Learning Targets - Mathematics

Grade 3 (on-Level)

August/September: Benchmarking/MAP Testing/Launch Year

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
take MAP tests take fall benchmark tests set up Interactive Student Notebook become signed up with Go Math tech component review Standards for Mathematical Practices 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.		

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Learning Targets - Mathematics

Grade 3 (On-level)

September: Addition and Subtraction Within 1,000

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Identify and describe whole-number patterns and solve problems. (3.OA.D.9)	**Commutative Property of Addition** **Identity Property of Addition** **Pattern**	How can you use properties to explain patterns on the addition table?
Round 2- and 3-digit numbers to the nearest ten and hundred. (3.NBT.A.1)	**Round**	How can you round numbers?
Use compatible numbers and rounding to estimate sums. (3.NBT.A.1)	**Compatible numbers** **Estimate**	How can you use compatible numbers and rounding to estimate sums?
Count by tens and ones, use a number line, make compatible numbers, or use friendly numbers to find sums mentally. (3.NBT.A.2)		What mental math strategies can you use to find sums?
Use the Commutative and Associative Properties of Addition to add more than two addends. (3.NBT.A.2)	**Associative Property of Addition**	How can you add more than two addends?
Use the break apart strategy to add 3-digit numbers. (3.NBT.A.2)		How can you use the break apart strategy to add 3-digit numbers?
Use place value to add 3-digit numbers. (3.NBT.A.2)		How can you use place value to add 3-digit numbers?

Use compatible numbers and rounding to estimate differences. (3.NBT.A.1)		How can you use compatible numbers and rounding to estimate differences?
Use a number line, friendly numbers, or the break apart strategy to find differences mentally. (3.NBT.A.2)		What mental math strategies can you use to find differences?
Use place value to subtract 3-digit numbers. (3.NBT.A.2)		How can you use place value to subtract 3-digit numbers?
Use the combine place value strategy to subtract 3-digit numbers. (3.NBT.A.2)		How can you use the combine place values strategy to subtract 3-digit numbers?
Solve addition and subtraction problems by using the strategy *draw a diagram. (3.OA.D.8)*		How can you use the strategy *draw a diagram* to solve one- and two-step addition and subtraction problems?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 1 GO Math! supports this unit.

Learning Targets - Mathematics

Grade 3 (On-level)

October: Represent and Interpret Data

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Organize data in tables and solve problems using the strategy *make a table.* (3.MD.B.3)	**Frequency table**	How can you use the strategy make a table to organize data and solve problems?
Read and interpret data in a picture graph. (3.MD.B.3)	**Key** **Picture graph**	How can you read and interpret data in a picture graph?
Draw a scaled picture graph to show data in a table. (3.MD.B.3)		How can you draw a picture graph to show data in a table?
Read and interpret data in a scaled bar graph. (3.MD.B.3)	**Bar graph** **Horizontal bar graph** **Scale** **Vertical bar graph**	How can you read and interpret data in a bar graph?
Draw a scaled bar graph to show data in a table or picture graph. (3.MD.B.3)		How can you draw a bar graph to show data in a table or picture graph?
Solve one- and two-step problems and compare problems using data represented in scaled bar graphs. (3.MD.B.3)		How can you solve problems using data represented in bar graphs?
Read and interpret data in a line plot and use data to make a line plot. (3.MD.B.4)	**Line plot**	How can you read and interpret data in a line plot and use data to make a line plot?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 2 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

October: Understanding Multiplication

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Model and skip count objects in equal groups to find how many there are. (3.OA.A.1)	**equal groups**	How can you use equal groups to find how many in all?
Write an addition sentence and a multiplication sentence for a model. (3.OA.A.1)	**factor** **multiply** **product**	How is multiplication like addition? How is it different?
Model and skip count on a number line to find out how many there are. (3.OA.A.3)		How can you use a number line to skip count and find out how many in all?
Solve one- and two-step problems by using the strategy *draw a diagram.* (3.OA.D.8)		How can you use the strategy *draw a diagram to* solve one- and two-step problems?
Use arrays to model products and factors. (3.OA.A.3)	**array**	How can you use arrays to model multiplication and find factors?
Model the Commutative Property of Multiplication and use it to find products. (3.OA.B.5)	**Commutative Property of Multiplication**	How can you use the Commutative Property of Multiplication to find products?
Model multiplication with the factors 1 and 0. (3.OA.B.5)	**Identity Property of Multiplication** **Zero Property of Multiplication**	What happens when you multiply a number by 0 or 1?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 3 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

