>  | <ul style="list-style-type: none"> <li>• Solid Shapes</li> <li>• Space Shapes</li> <li>• Simple Shapes</li> </ul>   | <ul style="list-style-type: none"> <li>• Two-dimensional shapes.pdf: Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).                             <ul style="list-style-type: none"> <li>- Shapes and Positioning</li> </ul> </li> </ul>  |
| <b>K.G.B. Analyze, compare, create, and compose shapes.</b>  |   |  |
| <p>K.G.B.4. 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).</p> | <ul style="list-style-type: none"> <li>• Song: Corners and Sides</li> <li>• Simple Shapes</li> <li>• Solid Shapes</li> <li>• Space Shapes</li> <li>• Congruence</li> <li>• Tangrams</li> <li>• Similar Figures</li> </ul>   | <ul style="list-style-type: none"> <li>• 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).                             <ul style="list-style-type: none"> <li>- Comparing Shapes</li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>K.G.B. Analyze, compare, create, and compose shapes <i>continued</i>.</b>   |   |   |
| K.G.B.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.  | <ul style="list-style-type: none"> <li>• Geoboard</li> <li>• Tangrams</li> </ul>  | <ul style="list-style-type: none"> <li>• Model shapes.pdf: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.                             <ul style="list-style-type: none"> <li>- Building Shapes</li> </ul> </li> </ul>   |
| K.G.B.6. Compose simple shapes to form larger shapes. <i>For example, “Can you join these two triangles with full sides touching to make a rectangle?”</i>   | <ul style="list-style-type: none"> <li>• Geoboard</li> <li>• Tangrams</li> </ul>  | <ul style="list-style-type: none"> <li>• Form larger shapes.pdf: Compose simple shapes to form larger shapes.                             <ul style="list-style-type: none"> <li>- Combining Shapes</li> </ul> </li> </ul>  |
| <b>GRADE 1</b>   |   |   |
| <b>Operations and Algebraic Thinking 1.OA</b>  |   |   |
| <b>1.OA.A. Represent and solve problems involving addition and subtraction.</b>  |   |   |
| 1.OA.A.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations (number sentences) with a symbol for the unknown number to represent the problem. | <ul style="list-style-type: none"> <li>• Songs: Fact Families; Doubles</li> <li>• Book: Facts About Families</li> <li>• Addition and Subtraction Fact Families</li> <li>• Addition and Subtraction Relationship</li> <li>• Doubles</li> <li>• Subtract Doubles</li> <li>• Problem Solving Strategy</li> <li>• Story Problem Strategies</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Guess and Check</li> <li>- Model the Story</li> </ul> </li> </ul> |
| 1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.  | <ul style="list-style-type: none"> <li>• Story Problem Strategies</li> <li>• Problem Solving Strategy</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Draw a Picture</li> </ul> </li> </ul>  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|--|--|--|
| <b>1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.</b>  |  |  |
| <p>1.OA.B.3. Apply properties of operations to add.<br/><i>For example, when adding numbers order does not matter. If <math>8 + 3 = 11</math> is known, then <math>3 + 8 = 11</math> is also known (Commutative property of addition). To add <math>2 + 6 + 4</math>, the second two numbers can be added to make a ten, so <math>2 + 6 + 4 = 2 + 10 = 12</math> (Associative property of addition). When adding zero to a number, the result is the same number (Identity property of zero for addition).</i></p> | <ul style="list-style-type: none"> <li>• Addition and Subtraction Relationship</li> <li>• Addition and Subtraction Fact Families</li> <li>• Subtraction Patterns</li> <li>• Commutative Property of Addition</li> </ul>  | <ul style="list-style-type: none"> <li>• Strategies to add and subtract.pdf: Apply properties of operations as strategies to add and subtract.                             <ul style="list-style-type: none"> <li>- Adding and Subtracting Bugs</li> <li>- Concentration</li> <li>- Related Facts</li> </ul> </li> </ul>                           |
| <p>1.OA.B.4. Understand subtraction as an unknown-addend problem.<br/><i>For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</i></p>  | <ul style="list-style-type: none"> <li>• Missing Addends</li> <li>• Subtraction Patterns</li> <li>• Addition and Subtraction Fact Families</li> <li>• Missing Addends</li> </ul>   | <ul style="list-style-type: none"> <li>• Understand subtraction as an unknown addend problem.pdf: Understand subtraction as an unknown-addend problem. Add and subtract within 20.                             <ul style="list-style-type: none"> <li>- Write each subtraction problem as an addition problem and solve it.</li> </ul> </li> </ul> |
| <b>1.OA.C. Add and subtract within 20.</b>   |  |  |
| <p>1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p>  | <ul style="list-style-type: none"> <li>• Song: Counting On</li> <li>• Books: Circus 20; Painting by Number; Jump Rope Rhymes</li> <li>• Skip Count by 2</li> <li>• Count On</li> <li>• Make and Count Groups</li> <li>• Add Groups</li> <li>• Subtract Groups</li> </ul> | <ul style="list-style-type: none"> <li>• Relate counting to addition and subtraction.pdf: Relate counting to addition and subtraction.                             <ul style="list-style-type: none"> <li>- Skip Counting Chant</li> <li>- Jump Rope Counting</li> <li>- Related Facts</li> <li>- Count by 2s; 5s; 10s</li> </ul> </li> </ul>      |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| 1.OA.C. Add and subtract within 20 <i>continued.</i>   |   |  |
