



Grade 3 (Level C)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
1. Place Value	<ul style="list-style-type: none"> Ability to count to 100 in English Understanding of groups of 10 and groups of 100 	You can use place value to read and write numbers and to tell the values of digits in numbers.	<ul style="list-style-type: none"> number digit value place place value 	Use correct pronunciation to give and respond to commands about reading and writing numbers.	Make a list to help understand the question.
2. Compare and Order Whole Numbers	<ul style="list-style-type: none"> Basic understanding of place value Ability to use base ten blocks and number lines 	You can compare and order whole numbers in different ways.	<ul style="list-style-type: none"> to compare to order greater than less than equal to not equal to 	Use comparative and superlative adjectives to compare and order whole numbers.	Identify what information you know and what you need to find out in a word problem.
3. Round Whole Numbers	<ul style="list-style-type: none"> Comparative terms (<i>greater than, less than</i>) Place names (<i>tens, hundreds, thousands</i>) 	You can use number lines or rules to round whole numbers.	<ul style="list-style-type: none"> to round/rounds rounding place about increase halfway between 	Use comparative and superlative adjectives (<i>closer, closest, nearer, nearest</i>) to ask and answer questions about rounding.	Understand questions with <i>or</i> .
4. Count Money and Make Change	<ul style="list-style-type: none"> Number words Names and values of U.S. coins 	You can count coins and bills to tell how much something costs and to make change.	<ul style="list-style-type: none"> dollar dollar sign cent cent sign decimal point bill coin 	Use regular and irregular past tense verbs to describe how much something costs and how much change was given.	Use play money to help understand a multi-step problem.
5. Addition and Subtraction Basic Concepts	Basic concepts of addition and subtraction	Properties can help you understand addition. Fact families can help you understand how addition and subtraction are related.	<ul style="list-style-type: none"> addend sum difference fact family inverse (opposite) operations property 	Create similes to remember names of properties.	Use drawings or counters to make sure that clue words can help you solve a problem.
6. Estimate Addition and Subtraction	<ul style="list-style-type: none"> Basic concepts and vocabulary of addition and subtraction Rounding 	When you estimate, you use numbers that are easy to add and subtract in your head.	<ul style="list-style-type: none"> to estimate/ an estimate exact answer reasonable 	Use <i>because</i> to explain why you used a particular method of estimation.	Use clue words to decide whether to estimate or find an exact answer.
7. Addition and Subtraction with Regrouping	<ul style="list-style-type: none"> Basic concepts and vocabulary of addition and subtraction Place names and values 	Sometimes when you add or subtract, you have to break numbers apart and regroup them.	<ul style="list-style-type: none"> to break apart to regroup 1 ten/ hundred/ thousand as (into) 10 ones/ tens/ hundreds enough 	Use <i>when</i> clauses to explain when you need to regroup.	Write a number sentence in the correct order when subtracting.
8. Multiplication Concepts	<ul style="list-style-type: none"> Basic concepts of addition 	When you multiply, it is the same as when you add equal groups.	<ul style="list-style-type: none"> times equal groups repeated addition array Commutative (Order) Property of Multiplication product factor 	Use <i>each</i> to ask and answer questions about equal groups.	Use clue words and equal groups to choose the correct operation.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
9. Multiplication Facts	<ul style="list-style-type: none"> Basic multiplication concepts and vocabulary Skip counting patterns 	There are many different ways to find products.	<ul style="list-style-type: none"> doubles/ doubling skip counting pattern breaking apart Identity Property of Multiplication Zero Property of Multiplication 	Use <i>because</i> to explain how using a specific way of doing multiplication made it easier to multiply.	Understand how to explain "How do you know?" questions.
10. Division Concepts	<ul style="list-style-type: none"> Basic concepts of subtraction 	When you divide, it is the same as when you subtract equal groups or share equally.	<ul style="list-style-type: none"> divided by repeated subtraction to separate to share equally dividend divisor quotient 	Use word order and writing order to correctly read and write different forms of division problems.	Use <i>in</i> and <i>of</i> to decide whether to find the number of groups or the number in a group in a division word problem.
11. Relation of Multiplication and Division	<ul style="list-style-type: none"> Basic concepts and vocabulary of multiplication 	Division is the opposite of multiplication.	<ul style="list-style-type: none"> opposite related fact 	Use <i>divide by</i> and <i>multiply by</i> to describe fact families.	Write a multiplication problem and a division problem that both use the same fact family.
12. Division Facts	<ul style="list-style-type: none"> Multiplication facts Basic division concepts and vocabulary 	There are many different ways to find quotients.	<ul style="list-style-type: none"> division rules repeated subtraction multiplication table 	Use <i>if</i> clauses to tell when you can use different ways to find quotients.	Write a number sentence to help understand questions in word problems.
13. Linear Measurement (Customary and Metric)	<ul style="list-style-type: none"> Concept and vocabulary of estimation Understanding of multiplication and division 	We use units of length to measure how long something is.	<ul style="list-style-type: none"> to measure/ measurement unit standard customary metric 	Use units of length (customary and metric) to describe measuring and changing from one unit to another (within systems).	Choose the appropriate unit of measurement to solve word problems involving length and width.
14. Measurement of Capacity and Weight (Customary and Metric)	<ul style="list-style-type: none"> Concept of standard units of measurement Understanding of multiplication and division 	You can use customary or metric units to measure how much something holds and how much weight or mass it has.	<ul style="list-style-type: none"> capacity container to contain weight mass 	Use units of capacity and weight or mass (customary and metric) to describe measuring and changing from one unit to another (within systems).	Choose the appropriate unit of measurement to solve word problems involving capacity and weight.