November: Multiplication Facts and Strategies

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Draw a picture, count by 2's, or use doubles to multiply with the factors 2 and 4. (3.OA.A.3)		How can you multiply with 2 and 4?
Use skip counting, a number line, or a bar model to multiply with the factors 5 and 10. (3.OA.A.3)	**Multiple**	How can you multiply with 5 and 10?
Draw a picture, use 5 facts and addition, doubles, or a multiplication table to multiply with the factors 3 and 6. (3.OA.A.3)		What are some ways to multiply with 3 and 6?
Use the Distributive Property to find products by breaking apart arrays. (3.OA.B.5)	**Distributive Property**	How can you use the Distributive Property to find products?
Use the Commutative or Distributive Property or known facts to multiply with the factor 7. (3.OA.C.7)		What strategies can you use to multiply with 7?
Use the Associative Property of Multiplication to multiply with three factors. (3.OA.B.5)	**Associative Property of Multiplication**	How can you use the Associative Property of Multiplication to find products?
Identify and explain patterns on the multiplication table. (3.OA.D.9)		How can you use properties to explain patterns on the multiplication table?
Use doubles, a number line, or the Associative Property of Multiplication to multiply with the factor 8. (3.OA.C.7)		What strategies can you use to multiply with 8?

Use the Distributive Property with addition or subtraction or patterns to multiply with the factor 9. (3.OA.C.7)		What strategies can you use to multiply with 9?
Solve multiplication problems by using the strategy *make a table*. (3.OA.D.8), (3.OA.D.9)		How can you use the strategy *make a table* to solve multiplication problems?
Additional Information: (Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology) Chapter 4 GO Math! supports this unit		

Learning Targets - Mathematics

Grade 3 (On-level)

December: Use Multiplication Facts

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Identify and describe a number pattern shown in a function table. (3.OA.D.9)	**pattern**	What are some ways you can describe a pattern in a table?
Use an array or a multiplication table to find an unknown factor. (3.OA.A.4)	**equation**	How can you use an array or a multiplication table to find an unknown factor or product?
Solve multiplication problems by using the strategy *draw a diagram*. (3.NBT.A.3)		How can you use the strategy *draw a diagram to multiply with multiples of 10?*
Use base-ten blocks, a number line, or place value to multiply with multiples of 10. (3.NBT.A.3)		What strategies can you use to multiply with multiples of 10?
Model and record multiplication with multiples of 10.		How can you model and record multiplying by 1-digit whole numbers multiples of 10?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 5 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

January: Understanding Division

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Solve division problems by using the strategy *act it out*. (3.OA.A.3)		How can you use the strategy *act it out* to solve problems with equal groups?
Use models to explore the meaning of partitive (sharing) division. (3.OA.A.2)	**divide**	How can you model a division problem to find how many in each group?
Use models to explore the meaning of qualitative (measurement) division. (3.OA.A.2)		How can you model a division problem to find how many equal groups?
Model division by using equal groups and bar models. (3.OA.A.2)	**Dividend** **Divisor** **Quotient**	How can you use bar models to solve division problems?
Use repeated subtraction and a number line to relate subtraction to division. (3.OA.A.3)		How is division related to subtraction?
Model division by using arrays. (3.OA.A.3)		How can you use arrays to solve division problems?
Use bar models and arrays to relate multiplication and division as *inverse operations*. (3.OA.B.6)	**Inverse operations**	How can you use multiplication to divide?
Write related multiplication and division facts. (3.OA.C.7)	**Related facts**	How can you write a set of related multiplication and division facts?
Divide using the rules for 1 and 0. (3.OA.B.5)		What are the rules for dividing with 1 and 0?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 6 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

January/February: Division Facts and Strategies

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Use models to represent division by 2. (3.OA.A.3)		What does dividing by 2 mean?
Use repeated subtraction, a number line, or a multiplication table to divide by 10. (3.OA.C.7)	**dividend, divisor, factor, product**	What strategies can you use to divide by 10?
Count up by 5s, count back on a number line, or use 10s facts and doubles to divide by 5. (3.OA.A.3)		What does dividing by 5 mean?
Use equal groups, a number line or a related multiplication fact to divide by 3. (3.OA.C.7)		What strategies can you use to divide by 3?
Use array, equal groups, factors or a related multiplication fact to divide by 4. (3.OA.C.7)		What strategies can you use to divide by 4?
Use equal groups, a related multiplication fact, or factors to divide by 6. (3.OA.C.7)		What strategies can you use to divide by 6?
Use array, equal groups, factors or a related multiplication fact to divide by 7. (3.OA.C.7)		What strategies can you use to divide by 7?
Use repeated subtraction, a related multiplication fact, or a multiplication table to divide by 8. (3.OA.C.7)		What strategies can you use to divide by 8?