| <p>1.OA.C.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use mental strategies such as counting on; making 10 (e.g., <math>8 + 6 = 8 + 2 + 4 = 10 + 4 = 14</math>); decomposing a number leading to a 10 (e.g., <math>13 - 4 = 13 - 3 - 1 = 10 - 1 = 9</math>); using the relationship between addition and subtraction (e.g., knowing that <math>8 + 4 = 12</math>, one knows <math>12 - 8 = 4</math>); and creating equivalent but easier or known sums (e.g., adding <math>6 + 7</math> by creating the known equivalent <math>6 + 6 + 1 = 12 + 1 = 13</math>).</p> | <ul style="list-style-type: none"> <li>• Songs: Fact Families; Counting On</li> <li>• Books: Facts about Families; Circus 20; Painting by Number</li> <li>• Addition and Subtraction Fact Families</li> <li>• Addition Sentences</li> <li>• Subtraction Sentences</li> <li>• Commutative Property of Addition</li> <li>• Addition and Subtraction Relationship</li> <li>• Missing Addends</li> <li>• Missing Minuends and Subtrahends</li> <li>• Add 3 One-digit Numbers</li> <li>• Subtraction Patterns</li> </ul> | <ul style="list-style-type: none"> <li>• Add and subtract within 20.pdf: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.                         <ul style="list-style-type: none"> <li>- The Three Little Bears</li> <li>- Fact Family Bingo</li> <li>- A Graph of Fact Families</li> <li>- Bean Facts</li> <li>- Draw a Picture</li> <li>- Addition</li> <li>- Number Pyramid</li> <li>- Subtraction Sentences</li> <li>- Model the Story</li> <li>- Fact Families</li> <li>- Add _ and 1-5; _ and 6-10</li> <li>- Order Property of Addition</li> <li>- Add Doubles +1 to 11</li> <li>- Add Doubles to 20</li> <li>- Add Doubles +1 to 21</li> <li>- Make 10</li> <li>- Subtract _ from</li> <li>- Subtract</li> <li>- Subtraction Patterns</li> <li>- Fact Families to 10; to 20</li> <li>- Add and Subtract Doubles to 10; Doubles to 20</li> <li>- Sets of flashcards:                                 <ul style="list-style-type: none"> <li>- Addition—horizontal; vertical</li> <li>- Subtraction—horizontal; vertical</li> </ul> </li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>1.OA.D. Work with addition and subtraction equations.</b>   |   |  |
| <p>1.OA.D.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.<br/><i>For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>.</i></p> | <ul style="list-style-type: none"> <li>• Song: Fact Families</li> <li>• Book: Facts About Families</li> <li>• Addition and Subtraction Fact Families</li> <li>• Addition and Subtraction Relationship</li> <li>• Commutative Property of Addition</li> <li>• Addition Sentences</li> <li>• Subtraction Sentences</li> <li>• Greater Than, Less Than</li> <li>• More Than, Fewer Than</li> </ul> | <ul style="list-style-type: none"> <li>• Equal sign.pdf: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.                             <ul style="list-style-type: none"> <li>- Show Me!</li> <li>- Tricky Total</li> <li>- Domino Addition</li> <li>- Domino Subtraction</li> <li>- Playground Fact Snake</li> </ul> </li> </ul>   |
| <p>1.OA.D.8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.<br/><i>For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = \square - 3</math>, <math>6 + 6 = \square</math>.</i></p>               | <ul style="list-style-type: none"> <li>• Addition Sentences</li> <li>• Subtraction Sentences</li> <li>• Addition and Subtraction Fact Families</li> <li>• Missing Addends</li> <li>• Missing Minuends and Subtrahends</li> </ul>  |  |
| <b>Number and Operations in Base Ten 1.NBT</b>   |   |  |
| <b>1.NBT.A. Extend the counting sequence.</b>  |   |  |
| <p>1.NBT.A.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p>   | <ul style="list-style-type: none"> <li>• Song: Counting On</li> <li>• Books: Painting by Number; Circus 20; Hooray, Hooray for the One Hundredth Day!</li> <li>• Count On</li> <li>• Number Chart</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Mystery Numbers</li> <li>- I Can Write Numbers to 99</li> <li>- Numbers 20–29; 30–39; 40–49; 50–59; 60–69</li> <li>- Counting to 89</li> <li>- Counting Charts:</li> <li>- I Can Count to 50; 100; 99; 120</li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES   |
|---|--|---|
| 1.NBT.B. Understand place value.  |  |   |
| <i>1.NBT.B.2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</i>               |  |   |
| 1.NBT.B.2.a. 10 can be thought of as a bundle of ten ones—called a “ten.”   | <ul style="list-style-type: none"> <li>• Song: Place Value</li> <li>• Place Value of 2-digit Numbers</li> <li>• Expanded Notation</li> <li>• Add with Manipulatives</li> </ul> | <ul style="list-style-type: none"> <li>• Tens as a bundle of ones.pdf: 10 can be thought of as a bundle of ten ones—called a “ten.”                             <ul style="list-style-type: none"> <li>- Popsicles to Ten</li> </ul> </li> </ul>  |
| 1.NBT.B.2.b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.                                      | <ul style="list-style-type: none"> <li>• Song: Place Value</li> <li>• Place Value of 2-digit Numbers</li> <li>• Expanded Notation</li> <li>• Add with Manipulatives</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Toss It</li> <li>- Make a Number</li> <li>- Numbers Flashcards</li> <li>- Numbers 10-19</li> <li>- More Numbers 10-19</li> </ul> </li> </ul>   |
| 1.NBT.B.2.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).                     | <ul style="list-style-type: none"> <li>• Expanded Notation</li> <li>• Place Value</li> <li>• Place Value of 2-digit Numbers</li> </ul>   | <ul style="list-style-type: none"> <li>• Ten groupings.pdf: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).                             <ul style="list-style-type: none"> <li>- Toss It</li> </ul> </li> </ul>  |
| 1.NBT.B. Understand place value.  |  |   |
| 1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$ , $=$ , and $<$ . | <ul style="list-style-type: none"> <li>• Place Value</li> <li>• Greater Than, Less Than (2-digit Numbers)</li> <li>• You Be the Teacher</li> </ul>                             | <ul style="list-style-type: none"> <li>• 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 <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>.                             <ul style="list-style-type: none"> <li>- More or Less Spinner</li> <li>- Catch Me if You Can!</li> <li>- What Are You Looking For?</li> <li>- Two-Pile Sort</li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|---|---|---|
| 1.NBT.C. Use place value understanding and properties of operations to add and subtract.  |   |   |
| <p>1.NBT.C.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings, and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the 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.</p> | <ul style="list-style-type: none"> <li>• Addition</li> <li>• Add Tens</li> <li>• Doubles</li> <li>• Doubles Plus 1</li> <li>• Add with Manipulatives</li> <li>• Add Vertical Squares</li> <li>• Add with Beads</li> <li>• Addition and Subtraction Relationship</li> <li>• Add with Regrouping Concept</li> <li>• Add 2-digit and 1-digit Numbers with Regrouping</li> <li>• Add 2-digit Numbers without Regrouping</li> <li>• Add 2-digit Numbers with Regrouping</li> <li>• You Be the Teacher</li> </ul> | <ul style="list-style-type: none"> <li>• Adding within 100.pdf: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).             <ul style="list-style-type: none"> <li>- Drawing Tens</li> <li>- Beans, Beans, and More Beans</li> <li>- The Kingdom of Popsicle Stick-Filled Purses</li> <li>- Straws and Macaroni</li> <li>- Bean Addition</li> <li>- Newsletter</li> <li>- Adding Tens and Ones</li> <li>- Color Adds Up</li> <li>- Cookies and Milk!</li> <li>- Addition of Two-Digit Numbers</li> <li>- Addition and Subtraction of Large Numbers</li> <li>- 1 set of flashcards</li> </ul> </li> </ul> |
