Thomaston Public Schools - Curriculum Overview and Pacing Guide

Directions - Each colored box below represents one curricular unit. In each box, complete as much of the required information as possible (unit title, unit pacing, unit overview, priority learning targets). On its own, this document will eventually become a public-facing and quick-reference curriculum guide. As suits our curriculum goals, we will eventually use the information you lay out here as the basis for building a fully-expanded curriculum.

A few important points:

1. Unit Title - Your unit title can be thematic (i.e. "The Power and Pain of Love") or Skill-Based (i.e. Research and Argumentation) or Content-Driven ("Quadratic Functions and Operations").

2. Unit Pacing - There are approximately forty instructional weeks in a school year, but due to testing, school events, etc., we build a curriculum to cover thirty-six weeks. A full curriculum should contain six units each a minimum of four weeks and maximum of eight weeks long. In total, the units should add up to thirty-six weeks of coverage. The only exception is ELA, which uses quarterly units each 9 weeks long.

3. Unit Overview - The unit overview is a "meaty" paragraph that provides a narrative description of the unit, including major themes, skills, and (possibly) content. Think: In this unit students will (read / do / experience / learn / understand / develop / consider /etc.)...

4. Compelling Questions - Compelling questions are essential. They reflect critical and important inquiries that help students make sense of the world around them through the lenses of specific themes, issues, and topics that connect to specific disciplines. Compelling questions are relevant. They engage students in inquiries that are of personal importance and that ask students to consider themes, issues, and topics that help them connect the content of specific disciplines to their own lives and to their world. For more information, click here.

5. Priority Learning Targets - Each unit should contain three priority learning targets. These are effectively end-of-unit guarantees of what students will be able to do and demonstrate as a result of their learning. As priority learning targets, they are those "level three" learning targets on our eventual proficiency scales that we've been developing for a while now. The only exception to three targets per unit are for ELA (5-6 per unit) and history (six per unit, incl. three inquiry targets). These content areas have separate curriculum guide templates.

Course Title: Third Grade Math Curriculum		
School: Black Rock School	**Grade:3**	**Curriculum Pacing: 36 weeks**
Unit One: Numbers and Operations in Base Ten **Place Value, Adding and Subtracting Three Digit Numbers**	**Unit Two: Operations and Algebraic Thinking** **Multiplication and Division: Relationships and Patterns**	**Unit Three: Operations and Algebraic Thinking, Measurement and Data** **Multiplication: Finding Area, Solving Word Problems and Using Graphs**
Unit Pacing: 4 weeks	**Unit Pacing: 8 weeks**	**Unit Pacing: 8 weeks**
Unit Overview: In this unit, students will increase their understanding of place value and will add and subtract three digit numbers. They will learn that rounding numbers is a useful strategy when estimating. Knowing how to round will help students solve addition and subtraction problems. Prior background knowledge about place value will be applied to adding or subtracting partial sums or differences. Learners will apply a number of different strategies to problem solve. **In Part 1** of this unit, students will use place value to round numbers. **In Part 2** of this unit, students will add three-digit numbers. **In Part 3** of this unit, students will subtract three-digit numbers and will use rounding and properties of operations to perform multi-digit arithmetic.	In this unit, students are introduced to multiplication and division. The focus is on concepts, relationships and patterns related to multiplying and dividing. Students will learn that multiplication is a way of combining equal groups. They will also learn that there are many models and strategies that can be used to multiply in any order. Students will also learn that division means separating a total number of objects into equal-sized groups. **In Part 1 o**f this unit, students will understand the meaning of multiplication and multiply with the numbers 0,1,2,3,4,5,6,7,8,9, and 10. **In Part 2** of this unit, students will use order, grouping and place value to multiply. **In Part 3** of this unit, students will learn the meaning of division, how multiplication and division are connected, practice facts, understand patterns and solve multiplication and division problems.	**Unit Overview**: In this unit, students are introduced to the concept of area and other applications of multiplication. They will learn that area is the measure of the space inside of a shape. They will use prior knowledge about multiplication to find the area of a rectangle and other complex shapes. Students will also use what they know about arrays to help model and solve multiplication and division problems. They will learn that multiplication will help solve problems about data more efficiently. **In Part 1** of this unit, students will learn about the concept of area, multiply to find area and add areas. **In Part 2** of this unit, students will solve one-step word problems using multiplication and division and solve two-step word problems using the four operations. **In Part 3** of this unit, students will learn to draw a scaled picture graph and a scaled bar graph to represent a data set.