Use equal groups, factors or a related multiplication fact to divide by 9. (3.OA.C.7)		What strategies can you use to divide by 9?
Solve two-step problems by using the strategy *act it out. (3.OA.D.8)*		How can you use the strategy *act it out* to solve two-step problems?
Perform operations in order when there are no parentheses. (3.OA.D.8)	**order of operation**	Why are there rules such as order of operation?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 7 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

February: Understanding Fractions

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Explore and identify equal parts of a whole. (3.NF.A.1)	**Eighths** **Equal parts** **Fourths** **Halves** **Sixths** **Thirds** **Whole**	What are equal parts of a whole?
Divide models to make equal shares. (3.NF.A.1)		Why do you need to know how to make equal shares?
Use a fraction to name one part of a whole that is divided into equal parts. (3.NF.A.1)	**Fraction** **Unit fraction**	What do the top and bottom numbers of a fraction tell?
Read, write, and model fractions that represent more than one part of a whole that is divided into equal parts. (3.NF.A.1)	**Denominator** **Numerator**	How does a fraction name part of a whole?
Represent and locate fractions on a number line? (3.NF.A.2b)		How can you represent and locate fractions on a number line?
Relate fractions and whole numbers by expressing whole numbers as fractions and recognizing fractions that are equivalent to whole numbers. (3.NF.A.3c)	**Fractions greater than 1**	When might you use a fraction greater than 1 or a whole number?

Model, read, and write fractional parts of a group. (3.NF.A.1)		How can a fraction name part of a group?
Find fractional parts of a group using unit fractions. (3.NF.A.1)		How can a fraction tell how many are in part of a group?
Solve fraction problems by using the strategy *draw a diagram*. (3.NF.A.1)		How can you use the strategy draw a diagram to solve fraction problems?
Additional Information: (Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology) Chapter 8 GO Math! supports this unit		

Learning Targets - Mathematics

Grade 3 (On-level)

March: Compare Fractions

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Solve comparison problems by using the strategy *act it out. (3.NF.A.3d)*		How can you use the strategy *act it out* to solve comparison problems?
Compare fractions with the same denominator by using models and reasoning strategies. *(3.NF.A.3d)*	**denominator**	How can you compare fractions with the same denominator?
Compare fractions with the same numerator by using models and reasoning strategies. *(3.NF.A.3d)*	**numerator**	How can you compare fractions with the same numerator?
Compare fractions by using models and strategies involving the size of the pieces in the whole. *(3.NF.A.3d)*		What strategies can you use to compare fractions?
Compare and order fractions by using models and reasoning strategies. *(3.NF.A.3d)*	**order**	How can you compare and order fractions?
Model equivalent fractions by folding paper, using area models, and using number lines. *(3.NF.A.3a)*	**equivalent, equivalent fractions**	How can you use models to find equivalent fractions?
Generate equivalent fractions by using models.		How can you use models to name equivalent fractions?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 9 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

March/ April: Time, Length, Liquid Volume, and Mass

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Read, write, and tell time on analog and digital clocks to the nearest minute. (3.MD.A.1)	**Minute**	How can you tell time to the nearest minute?
Decide when to use the A.M. and P.M. when telling time to the nearest minute. (3.MD.A.1)	**A.M.** **P.M.** **Midnight** **Noon**	How can you tell when to use A.M. and P.M. with time?
Use a number line or an analog clock to measure time intervals in minutes. (3.MD.A.1)	**Elapsed time**	How can you measure time in minutes?
Use a number line or an analog clock to add or subtract time intervals to find starting times and ending times. (3.MD.A.1)		How can you find a starting time or an ending time when you know the elapsed time?
Solve problems involving addition and subtraction of time intervals by using the strategy *draw a diagram*. (3.MD.A.1)		How can you use the strategy *draw a diagram* to solve problems about time?
Measure length to the nearest half or fourth inch and use measurement data to make a line plot. (3.MD.B.4)		How can you generate measurement data and show the data on a line plot?
Estimate and measure liquid volume in liters. (3.MD.A.2)	**Liquid volume** **Liter (L)**	How can you estimate and measure liquid volume in metric units?
Estimate and measure mass in grams and kilograms. (3.MD.A.2)	**Gram (G)** **Kilogram (K)** **Mass**	How can you estimate and measure mass in metric units?