| <p>1.NBT.C.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. Identify arithmetic patterns of 10 more and 10 less than using strategies based on place value.</p>  | <ul style="list-style-type: none"> <li>• Song: Skip Counting</li> <li>• Book: Navajo Beads</li> <li>• Add</li> <li>• Subtract</li> <li>• Add Tens</li> <li>• Subtract Tens</li> <li>• Skip Count by 10</li> <li>• Number Chart</li> </ul>   | <ul style="list-style-type: none"> <li>• 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.             <ul style="list-style-type: none"> <li>- Ten-O</li> <li>- Toss It</li> <li>- Make a Number</li> <li>- Subtract 10</li> <li>- Flashcards</li> <li>- Bingo</li> <li>- Addition of Tens</li> </ul> </li> </ul>   |
| <p>1.NBT.C.6. Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>  | <ul style="list-style-type: none"> <li>• Subtraction</li> <li>• Subtract Tens</li> <li>• Subtraction Patterns</li> <li>• Subtract</li> <li>• Place Value</li> <li>• Addition and Subtraction Relationship</li> <li>• Use Manipulatives</li> <li>• You Be the Teacher</li> </ul>   | <ul style="list-style-type: none"> <li>• Subtracting in 10s.pdf: Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90.             <ul style="list-style-type: none"> <li>- Ten-O</li> <li>- Bingo</li> <li>- Subtract Multiples of 10</li> </ul> </li> </ul>  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>Measurement and Data 1.MD</b>   |   |  |
| <b>1.MD.A. Measure lengths indirectly and by iterating length units.</b>   |   |  |
| 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.   | <ul style="list-style-type: none"> <li>• Length</li> <li>• Nonstandard Units of Length</li> </ul>   | <ul style="list-style-type: none"> <li>• Order by length.pdf: Order three objects by length; compare the lengths of two objects indirectly by using a third object.                             <ul style="list-style-type: none"> <li>- Estimating Length</li> <li>- A Fruit and Vegetable Measure</li> </ul> </li> </ul>   |
| 1.MD.A.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. | <ul style="list-style-type: none"> <li>• Length</li> <li>• Nonstandard Units of Length</li> <li>• Problem Solving</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Measures of Me</li> <li>- Measure a Handful</li> <li>- Estimating Length</li> <li>- A Fruit and Vegetable</li> <li>- Measure Up!</li> <li>- Inches/Centimeters Rulers</li> </ul> </li> </ul> |
| <b>1.MD.B. Tell and write time.</b>  |   |  |
| 1.MD.B.3. Tell and write time in hours and half-hours using analog and digital clocks.   | <ul style="list-style-type: none"> <li>• Song: Clock Hands</li> <li>• Books: Mr. Romano’s Secret: A Time Story; How Long Is a Minute?</li> <li>• Tell Time to the Hour</li> <li>• Tell Time to the Half-Hour</li> <li>• Compare Minutes to Hours</li> <li>• Order Numbers on a Clock</li> </ul> | <ul style="list-style-type: none"> <li>• Hours and half-hours.pdf: Tell and write time in hours and half-hours using analog and digital clocks.                             <ul style="list-style-type: none"> <li>- What Comes After, Before, Or Between?</li> <li>- Make Your Own Clock</li> <li>- Learning to Tell Time</li> <li>- Matching Time</li> <li>- What Numbers are Missing?</li> <li>- What Time Is It?</li> <li>- Time of Day</li> <li>- Clock flashcards</li> </ul> </li> </ul>   |



| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>1.MD.C. Represent and interpret data.</b>   |   |   |
| <p>1.MD.C.4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p>  | <ul style="list-style-type: none"> <li>• Songs: Tallying; Graphing</li> <li>• Books: Painting by Number; One More Cat</li> <li>• Tally Marks</li> <li>• Graphs</li> <li>• Make a Table</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Ice-Cream Sundae</li> <li>- Make A Real Object Graph</li> <li>- Make a Weather Bar Graph</li> <li>- Weather Flashcards</li> <li>- Our Favorite Foods</li> <li>- Make a Graph</li> <li>- Make a table</li> <li>- How Many?</li> <li>- Bugs!</li> <li>- Use Graphs and Tables</li> <li>- How Big Is Your Family?</li> </ul> </li> </ul> |
| <b>1.MD.D. Work with money.</b>  |   |   |
| <p>1.MD.5. Identify the values of all U.S. coins and know their comparative values (e.g., a dime is of greater value than a nickel). Find equivalent values (e.g., a nickel is equivalent to five pennies). Use appropriate notation (e.g., 69¢). Use the values of coins in the solutions of problems (up to 100¢).</p> | <ul style="list-style-type: none"> <li>• Song: Money</li> <li>• Book: Bugs for Sale</li> <li>• Count Bills and Coins</li> </ul>   |   |
| <b>Geometry 1.G</b>  |   |   |
| <b>1.G.A. Reason with shapes and their attributes.</b>   |   |   |
| <p>1.G.A.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes that possess defining attributes.</p>  | <ul style="list-style-type: none"> <li>• Songs: Corners and Sides; Kites</li> <li>• Geoboard</li> <li>• Space Shapes</li> </ul>   | <ul style="list-style-type: none"> <li>• Attributes.pdf: Distinguish between defining attributes versus non-defining attributes; build and draw shapes to possess defining attributes.                             <ul style="list-style-type: none"> <li>- Sorting Shapes</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>1.G.A. Reason with shapes and their attributes <i>continued</i>.</b>  |   |   |
| <p>1.G.A.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quartercircles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</p>                                  | <ul style="list-style-type: none"> <li>• Song: Kites</li> <li>• Space Shapes</li> <li>• Geoboard</li> <li>• Tangrams</li> </ul>   |   |
| <p>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 decomposing into more equal shares creates smaller shares.</p> | <ul style="list-style-type: none"> <li>• Song: Fractions</li> <li>• Book: Halves and Fourths and Thirds</li> <li>• Equal-part Fractions</li> <li>• Label Parts of Fractions</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                         <ul style="list-style-type: none"> <li>- Make It Equal</li> <li>- Fraction Friends</li> <li>- Fraction Train</li> <li>- Halves, Thirds, Fourths</li> <li>- Equal Parts</li> </ul> </li> </ul> |
