Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards **The Major Work of the Grade are bolded.**	**Learning Outcomes** **The Major Work of the Grade are bolded.**	**Content**
Weeks 1-2: Perimeter		
3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. **3.G.A.3** Determine if a figure is a polygon.	**Learning Targets** I can define perimeter. I can find the perimeter of polygons when given the length of all sides. I can find the unknown side lengths of polygons when given the perimeter. I can show different rectangles that have the same perimeter and different areas. I can show rectangles that have the same area and different perimeters. I can identify whether a figure is a polygon or not. **Essential Understandings:** 1. The distance around a figure is its perimeter, which is the sum of the length of the sides. 2. Shapes can have the same perimeter and different areas. 3. Shapes can have the same area and different perimeters. **Essential Questions:** 1. How do you find perimeter of common shapes? 2. How can you find an unknown side length if given the perimeter? 3. How can rectangles have the same perimeter and different areas? 4. How can rectangles have the same area and different perimeters? 5. What characteristics do all polygons have in common?	**GO! Math** 11.1 Model Perimeter 11.2 Find Perimeter 11.3 Find the Unknown Side Lengths 11.9 Same Perimeter, Different Areas 11.10 Same Area, Different Perimeters EngageNY Module 7, Topic C has additional perimeter lessons **Vocabulary:** attribute, perimeter, plan figure, linear, area, polygon, side length **Mathematical Practices Focus** 4. Model with mathematics. **Additional Resources:** Perimeter Song PDF Perimeter and Area Song PDF Racing Around by Stuart Murphy Chickens on the Move (Math Matters) by Pamela Pollack Spaghetti and Meatballs for All by Marilyn Burns Perimeter, Area, and Volume by David Adler BrainpopJr: Perimeter **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf
Teacher Created Formative Assessment		

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards **The Major Work of the Grade are bolded.**	**Learning Outcomes** **The Major Work of the Grade are bolded.**	**Content**
Week 3-5: Area		
3.MD.C.7 Relate area of rectangles to the operations of multiplication and addition. **c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b +c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning.** ***For example, in a rectangle with dimensions 4 by 6, students can decompose the rectangle into 4 x 3 and 4 x 3 to find the total area of 4 x 6.*** **d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping parts, applying this technique to solve real-world problems.**	**Learning Targets** **I can use and prove area models can represent the distributive property.** **I can recognize and prove that area is additive.** **Essential Understandings** The area of a rectangle or rectilinear shape can be found by decomposing it into smaller rectabgles and then adding the areas of smaller rectangles. **Essential Questions** 1. How do you	**GO! Math** 11-7 Areas of Rectangles 11-8 Area of Combined Rectangles EngageNY Module 4 has an entire unit covering all of the area standards **Vocabulary:** decomposing **Mathematical Practices Focus** 4. Model with mathematics **Math Task Suggestions:** Instructional and Assessment Tasks: http://www.edutoolbox.org/tntools **Accountable Talk Stems:** ▯ Did everyone hear that? ▯ Can someone repeat what was just said? ▯ Can someone add on to what was said? ▯ Does someone have a similar idea? ▯ Do you agree or disagree? **Additional Resources:** See Properties of Operations Table on page 34 Perimeter and Area Song PDF **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf

	estimate to find the area of an irregular shape? 2. How can you use the strategy find a pattern to solve area problems? 3. How can you break apart a figure to find the area?	• Ensure that instruction meets the rigor called for by the standard. To help with this, use the Instructional Focus Documents (Use the dropdown to choose what grade-level) and the Go Math Guidance Documents
Teacher Created Formative Assessment		