Compelling Questions:	**Compelling Questions:**	**Compelling Questions:**
1. How can I estimate the answers for operations involving two and three digit numbers?	1. What strategies aid in mastering multiplication and division facts?	1. How does my knowledge about multiplication help me to solve problems in everyday life?
2. What strategies do I use to compute sums and differences mentally?	2. How does my knowledge about multiplication facts help me to solve problems?	2. How do I find the area of a shape? How do I measure it?
Priority Learning Targets	**Priority Learning Targets**	**Priority Learning Targets**
1. I can use place value understanding to round whole numbers to the nearest 10 or 100. (Math.3.NBT.1)	1. I can interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. (Math.3.OA.1)	1. I can use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (Math. 3.OA.3)
2. I can fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (Math.3.NBT.2)	2. I can use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (Math. 3.OA.3)	2. I can solve two-step word problems using the four operations. I can represent these problems using equations with a letter standing for the unknown quantity and assess the reasonableness of answers using mental computation and estimation strategies including rounding. (Math.3.OA.8)
	3. I can apply properties of operations as strategies to multiply and divide. (Commutative Property, Associative Property, Distributive Property). (Math.3.OA.5)	3. I can draw a scaled picture graph 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 bar graphs. (Math.3.MD.3)
		4. I can relate area to the operations of multiplication and addition. (Math.3.MD.7)

Unit Four: Number and Operations-Fractions Fractions: Equivalence and Comparison	Unit Five: Measurement and Data Measurement Time, Volume and Mass	Unit 6: Geometry Shapes: Attributes, Perimeter and Area and Partitioning
Unit Pacing: 8 weeks	**Unit Pacing: 4 weeks**	**Unit Pacing: 4 weeks**
Unit Overview: In this unit, students will be introduced to fractions. They will learn that fractions are numbers that describe wholes divided into equal parts. Students will learn that fractions name points on a number line. Number lines are helpful to compare fractions with whole numbers and other fractions. They will also learn that there are different names for the same fraction or equivalent fractions. They will compare fractions that have the same numerator or denominator. **In Part 1** of this unit, students will understand what a fraction is, understand fractions on a number line and understand equivalent fractions. **In Part 2** of this unit, students will identify equivalent fractions and compare fractions. **In Part 3** of this unit, students will use symbols to compare fractions, measure length and plot data on plot lines.	**Unit Overview**: In this unit, students will extend their understanding of measurement. They will tell time using analog and digital clocks. Students will read and tell time to the nearest minute and solve problems that focus on elapsed time. They will use prior knowledge about measurement and estimation to measure the volume of liquid in liters and the mass of an object in grams or kilograms. **In Part 1** of this unit, students will learn how to tell and write time to the nearest minute and measure time intervals in minutes. **In Part 2** of this unit, students will measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms and liters. **In Part 3** of this unit, students will solve measurement problems by adding, subtracting, multiplying or dividing one-step word problems.	**Unit Overview:** In this unit, students will extend their understanding of two-dimensional shapes. They will recognize that two-dimensional shapes have many attributes and recognition of these attributes will help to categorize shapes. They will learn that the perimeter is the sum of a shape's side lengths, and measures the space inside a shape. Students will also divide shapes into equal parts to show fractional parts of a whole. **In Part 1** of this unit, students will learn about the attributes and categories of shapes. **In Part** 2 of this unit, students will learn how to calculate the area and perimeter of shapes. **In Part 3** of this unit, students will learn to partition shapes into parts with equal areas.
Compelling Questions:	**Compelling Questions:**	**Compelling Questions:**

1. How can I use fractions in real life? 2. How do I use materials and drawings to understand and show understanding of fractions?	1. How do you use weight and measurement in your life? 2. How do I choose the appropriate tool and unit when measuring?	1. Where in the real world can I find shapes? 2. What is perimeter and how is it measured?
Priority Learning Targets 1. I can understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a part of size 1/b. (Math.3.NF.1) 2. I understand a fraction as a number on the number line; represent fractions on a number line diagram. (Math.3.NF.2) 3. I can compare two fractions with the same numerator or the same denominator by reasoning about their size. I recognize comparisons are valid only when the two fractions refer to the same whole. I can record the results of comparisons with the symbols >, < or =, and justify conclusions, e.g, by using a fraction model. (Math.3.NF.3d)	**Priority Learning Targets** 1. I can tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. (Math.3.MD.1) 2. I can measure and estimate liquid volume and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add subtract, multiply or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Math.3. MD.2) 3. I can fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 times 5 equals 40, one knows that 40 divided by 5 equals 8) or properties of operations. By the end of grade 3, know from memory all products of two one-digit numbers. (Math.3.OA.7)	**Priority Learning Targets** 1. I can understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category(e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. (Math.3.G.1) 2. I can partition shapes into parts with equal areas.Express the area of each part as a unit fraction of the whole. (Math.3.G.2) 3. I can 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. (Math.3.MD.8)