| <b>GRADE 2</b>   |   |   |
| <b>Operations and Algebraic Thinking 2.OA</b>  |   |   |
| <b>2.OA.A. Represent and solve problems involving addition and subtraction.</b>  |   |   |
| <p>2.OA.A.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, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p>                          | <ul style="list-style-type: none"> <li>• Book: Painting by Number</li> <li>• Addition</li> <li>• Subtraction</li> <li>• Problem Solving Strategies</li> <li>• Story Problem Strategies</li> <li>• Missing Addends and Subtrahends</li> <li>• Subtraction Sentences</li> <li>• Addition and Subtraction Facts</li> </ul> | <ul style="list-style-type: none"> <li>• One- and two-step 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.                         <ul style="list-style-type: none"> <li>- Animal Math</li> <li>- Picture Problems</li> <li>- Color the Chart</li> <li>- Think About it Differently</li> </ul> </li> </ul>  |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|---|--|--|
| <b>2.OA.B. Add and subtract within 20.</b>  |  |  |
| <p>2.OA.B.2. Fluently add and subtract within 20 using mental strategies. By end of grade 2, know from memory all sums of two single-digit numbers and related differences.<br/><i>For example, the sum <math>6 + 5 = 11</math> has related differences of <math>11 - 5 = 6</math> and <math>11 - 6 = 5</math>.</i></p> | <ul style="list-style-type: none"> <li>• Songs: Fact Families; Doubles</li> <li>• Subtraction Patterns</li> <li>• Addition Facts to 2</li> </ul> | <ul style="list-style-type: none"> <li>• Add and subtract within 20.pdf: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.                             <ul style="list-style-type: none"> <li>- The Three Little Bears</li> <li>- Fact Family Bingo</li> <li>- A Graph of Fact Families</li> <li>- Bean Facts</li> <li>- Draw a Picture</li> <li>- Addition</li> <li>- Number Pyramid</li> <li>- Subtraction Sentences</li> <li>- Model the Story</li> <li>- Fact Families</li> <li>- Add _ and 1-5; _ and 6-10</li> <li>- Order Property of Addition</li> <li>- Add Doubles +1 to 11</li> <li>- Add Doubles to 20</li> <li>- Add Doubles +1 to 21</li> <li>- Make 10</li> <li>- Subtract _ from</li> <li>- Subtract</li> <li>- Subtraction Patterns</li> <li>- Fact Families to 10; to 20</li> <li>- Add and Subtract Doubles to 10; Doubles to 20</li> </ul> </li> </ul> |
| <b>2.OA.C. Work with equal groups of objects to gain foundations for multiplication.</b>  |  |  |
| <p>2.OA.C.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p>  | <ul style="list-style-type: none"> <li>• Song: Odd Todd and Even Steven</li> <li>• Skip Count by 2</li> <li>• Addition Facts</li> </ul>          | <ul style="list-style-type: none"> <li>• Odd and even recognition.pdf: Determine whether a group of objects (up to 20) has an odd or even number of members.                             <ul style="list-style-type: none"> <li>- Missing Patterns</li> <li>- Counting by 2s</li> <li>- What's My Number?</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|---|---|--|
| <b>2.OA.C. Work with equal groups of objects to gain foundations for multiplication <i>continued</i>.</b>   |   |  |
| 2.OA.C.4. Use addition to find the total number of objects arranged in rectangular arrays with up to five rows and up to five columns; write an equation to express the total as a sum of equal addends.              | <ul style="list-style-type: none"> <li>Addition</li> <li>Multiply Using Repeated Addition</li> <li>Multiply Using Arrays</li> </ul>   |  |
| <b>Number and Operations in Base Ten 2.NBT</b>  |   |  |
| <b>2.NBT.A. Understand place value.</b>   |   |  |
| <i>2.NBT.A.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</i> |   |  |
| 2.NBT.A.1.a. 100 can be thought of as a bundle of ten tens—called a “hundred.”  | <ul style="list-style-type: none"> <li>Song: Place Value</li> <li>Place Value of 3-digit Numbers</li> </ul>   | <ul style="list-style-type: none"> <li>Thinking of 100 as a bundle of ten 10s.pdf: 100 can be thought of as a bundle of ten tens—called a “hundred.”                             <ul style="list-style-type: none"> <li>The Kingdom of Popsicle Stick-Filled Purses</li> </ul> </li> </ul>   |
| 2.NBT.A.1.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).   | <ul style="list-style-type: none"> <li>Song: Place Value</li> <li>Place Value of 3-digit Numbers</li> </ul>   | <ul style="list-style-type: none"> <li>Grouping hundreds: 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).                             <ul style="list-style-type: none"> <li>My Three-Digit Numbers</li> </ul> </li> </ul>  |
| <b>2.NBT.A. Understand place value.</b>   |   |  |
| 2.NBT.A.2. Count within 1,000; skip-count by 5s, 10s, and 100s. Identify patterns in skip counting starting at any number.  | <ul style="list-style-type: none"> <li>Song: Skip Counting</li> <li>Skip Count</li> <li>Skip Count by 10</li> <li>Skip Count by 5</li> <li>Number Sequences and Patterns</li> </ul> | <ul style="list-style-type: none"> <li>Counting within 1000.pdf: Count within 1,000; skip-count by 5s, 10s, and 100s.                             <ul style="list-style-type: none"> <li>Chart Patterns</li> <li>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</li> <li>900 Chart</li> </ul> </li> </ul> |
| 2.NBT.A.3. Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.  | <ul style="list-style-type: none"> <li>Sequences of 2-digit Numbers</li> <li>Sequences of 3-digit Numbers</li> <li>Number Chart</li> <li>Place Value</li> </ul>                     | <ul style="list-style-type: none"> <li>Read and write numbers to 1000.pdf: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.                             <ul style="list-style-type: none"> <li>Cube Trails</li> <li>Race for a Flat</li> <li>High/Low Number Cube Throw</li> <li>Lucky Five</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|--|---|---|
| <b>2.NBT.A. Understand place value <i>continued</i>.</b>   |   |   |