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards	**Learning Outcomes**	**Content**
Week 6: Naming Fractions		
33.NF.A.1 Understand a fraction, 1/b, as the quantity formed by 1 part when a whole is partitioned into b equal parts (unit fraction); understand a fraction a/b as the quantity formed by *a* parts of size 1/b. *For example, ¾ represents a quantity formed by 3 parts of size ¼.* **3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 equal parts with equal area, and describe the area of each part as 1/4 of the area of the shape.***	**Learning Targets** **I can explain any unit fraction as one part of a whole.** **I can explain the meaning of the numerator and denominator.** **I can name various parts of the whole using fractions and explain that the fraction is made of unit pieces. Ex: 3/8 = 1/8 + 1/8 + 1/8** I can partition (divide) shapes into equal parts with equal areas. **Essential Understandings** 1. A whole can be divided into equal-sized parts. Those pieces are equal in size (covering the same area) but not necessarily equal in shape. 2. A fraction describes the division of a whole (parts of a whole, number line) into equal parts. 3. A fraction is relative to the size of a whole. 4. The denominator tells how many equal size pieces the whole is divided into. 5. The numerator tells how many pieces you are counting. 6. The more equal pieces you create, the smaller the pieces become. 7. Fractions are numbers, not just parts of a whole. Fractions should be seen as special numbers that allow us to count pieces that are part of a whole. **Essential Questions** 1. How can you divide a region into equal parts? 2. How can you show and name part of a whole? 3. How can a fraction name a part of a group? 4. What do the top and bottom numbers of a fraction tell?	**GO! Math** 8-1 Equal Parts of a Whole 8-2 Equal Shares 8-3 Unit Fractions of a Whole 8-4 Fractions of a Whole EngageNY Module 5, Topics A and B (Lessons 1-9) have additional lessons for these two standards **Vocabulary:** partition(ed), equal parts, fraction, unit fraction, numerator, denominator, eighths, fourths, halves, sixths, thirds, whole **Mathematical Practices Focus** 6. Attend to precision **Math Task Suggestions:** Instructional and Assessment Tasks: http://www.edutoolbox.org/tntools **Accountable Talk Stems:** ▯ Did everyone hear that? ▯ Can someone repeat what was just said? ▯ Can someone add on to what was said? ▯ Does someone have a similar idea? ▯ Do you agree or disagree? **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Teacher Created Formative Assessment

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year

Tennessee Standards	Learning Outcomes	Content
Week 7: Fractions on a Number Line		
3.NF.A.2 Understand a fraction as a number on the number line. Represent fractions on a number line diagram. ** Because this is the first time to work with number lines between the wholes, students will need ample experiences finding linear models to reason about fractions. **a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/b and that the endpoint locates the number 1/b on the number line. *For example, on a number line from 0 to 1, students can partition it into 4 equal parts and recognize that each part represents a length of ¼ and the first part has an endpoint at ¼ on the number line.*** **b. Represent a fraction a/b on a number line diagram by marking off *a* lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. *For example, 5/3 is the distance from 0 when there are 5 iterations of 1/3.***	**Learning Targets** **I can represent a fraction on a number line.** **I can partition a number line into equal sized parts**. (Using fraction strips to find fractional parts on a number line can help make the connection between the fraction models to the number line iterations.) **I can identify each point on a number line as a group of unit fractions.** **I can extend the number line to include fractions greater than one.** **Essential Understandings:** Each fraction can be associated with the unique point on a number line to represent a fractional part of a whole. The distance between 0 and 1 represents one whole. Work with improper fractions, not as a special group of fractions, but as a continuation of counting by unit fractions. This leads to the understanding that if the numerator and denominator are the same, the fraction is equal to one and fractions with a numerator greater than the denominator means the fraction is greater than one. **Essential Questions:** How can you represent and locate fractions on a number line? When might you use a fraction greater than 1 or a whole number?	**GO! Math** 8-5 Fractions on a Number Line 8-6 Relate Fractions and Whole Numbers EngageNY Module 5, Topic D has a 6 lesson unit covering Fractions on a Number Line **Vocabulary:** fraction, equal distance (intervals), numerator, denominator **Mathematical Practices Focus** 6. Attend to precision. **Math Task Suggestions:** Instructional and Assessment Tasks: http://www.edutoolbox.org/tntools **Accountable Talk Stems:** • Did everyone hear that? • Can someone repeat what was just said? • Can someone add on to what was said? • Does someone have a similar idea? • Do you agree or disagree? **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf

