Grade 3 Math ELT Overview

Essential Learning Target	Standards	Prerequisite Skill
1. I can round numbers with one to three digits to the nearest 10 or 100.	**Use place value understanding and properties of operations to perform multi-digit arithmetic.** **MGSE3.NBT.1** Use place value understanding to round whole numbers to the nearest 10 or 100.	***MGSE2.NBT.1*** *Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.*
2. I can fluently add and subtract (within 1000) using strategies such as the commutative and associative properties, counting on, partial sums and differences, using related addition and subtraction facts, and compensation.	**Use place value understanding and properties of operations to perform multi-digit arithmetic.** **MGSE3.NBT.2** 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.	***MGSE2.NBT.7*** *I can add and subtract within 1000, 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.*
3. I can read and interpret scaled bar graphs in order to solve one- and two-step problems involving "how many more" and "how many less."	**Represent and interpret data.** **MGSE3.MD.3** 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. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	***MGSE2.MD.10*** *I can 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.*
4. I can use multiplication and division (within 100) to solve word problems.	**Represent and solve problems involving multiplication and division.** **MGSE3.OA.3** 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. **MGSE3.OA.1** Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7. **MGSE3.OA.2** Interpret whole number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares (How many in each group?), or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each (How many groups can you make?). *For example,*	***MGSE2.OA.2*** *I can fluently add and subtract (within 100).*

		describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. **MGSE3.OA.4** Determine the unknown whole number in a multiplication or division equation relating three whole numbers using the inverse relationship of multiplication and division. *For example, determine the unknown number that makes the equation true in each of the equations, 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*	
5.	I can fluently multiply and divide (within 100) using strategies such as the commutative, associative, and distributive properties, doubling, using related multiplication or division facts.	**Multiply and divide within 100** **MGSE3.OA.7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **Understand properties of multiplication and the relationship between multiplication and division.** **MGSE3.OA.5** Apply properties of operations as strategies to multiply and divide. **MGSE3.OA.6** Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	*MGSE2.OA.4* *I can find the total number of objects arranged in rectangular arrays using repeated addition..*
6.	I can use all four operations to solve two-step word problems.	**Solve problems involving the four operations, and identify and explain patterns in arithmetic.** **MGSE3.OA.8** Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **MGSE3.OA.9** Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.* **Use place value understanding and properties of operations to perform multi-digit arithmetic.** **MGSE3.NBT.3** Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**MGSE2.OA.1** *I can use addition and subtraction (within 100) to solve one-step and two-step word problems.*
7.	I can use addition and subtraction to solve word problems involving time.	**Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.** **MGSE3.MD.1** Tell and write time to the nearest minute and measure elapsed 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, drawing a pictorial representation on a clock face, etc.	**MGSE2.MD.7** *I can tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.*
8.	I can add, subtract, multiply, and/or divide whole numbers to solve problems involving liquid volumes or masses of objects.	**Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.**. **MGSE3.MD.2** Measure and estimate liquid volumes 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	*MGSE2.MD.3* *I can estimate lengths using units of inches, feet, centimeters, and meters.*

	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.	
9. I can plot fractions on a number line.	**Develop understanding of fractions as numbers.** **MGSE3.NF.2** Understand a fraction as a number on the number line; represent fractions on a number line diagram. **MGSE3.NF.1** Understand a fraction as the quantity formed by 1 part when a whole is partitioned into *b* equal parts (unit fraction); understand a fraction as the quantity formed by *a* parts of the same size.	**MGSE2.G.2** *I can partition a rectangle into two, three or four equal shares.*
10. I can compare two fractions with the same numerator or the same denominator using the symbols >, <, or =.	**Develop understanding of fractions as numbers.** **MGSE3.NF.3d** 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 <, and justify the conclusions, e.g., by using a visual fraction model. **MGSE3.NF.3** Explain equivalence of fractions through reasoning with visual fraction models. 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. b. Recognize and generate simple equivalent fractions with denominators of 2, 3, 4, 6, and 8, e.g., . Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = (3 wholes is equal to six halves); recognize that = 3; locate and 1 at the same point of a number line diagram.*	**MGSE2.MD.2** *I can compare measurements of different units.*
11. I can use a ruler to measure lengths accurately to fourths of an inch.	**Represent and interpret data..** **MGSE3.MD.4** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters	**MGSE2.MD.9** *I can generate measurement data and represent it on a line plot.*
12. I can find the area of a shape by counting the number of square units used.	**Geometric Measurement: understand concepts of area and relate area to multiplication and to addition.** **MGSE3.MD.6** Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). **MGSE3.MD.5** Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. **Reason with shapes and their attributes..**	*MGSE2.MD.1* *I can measure the length of an object by selecting and using the appropriate tool.*

	MGSE3.G.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 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	

13. I can solve problems involving the area of rectangles.	**Geometric Measurement: understand concepts of area and relate area to multiplication and to addition.**
	 MGSE3.MD.7b Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
	 MGSE3.MD.7 Relate area to the operations of multiplication and addition.
	    a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
	    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 $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
		MGSE2.G.3
		 I can partition circles and rectangles into two, three, or four equal parts.

14. I can solve problems involving the perimeter of polygons.	**Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.** **MGSE3.MD.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.	*MGSE1.G.2* *I can combine two- or three-dimensional shapes to create a new shape.*
15. I can identify and draw quadrilaterals (squares, rectangles, and rhombuses).	**Reason with shapes and their attributes.** **MGSE3.G.1** 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.	**MGSE2.G.1** *I can recognize and draw polygons and other figures.*