| <p>2.NBT.A.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> | <ul style="list-style-type: none"> <li>• Greater Than, Less Than (3-digit Numbers)</li> <li>• Place Value of 3-digit Numbers</li> </ul>   | <ul style="list-style-type: none"> <li>• Less than, equal to, or greater than.pdf: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.                             <ul style="list-style-type: none"> <li>- More or Less</li> <li>- The Hands Have It!</li> <li>- Larger or Smaller?</li> <li>- Comparing Number Cards</li> <li>- Number Cards</li> <li>- <math>&lt;</math>, <math>&gt;</math>, <math>=</math> Cards</li> <li>- Greater Than, Less Than, Equal To</li> </ul> </li> </ul> |
| <b>2.NBT.B. Use place value understanding and properties of operations to add and subtract.</b>  |   |   |
| <p>2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>  | <ul style="list-style-type: none"> <li>• Place Value</li> <li>• Addition and Subtraction Relationship</li> <li>• Commutative Properties of Addition</li> <li>• Addition</li> <li>• Subtraction</li> <li>• Add without Regrouping</li> <li>• Add with Regrouping</li> <li>• Subtract without regrouping</li> <li>• Subtract with Regrouping</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Addition of Two-Digit Numbers</li> <li>- Tic Tac Toe</li> <li>- Subtraction of Two-Digit Numbers</li> </ul> </li> </ul>  |
| <p>2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p>   | <ul style="list-style-type: none"> <li>• Add Two-digit Numbers with Regrouping</li> <li>• Commutative Properties of Addition</li> <li>• Place Value</li> </ul>  | <ul style="list-style-type: none"> <li>• Adding four 2-digit numbers.pdf: Add up to four two-digit numbers using strategies based on place value and properties of operations.                             <ul style="list-style-type: none"> <li>- Add Four Two-Digit Numbers</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|---|--|--|
| 2.NBT.B. Use place value understanding and properties of operations to add and subtract <i>continued.</i>   |  |  |
| <p>2.NBT.B.7. 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.</p> | <ul style="list-style-type: none"> <li>• Place Value</li> <li>• Addition and Subtraction Relationship</li> <li>• Commutative Properties of Addition</li> <li>• Addition</li> <li>• Subtraction</li> <li>• Add without Regrouping</li> <li>• Add with Regrouping</li> <li>• Subtract without regrouping</li> <li>• Subtract with Regrouping</li> <li>• Act Out Addition</li> <li>• Act Out Subtraction</li> </ul> | <ul style="list-style-type: none"> <li>• Add and subtract within 1000.pdf: Add and subtract within 1,000.                             <ul style="list-style-type: none"> <li>- Choose and Add</li> <li>- Mix and Match Addition</li> <li>- Expanded Subtraction</li> <li>- Subtracting Repeats</li> <li>- 999</li> <li>- Prediction</li> <li>- Up and Away</li> <li>- Regrouping Treasure Hunt</li> <li>- Play Ball</li> <li>- Squirrel Facts</li> <li>- Number Cards</li> </ul> </li> </ul> |
| <p>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.</p>  | <ul style="list-style-type: none"> <li>• Skip Count</li> <li>• Place Value</li> <li>• Number Chart</li> <li>• Number Patterns</li> </ul>   | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Spin and Solve (with spinner and numbers cards)</li> </ul> </li> </ul>  |
| <p>2.NBT.B.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.</p>   | <ul style="list-style-type: none"> <li>• Addition</li> <li>• Subtraction</li> <li>• Add with Regrouping Concept</li> <li>• Subtract with Regrouping Concept</li> <li>• Place Value</li> <li>• Number Line</li> <li>• Addition and Subtraction Relationship</li> <li>• You Be the Teacher</li> <li>• Commutative Properties of Addition</li> <li>• Act Out Addition</li> <li>• Act Out Subtraction</li> </ul>     |  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES   |
|--|--|---|
| <b>Measurement and Data 2.MD</b>   |  |   |
| <b>2.MD.A. Measure and estimate lengths in standard units.</b>   |  |   |
| <p>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.</p>   | <ul style="list-style-type: none"> <li>• Song: Measuring Plants</li> <li>• Book: Birds at My House</li> <li>• Length</li> <li>• Measurement Tools</li> <li>• Standard Units of Length</li> </ul> | <ul style="list-style-type: none"> <li>• Measurement tools.pdf: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.                             <ul style="list-style-type: none"> <li>- Ready, Set, Measure</li> <li>- Treasure Hunt</li> <li>- Centimeter Ruler</li> <li>- Inch Ruler</li> <li>- Let's Measure in Centimeters!</li> <li>- Let's Measure in Inches!</li> </ul> </li> </ul> |
| <p>2.MD.A.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.</p> | <ul style="list-style-type: none"> <li>• Length</li> <li>• Standard Units of Length</li> <li>• Measurement Tools</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Ready, Set, Measure</li> </ul> </li> </ul>  |
| <p>2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters.</p>  | <ul style="list-style-type: none"> <li>• Song: Measuring Plants</li> <li>• Length</li> <li>• Standard Units of Length</li> <li>• Measurement Tools</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Estimating lengths.pdf: Estimate lengths using units of inches, feet, centimeters, and meters.                             <ul style="list-style-type: none"> <li>- Ready, Set, Measure</li> <li>- Treasure Hunt</li> <li>- Let's Measure in Centimeters!</li> <li>- Let's Measure in Inches!</li> <li>- Measuring Perimeter</li> </ul> </li> </ul>  |
| <p>2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p>   | <ul style="list-style-type: none"> <li>• Length</li> <li>• Standard Units of Length</li> </ul>   | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Ready, Set, Measure</li> <li>- Treasure Hunt</li> </ul> </li> </ul>   |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|---|---|--|
| <b>2.MD.B. Relate addition and subtraction to length.</b>   |   |  |
| <p>2.MD.B.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.</p> | <ul style="list-style-type: none"> <li>• Book: Yangshi’s Perimeter</li> <li>• Story Problem Strategies</li> <li>• Addition</li> <li>• Subtraction</li> <li>• Length</li> <li>• Standard Units of Length</li> </ul>  |  |
| <p>2.MD.B.6. Represent whole numbers as lengths from 0 on a number line diagram 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.</p>                        | <ul style="list-style-type: none"> <li>• Number Line</li> <li>• Length</li> </ul>   |  |
| <b>2.MD.C. Work with time and money.</b>  |   |  |