Teacher Created Formative Assessment

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards	**Learning Outcomes**	**Content**
Week 8: Compare Fractions		
3.NF.A.3 Explain equivalence of fractions and compare fractions by reasoning about their size. **d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or < to show the relationship and justify the conclusions.**	**Learning Targets** **I can compare two fractions with the same numerator or denominator by reasoning about their size.** **I can justify my answer about a comparison by using a visual fraction model.** **I can compare two fractions by reasoning about benchmark fractions. Ex: 4/6 is greater than 3/8 because 3/8 is less than ½ and 4/6 is greater than ½.** **Essential Understandings:** A fraction is relative to the size of a whole. Fractions can only be compared when the fractions refer to the same whole. There are three ways to reason about fractions when comparing: 1) When fractions have the same denominator, they are composed of the same unit fraction so the bigger the numerator, the larger the fraction. 2) When fractions have the same numerators but different denominators, the fraction with the smaller denominator has larger pieces and is the bigger fraction. **Essential Questions:** How can you compare fractions?	**GO! Math** 9-1 Compare Fractions 9-2 Compare Fractions with Different Denominators 9-3 Compare Fractions with the Same Numerator 9-4 Compare Fractions EngageNY Module 5, Topic C has a unit covering comparing fractions **Vocabulary:** fraction, numerator, denominator, comparison, compare, <, >, =, justify **Mathematical Practices Focus** 6. Attend to precision **Math Task Suggestions:** Instructional and Assessment Tasks: http://www.edutoolbox.org/tntools **Accountable Talk Stems:** • Did everyone hear that? • Can someone repeat what was just said? • Can someone add on to what was said? • Does someone have a similar idea? • Do you agree or disagree? **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf
Teacher Created Formative Assessment		

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards	**Learning Outcomes**	**Content**
Weeks 9: Equivalent Fractions		
3.NF.A.3 Explain equivalence of fractions and compare fractions by reasoning about their size. **a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.** *Concrete experiences of drawing models and folding fraction strips should gradually transition to equivalent fractions on a number line. **b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3) and explain why the fractions are equivalent using a visual fraction model.** **c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. For example: express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.** *Students should recognize 3/1 as 3 wholes divided into one group. They then need lots of situations where they model 6/2 to see that 6 pieces that are ½ each. This helps build understanding that 6/2 is 6 divided by 2.	**Learning Targets** **I can identify two fractions as being equivalent if they are at the same point on a number line.** **I can recognize and name simple equivalent fractions by reasoning about their size.** **I can explain why fractions are equivalent by using a visual fraction model.** **I can express whole numbers as fractions, and recognize fractions that are equal to whole numbers.** **Essential Understandings:** The same fractional amount can be represented by an infinite set of different but equivalent fractions. Two fractions are equivalent if they refer to the same size/area of a whole. A whole number can be represented as a fraction. **Essential Questions:** How can different fractions name the same part of a whole? How can you find models to find equivalent fractions?	**GO Math!** 9-6 Model Equivalent Fractions 9-7 Equivalent Fractions EngageNY Module 5, Topic E has a unit covering equivalent fractions **Vocabulary:** fraction, numerator, denominator, equivalent, equivalence **Mathematical Practices Focus** 6. Attend to precision. **Accountable Talk Stems:** • Did everyone hear that? • Can someone repeat what was just said? • Can someone add on to what was said? • Does someone have a similar idea? • Do you agree or disagree? **Additional Resources:** BrainpopJr: Equivalent Fractions **Math Instructional Focus Document** https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_3_Mathematics.pdf

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Teacher Created Formative Assessment

Third Grade Mathematics Curriculum Map 3rd Nine Weeks 2020-2021

Third Nine Weeks – Topics and Concepts to be covered during the third quarter of the year		
Tennessee Standards	**Learning Outcomes**	**Content**
Week 10: Graphs		
3.MD.B.3 Draw a scaled pictograph and a scaled bar graph to represent a data set with several categories. Solve one- and two- step "how many more" and "how many less" problems using information presented in scaled graphs.	**Learning Targets** I can read and interpret a scaled bar graphs in order to solve 1- or 2-step "how many more" and "how many less" problems. I can make a scaled pictograph or bar graph with several categories to represent data. I can represent data in bar graphs and pictographs with different values for symbol and scale representations. **Essential Understandings:** Each type of graph is most appropriate for certain kinds of data. A graph's appearance changes based on the scale or symbol value, but the data does not change. **Essential Questions:** 1. What information can we gain by reading a graph? 2. What kind of data can be represented in bar graphs and pictographs? 3. How do you determine how much a symbol in a picture graph represents? 4. How can you choose a scale to make a bar graph?	**GO! Math** 2.1 Organize Data 2.2 Use Picture Graphs 2.4 Use Bar Graphs 2.6 Solve Problems Using Data EngageNY Module 6, Topic A has additional lessons on graphs **Vocabulary:** scale, scaled picture graph, scaled bar graph, data, frequency table, key **Mathematical Practices Focus** 4. Model with mathematics. **Accountable Talk Stems:** • Did everyone hear that? • Can someone repeat what was just said? • Can someone add on to what was said? • Does someone have a similar idea? • Do you agree or disagree? **Additional Resources:** BrainpopJr: Pictographs, Tally Charts and Bar Graphs
Teacher Created Formative Assessment		