Add, subtract, multiply, or divide to solve problems involving liquid volumes or masses. (3.MD.A.2)		How can you use models to solve liquid volume and mass problems?
Additional Information: (Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology) Chapter 10 GO Math! supports this unit		

Learning Targets - Mathematics

Grade 3 (On-level)

April: Perimeter and Area

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Explore perimeter of polygons by counting units on grid paper. (3.MD.D.8)	**perimeter**	How can you find perimeter?
Estimate and measure perimeter of polygons using inch and centimeter rulers. (3.MD.D.8)		How can you measure perimeter?
Find the unknown length of a side of a polygon when you know its perimeter. (3.MD.D.8)		How can you find the unknown length of a side in a plane figure when you know its perimeter?
Explore perimeter and area as attributes of polygons. (3.MD.C.5 and 3.MD.C.5a)	**area** **square unit (sq. un)** **unit square**	How is finding the area of a figure different from finding the perimeter of a figure?
Estimate and measure area of plane figures by counting unit squares. (3.MD.C.5b and 3.MD.C.6)		How can you find the area of a plane figure?
Relate area to addition and multiplication by using area models. (3.MD.C.7 and 3.MD.C.7a)	**multiplication** **repeated addition**	Why can you multiply to find the area of a rectangle?
Solve area problems by using the strategy *find a pattern. (3.MD.C.7b)*	**pattern**	How can you use the strategy *find a pattern* to solve area problems?
Apply the Distributive Property to area models and to find the area of combined rectangles. *(3.MD.C.7c and 3.MD.C.7d)*	**Distributive Property**	How can you break apart a figure to find the area?
Compare areas of rectangles that have the same perimeter. *(3.MD.D.8)*		How can you use area to compare rectangles with the same perimeter?
Compare perimeters of rectangles that have the same area. *(3.MD.D.8)*		How can you use perimeter to compare rectangles with the same area?

Additional Information:

(Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology)

Chapter 11 GO Math! supports this unit

Learning Targets - Mathematics

Grade 3 (On-level)

May: Two- Dimensional Shapes

Math Learning Targets/Standards Students will …	Academic Language	Essential Questions
Identify and describe attributes of plane shapes. (3.G.A.1)	**Closed shape** **Endpoint** **Line** **Line segment** **Open shape** **Plane shape** **Point** **Ray** **Two-dimensional shape**	What are some ways to describe two-dimensional shapes?
Describe angles in plane shapes. (3.G.A.1)	**Angle** **Right angle** **vertex**	How can you describe angles in plane shapes?
Identify polygons by the number of sides they have. (3.G.A.1)	**Decagon** **Hexagon** **Octagon** **Pentagon** **Polygon** **Quadrilateral** **Side** **Triangle**	How can you use line segments and angles to make polygons?

Determine If lines or line segments are intersecting, perpendicular, or parallel. (3.G.A.1)	**Intersecting lines** **Parallel lines** **Perpendicular lines**	How can you describe line segments that are sides of polygons?
Describe, classify, and compare quadrilaterals based on their sides and angles. (3.G.A.1)	**Rectangle** **Rhombus** **Square** **Trapezoid**	How can you use the sides and angles to help you describe quadrilaterals?
Draw quadrilaterals. (3.G.A.1)		How can you draw quadrilaterals?
Describe and compare triangles based on the number of sides that have equal length and by their angles. (3.G.A.1)		How can you use sides and angles to help you describe triangles?
Solve problems by using the strategy *draw a diagram* to classify plane shapes. (3.G.A.1)	**Venn diagram**	How can you use the strategy *draw a diagram* to classify plane shapes?
Partition shapes into parts with equal areas and express the area as a unit fraction of the whole. (3.G.A.2)		How can you divide shapes into parts with equal areas and write the area as a unit fraction of a whole?
Additional Information: (Add activities, projects, performance-based tasks, materials, manipulatives, small group work, technology) Chapter 12 GO Math! supports this unit		