| <p>2.MD.C.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p>  | <ul style="list-style-type: none"> <li>• Songs: Telling Time; Clock Hands</li> <li>• Tell Time</li> <li>• Tell Time to Five Minutes</li> <li>• Tell Time to the Quarter Hour</li> <li>• Tell Time to the Minute</li> <li>• Tell Time to the Hour</li> <li>• Tell Time to the Half-hour</li> <li>• You Be the Teacher</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Matching Clocks</li> <li>- Cartoon Captions</li> <li>- Time to 5 Minutes</li> </ul> </li> </ul> |
| <p>2.MD.C.7.a. Know the relationships of time, including seconds in a minute, minutes in an hour, hours in a day, days in a week; days in a month and a year and approximate number of weeks in a month and weeks in a year.</p>                                      | <ul style="list-style-type: none"> <li>• Songs: Days in a Month; Months of the Year</li> <li>• Sing Around the World Song: The Days of the Week</li> <li>• Books: How Long Is a Minute?</li> <li>• Compare Minutes to Hours</li> </ul>  |  |



| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|---|--|--|
| <b>2.MD.C. Work with time and money <i>continued</i>.</b>   |  |  |
| <p>2.MD.C.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to \$10), using \$ and ¢ symbols appropriately and whole dollar amounts.</p> <p><i>For example, if you have 2 dimes and 3 pennies, how many cents do you have? If you have \$3 and 4 quarters, how many dollars or cents do you have? (Students are not expected to use decimal notation.)</i></p> | <ul style="list-style-type: none"> <li>• Songs: Money; Save Your Pennies</li> <li>• Book: Bugs For Sale</li> <li>• Coin Identification</li> <li>• Coin Value</li> <li>• Quarters</li> <li>• Count Dimes, Nickels, and Pennies</li> <li>• Count Quarters, Dimes, Nickels, and Pennies</li> <li>• Count Nickels and Pennies or Dimes and Pennies</li> <li>• Make Change</li> <li>• Count Coins</li> <li>• Count Bills and Coins</li> <li>• Equivalent Sums of Money</li> <li>• Story Problem Strategies</li> <li>• You Be the Teacher</li> </ul> | <ul style="list-style-type: none"> <li>• Solve money word problems.pdf: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.                             <ul style="list-style-type: none"> <li>- Supermarket Hunt</li> <li>- Shopping for My Family</li> <li>- Money Combinations</li> <li>- Money Sums</li> <li>- Pizza Parlor</li> <li>- How Much Back?</li> <li>- Coin Count</li> <li>- Bills and Coins</li> <li>- Let's Count Coins</li> <li>- Money Addition</li> <li>- Change Is Good!</li> <li>- Make 45¢</li> </ul> </li> </ul> |
| <b>2.MD.D. Represent and interpret data.</b>  |  |  |
| <p>2.MD.D.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Organize and record the data on a line plot (dot plot) where the horizontal scale is marked off in whole-number units.</p>   |  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Measuring Inches</li> <li>- Ready, Set, Measure</li> <li>- Let's Measure in Centimeters!</li> <li>- Let's Measure in Inches!</li> </ul> </li> </ul>  |
| <p>2.MD.D.10. 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,11 using information presented in a bar graph.</p>  | <ul style="list-style-type: none"> <li>• Song: Graphing</li> <li>• Graphing</li> <li>• Bar Graphs</li> <li>• Picture Graphs</li> <li>• Use Graphs and Tables</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Questions and Answers</li> <li>- Library Book Survey</li> <li>- Playground Survey</li> <li>- Rock Collections</li> <li>- Use Graphs and Tables</li> </ul> </li> </ul>  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>Geometry 2.G</b>  |   |  |
| <b>2.G.A. A. Reason with shapes and their attributes</b>   |   |  |
| <p>2.G.A.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.<sup>12</sup> Identify triangles, squares, rectangles, rhombuses, trapezoids, pentagons, hexagons, and cubes.</p>   | <ul style="list-style-type: none"> <li>• Song: Kites</li> <li>• Geoboard</li> <li>• Songs: Shapes, Shapes, Shapes; Corners and Sides</li> <li>• Book: The Shape of Things</li> <li>• Space Shapes</li> <li>• World Shapes</li> </ul>  | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Making Shapes</li> <li>- Shapes Review</li> </ul> </li> </ul>   |
| <p>2.G.A.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p>   | <ul style="list-style-type: none"> <li>• Song: Fractions</li> <li>• Fractions of Regions</li> <li>• You Be the Teacher</li> </ul>   |  |
| <p>2.G.A.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.</p> | <ul style="list-style-type: none"> <li>• Song: Fractions</li> <li>• Books: Halves and Fourths and Thirds; The Fraction Twins</li> <li>• Fractions</li> <li>• Label Parts of Fractions</li> <li>• Geoboard</li> <li>• Fractions of Regions</li> <li>• Fractions of Groups</li> <li>• You Be the Teacher</li> </ul> | <ul style="list-style-type: none"> <li>• 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.                             <ul style="list-style-type: none"> <li>- Frenzied Fraction Fun</li> <li>- Fabulous Fractions</li> </ul> </li> </ul> |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>SCIENCE AND TECHNOLOGY ENGINEERING FRAMEWORK 2016</b>   |   |  |
| <b>KINDERGARTEN</b>  |   |  |
| Kindergarten: Earth and Space Sciences K-ESS   |   |  |
| K-ESS2. Earth's Systems  |   |  |
| K-ESS2-1. Use and share quantitative observations of local weather conditions to describe patterns over time.  | <ul style="list-style-type: none"> <li>• Calendar/Graph Weather</li> <li>• Weather Patterns</li> </ul>  | <ul style="list-style-type: none"> <li>• Learning Together: Weather; The Weather Around Us</li> </ul>  |
| K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment.  | <ul style="list-style-type: none"> <li>• Books: Winter Snoozers; Birds at My House; The Old Maple Tree; Mela's Water Pot</li> </ul>   |  |
| K.ESS3. Earth and Human Activity   |   |  |
| K-ESS3-2. Obtain and use information about weather forecasting to prepare for, and respond to, different types of local weather.   | <ul style="list-style-type: none"> <li>• Songs: Precipitation; Storms</li> <li>• Book: Whatever the Weather</li> <li>• Weather Tools</li> <li>• Calendar/Graph Weather</li> </ul> |  |
| K-ESS3-3. Communicate solutions to reduce the amount of natural resources an individual uses.  | <ul style="list-style-type: none"> <li>• Songs: Conservation; Pollution Rap</li> <li>• Pollution and Recycling</li> <li>• Care of Water</li> <li>• Care of Earth</li> </ul>       | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Recycling</li> <li>• Learning Together: Our Earth</li> </ul>                |
| Kindergarten: Life Science K-LS  |   |  |
| K-LS1. From Molecules to Organisms: Structures and Processes   |   |  |
| K-LS1-1. Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow. | <ul style="list-style-type: none"> <li>• Song: Water</li> <li>• Books: Mela's Water Pot; Everybody Needs to Eat</li> <li>• Sun</li> <li>• Plants</li> <li>• Water</li> </ul>      | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Water for Plants</li> <li>• Learning Together: Green and Growing</li> </ul> |
| K-LS1-2(MA). Recognize that all plants and animals grow and change over time.  | <ul style="list-style-type: none"> <li>• Books: The Old Maple Tree; A Seed Grows</li> <li>• Plant Life Cycle and Growth</li> <li>• Animal Life Cycle and Growth</li> </ul>        |  |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES   |
|---|---|---|
| <b>Kindergarten: Physical Science K-PS</b>  |   |   |
| <b>K-PS1. Matter and Its Interactions</b>   |   |   |
| K-PS1-1(MA). Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on temperature.  | <ul style="list-style-type: none"> <li>• Changes in Matter</li> <li>• States of Water</li> </ul>  |   |
| <b>K-PS2. Motion and Stability: Forces and Interactions</b>   |   |   |
| K-PS2-1. Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.   | <ul style="list-style-type: none"> <li>• Song: Push and Pull</li> <li>• Book: Mr. Mario's Neighborhood</li> <li>• Push and Pull</li> </ul>  | <ul style="list-style-type: none"> <li>• Learning Together: How It Works</li> </ul>   |
| <b>K-PS3. Energy</b>  |   |   |
| K-PS3-1. Make observations to determine that sunlight warms materials on Earth's surface.   | <ul style="list-style-type: none"> <li>• Song: Sun Blues</li> <li>• Book: My Family Campout</li> <li>• Sun</li> </ul>   | <ul style="list-style-type: none"> <li>• HomeLink Newsletter: The Sky Above Us</li> </ul>   |
| K-PS3-2. Use tools and materials to design and build a model of a structure that will reduce the warming effect of sunlight on an area.   | <ul style="list-style-type: none"> <li>• Book: My Family Campout</li> </ul>   | <ul style="list-style-type: none"> <li>• Sun and Shade Pictures</li> </ul>  |
| <b>GRADE 1</b>  |   |   |
| <b>Grade 1: Earth and Space Sciences 1-ESS</b>  |   |   |
| <b>1-ESS1. Earth's Place in the Universe</b>  |   |   |
| 1-ESS1-1. Use observations of the Sun, Moon, and stars to describe that each appears to rise in one part of the sky, appears to move across the sky, and appears to set.  | <ul style="list-style-type: none"> <li>• Songs: The Moon; Sun Blues</li> <li>• Books: Moon Song; Star Pictures; My Family Campout</li> <li>• Sun</li> <li>• Moon</li> <li>• Constellations</li> </ul> | <ul style="list-style-type: none"> <li>• More to Explore Experiment: The Moon</li> <li>• Learning Together: The Sky Above Us</li> </ul> |
| 1-ESS1-2. Analyze provided data to identify relationships among seasonal patterns of change, including relative sunrise and sunset time changes, seasonal temperature and rainfall or snowfall patterns, and seasonal changes to the environment. | <ul style="list-style-type: none"> <li>• Song: Seasons</li> <li>• Book: The Four Seasons</li> <li>• Weather Patterns</li> <li>• Spring</li> <li>• Summer</li> <li>• Fall</li> <li>• Winter</li> </ul> | <ul style="list-style-type: none"> <li>• Learning Together: The Weather Around Us</li> </ul>  |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES  |
|--|--|--|
| <b>Grade 1: Life Science 1-LS</b>  |  |  |
| <b>1-LS1. From Molecules to Organisms: Structures and Processes</b>  |  |  |
| 1-LS1-1. Use evidence to explain that (a) different 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, and (b) plants have roots, stems, leaves, flowers, and fruits that are used to take in water, air, and other nutrients, and produce food for the plant. | <ul style="list-style-type: none"> <li>• Books: I Wish I Had Ears Like a Bat; Animal Bodies; I Want to Be a Scientist Like Antoni van Leeuwenhoek; Everybody Needs to Eat</li> <li>• Animal Bodies</li> <li>• Plants Need Water</li> <li>• Plants</li> <li>• Functions of Plant Parts</li> </ul> | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Water for Plants</li> <li>• Learning Together: Green and Growing</li> </ul> |
| 1-LS1-2. Obtain information to compare ways in which the behavior of different animal parents and their offspring help the offspring to survive.   | <ul style="list-style-type: none"> <li>• Song: Animal Bodies</li> <li>• Animal Behavior</li> <li>• Animal Bodies</li> </ul>  |  |
| <b>1-LS3 Heredity: Inheritance and Variation of Traits</b>   |  |  |
| 1-LS3-1. Use information from observations (first-hand and from media) to identify similarities and differences among individual plants or animals of the same kind.   | <ul style="list-style-type: none"> <li>• Song: Traits</li> <li>• Books: George and Jack; Mine</li> <li>• Animal Bodies</li> <li>• Animal Behavior</li> <li>• Build Knowledge: Mine</li> </ul>  | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Traits</li> </ul>   |
| <b>Grade 1: Physical Science 1-PS</b>  |  |  |
| <b>1-PS4 Waves and Their Applications in Technologies for Information Transfer</b>   |  |  |
| 1-PS4-1. Demonstrate that vibrating materials can make sound and that sound can make materials vibrate.  | <ul style="list-style-type: none"> <li>• Song: Sound</li> <li>• Book: What Sounds Say</li> <li>• Sound Waves</li> </ul>  | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Sound</li> </ul>  |
| 1-PS4-3. Conduct an investigation to determine the effect of placing materials that allow light to pass through them, allow only some light through them, block all the light, or redirect light when put in the path of a beam of light.  | <ul style="list-style-type: none"> <li>• Book: My Family Campout</li> <li>• Light Properties</li> <li>• Properties of Light</li> </ul>   |  |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES |
|---|--|-----------------------------|
| 1-PS4 Waves and Their Applications in Technologies for Information Transfer <i>continued.</i>   |  |                             |
| 1-PS4-4. Use tools and materials to design and build a device that uses light or sound to send a signal over a distance.  | <ul style="list-style-type: none"> <li>• Song: Inventing</li> <li>• Books: I Want to Be a Scientist Like Thomas Edison; Inventions All Around</li> </ul>   |                             |
| Grade 1: Technology/Engineering 1-ETS   |  |                             |
| 1.K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change that can be solved by developing or improving an object or tool. | <ul style="list-style-type: none"> <li>• Song: Inventing</li> <li>• Book: Inventions All Around</li> <li>• Inventions</li> </ul>   |                             |
| 1.K-2-ETS1-2. Generate multiple solutions to a design problem and make a drawing (plan) to represent one or more of the solutions.  | <ul style="list-style-type: none"> <li>• Song: Inventing</li> <li>• Book: Inventions All Around</li> <li>• Inventions</li> </ul>   |                             |
| <b>GRADE 2</b>  |  |                             |
| Grade 2: Earth and Space Sciences 2-ESS   |  |                             |
| 2-ESS1. Earth's Place in the Universe   |  |                             |
| [2-ESS1-1 from NGSS is not included.]   |  |                             |
| 2-ESS2. Earth's Systems   |  |                             |
| 2-ESS2-1. Investigate and compare the effectiveness of multiple solutions designed to slow or prevent wind or water from changing the shape of the land.                        |  |                             |
| 2-ESS2-2. Map the shapes and types of landforms and bodies of water in an area.   | <ul style="list-style-type: none"> <li>• Songs: Water; Precipitation; Water Is All Around</li> <li>• Water Sources</li> <li>• Water</li> <li>• Water Cycle</li> <li>• Care of Water</li> <li>• Oceans</li> </ul> |                             |

| MASSACHUSETTS STANDARDS  | WATERFORD DIGITAL RESOURCES   | WATERFORD TEACHER RESOURCES  |
|--|---|--|
| <b>2-ESS2. Earth's Systems <i>continued</i></b>  |   |  |
| 2-ESS2-3. Use examples obtained from informational sources to explain that water is found in the ocean, rivers and streams, lakes and ponds, and may be solid or liquid.                                       | <ul style="list-style-type: none"> <li>• Songs: Water; Precipitation; Water Is All Around</li> <li>• Water Sources</li> <li>• Oceans</li> </ul>   |  |
| 2-ESS2-4(MA). Observe how blowing wind and flowing water can move Earth materials from one place to another and change the shape of a landform.  | <ul style="list-style-type: none"> <li>• Book: Mela's Water Pot</li> </ul>  |  |
| <b>Grade 2: Life Science 2-LS</b>  |   |  |
| <b>2-LS2. Ecosystems: Interactions, Energy, and Dynamics</b>   |   |  |
| 2-LS2-3(MA). Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live.  | <ul style="list-style-type: none"> <li>• Plants and Animals</li> </ul>  | <ul style="list-style-type: none"> <li>• Learning Together: Animals</li> </ul>         |
| [2-LS2-1 is included in other standards, including K-LS1-1 and 2-LS2-3(MA). 2-LS2-2 from NGSS is not included.]  |   |  |
| <b>2-LS4 Biological Evolution: Unity and Diversity</b>   |   |  |
| 2-LS4-1. Use texts, media, or local environments to observe and compare (a) different kinds of living things in an area, and (b) differences in the kinds of living things living in different types of areas. | <ul style="list-style-type: none"> <li>• Songs: Animal Bodies; Four Ecosystems</li> <li>• Books: Animal Bodies; Where in the World Would You Go Today?</li> <li>• Ecosystems</li> <li>• Animal Bodies</li> <li>• Animal Behavior</li> </ul> | <ul style="list-style-type: none"> <li>• Learning Together: Places on Earth</li> </ul> |

| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES |
|---|--|-----------------------------|
| <b>Grade 2: Physical Science 2-PS</b>   |  |                             |
| <b>2-PS1. Matter and Its Interactions</b>   |  |                             |
| 2-PS1-1. Describe and classify different kinds of materials by observable properties of color, flexibility, hardness, texture, and absorbency.  | <ul style="list-style-type: none"> <li>• Book: Warm Soup for Dedushka</li> <li>• Changes in Matter</li> <li>• Movement of Heat</li> <li>• States of Water</li> <li>• Materials</li> </ul>                |                             |
| 2-PS1-2. Test different materials and analyze the data obtained to determine which materials have the properties that are best suited for an intended purpose.  | <ul style="list-style-type: none"> <li>• Book: Warm Soup for Dedushka</li> <li>• Heat Movement</li> <li>• Movement of Heat</li> <li>• Heat Experiment</li> <li>• Materials</li> <li>• Magnets</li> </ul> |                             |
| 2-PS1-3. Analyze a variety of evidence to conclude that when a chunk of material is cut or broken into pieces, each piece is still the same material and, however small each piece is, has weight. Show that the material properties of a small set of pieces do not change when the pieces are used to build larger objects. | <ul style="list-style-type: none"> <li>• Materials</li> </ul>  |                             |
| 2-PS1-4. Construct an argument with evidence that some changes to materials caused by heating or cooling can be reversed and some cannot.   | <ul style="list-style-type: none"> <li>• Books: Warm Soup for Dedushka; Pancakes Matter</li> <li>• Changes in Matter</li> <li>• States of Water</li> </ul>   |                             |
| <b>2-PS3. Energy</b>  |  |                             |
| 2-PS3-1(MA). Design and conduct an experiment to show the effects of friction on the relative temperature and speed of objects that rub against each other.   |  |                             |



| MASSACHUSETTS STANDARDS   | WATERFORD DIGITAL RESOURCES  | WATERFORD TEACHER RESOURCES   |
|---|--|---|
| Grade 2: Technology/Engineering 2-ETS   |  |   |
| 2.K-2-ETS1. Engineering Design  |  |   |
| 2.K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same design problem to compare the strengths and weaknesses of how each object performs. | <ul style="list-style-type: none"> <li>• Book: Warm Soup for Dedushka</li> <li>• Heat Movement</li> <li>• Movement of Heat</li> <li>• Heat Experiment</li> </ul> | <ul style="list-style-type: none"> <li>• More to Explore Experiment: Evaporation</li> </ul> |

## 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](http://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.

## SPANISH FAMILY ENGAGEMENT RESOURCES

All Waterford books and many of the resources available to families at [mentor.waterford.org](http://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](https://www.youtube.com/channel/UC...).

## 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

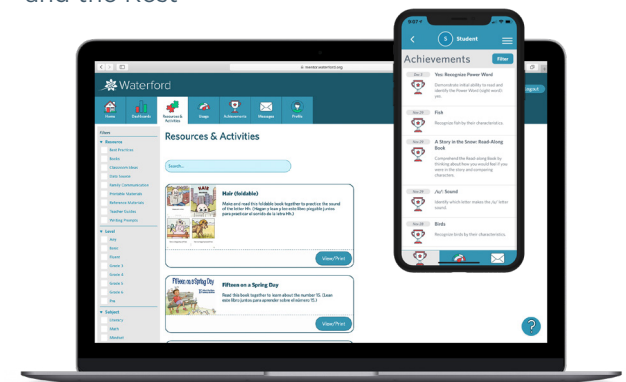
Naming Parts of the Body; First, Next, Last; One-to-One Correspondence; Opposites; Look at Details (identify same and different)

### 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).