15. Clock Time	<ul style="list-style-type: none"> Read and write number words Skip count by fives Concepts of half and quarter 	When you know how to tell time, you can find out how long something lasts.	<ul style="list-style-type: none"> to tell time elapsed time noon midnight a.m. p.m. 	Use <i>does</i> and present tense verbs to ask and answer questions about telling time and elapsed time.	Use clue words to decide when you have to find elapsed time.



Grade 3 (Level C) (continued)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
16. Calendar Time	<ul style="list-style-type: none"> Names of days of the week Names of months of the year 	You can use a calendar to organize time into days, weeks, and months.	<ul style="list-style-type: none"> calendar date year ordinal numbers 	Use <i>did</i> and past tense verbs to ask and answer questions about when things happened in the past.	Use real world information to solve problems.
17. Temperature	<ul style="list-style-type: none"> Concept that the same thing can be measured with different units 	You can measure temperature with a thermometer.	<ul style="list-style-type: none"> temperature thermometer degrees Fahrenheit degrees Celsius scale 	Use synonyms, antonyms, and adjectives of degree to describe temperatures.	Identify unnecessary information in a word problem.
18. Collect and Organize Data	<ul style="list-style-type: none"> Concepts and vocabulary for comparing and ordering numbers Skip counting by fives 	When you collect data, you can organize it in different ways.	<ul style="list-style-type: none"> data survey range mode tally chart (table) line plot 	Distinguish mathematical meanings of words from other meanings.	Understand questions about comparisons.
19. Read and Make Graphs	<ul style="list-style-type: none"> Skip counting to multiply or divide 	Different kinds of graphs show and compare data in different ways.	<ul style="list-style-type: none"> graph title label key symbol 	Use comparative and superlative suffixes (<i>-er</i> , <i>-est</i>) to ask and answer questions about data on graphs.	Understand hypothetical questions with <i>if . . . would</i> in word problems.
20. Lines, Line Segments, Rays, and Angles	<ul style="list-style-type: none"> The concept that things can be measured in different ways 	We can use lines and angles to describe objects.	<ul style="list-style-type: none"> line angle degree endpoint square corner 	Use pictures to formulate definitions of geometric terms.	Use definitions and drawings to answer questions that ask you to explain about geometric figures.
21. Plane Figures	<ul style="list-style-type: none"> Concepts of lines and angles; names of angles (<i>right</i>, <i>acute</i>, <i>obtuse</i>) Concept of pattern 	You can classify plane figures in different ways.	<ul style="list-style-type: none"> plane figure to classify closed figure open figure polygon 	Use classification to help learn names of polygons.	Look for and describe patterns to decide what comes next in a sequence.
22. Congruence, Symmetry, and Transformations	<ul style="list-style-type: none"> Names of polygons Concept of pattern 	You can move shapes to see if they are the same, or fold them to see if the two sides match.	<ul style="list-style-type: none"> congruent symmetry line of symmetry symmetric similar 	Use commands, present tense sentences, and nouns to show that <i>slide</i> , <i>turn</i> , and <i>flip</i> can be naming words or action words.	Decide when to explain your answer to a question.
23. Solid Figures	<ul style="list-style-type: none"> Names of plane figures 	You can describe some solid figures by telling about their parts.	<ul style="list-style-type: none"> solid figure face edge vertex/vertices 	Use <i>is shaped like</i> and the names of everyday objects to describe solid figures.	Use what you know to solve problems with unknown words.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
24. Perimeter, Area, and Volume	<ul style="list-style-type: none"> Basic concepts of plane and solid figures, measurement, and estimation 	You can measure the distance around a plane figure, and the space inside a plane figure or a solid figure.	<ul style="list-style-type: none"> perimeter unit area square unit volume cubic unit 	Use <i>should</i> to recommend how much material somebody needs to buy (with relation to perimeter, area, and volume).	Take long sentences apart to understand them.
25. Fraction Concepts	<ul style="list-style-type: none"> Concept of division into parts 	A fraction is a number that names part of a whole or part of a group.	<ul style="list-style-type: none"> fraction whole (region) group (set) numerator denominator equal parts 	Use <i>is</i> and <i>are</i> in questions about fractions.	Draw a picture of a whole or a set and show the fractional parts in order to solve the problem.
26. Equivalent Fractions; Compare and Order Fractions	<ul style="list-style-type: none"> Concepts and vocabulary of comparing and ordering whole numbers 	There are different ways to find fractions that name the same amount. There are different ways to compare and order fractions.	<ul style="list-style-type: none"> equivalent fraction 	Use <i>that</i> clauses to describe equivalent fractions and compare and order fractions.	Understand questions with <i>if</i> .
27. Decimals	<ul style="list-style-type: none"> Basic concepts of place value and fractional parts 	You can use decimals to show fractional parts of a whole.	<ul style="list-style-type: none"> decimal tenths hundredths 	Use verb families (<i>show, shade</i>) to describe how to represent decimals.	Identify what pronouns refer to in word problems.
28. Multiplication and Division Patterns in Mental Math	<ul style="list-style-type: none"> Basic multiplication and division vocabulary and facts 	You can multiply and divide in your head by using patterns and basic facts.	<ul style="list-style-type: none"> mental math basic facts rule pattern 	Use <i>if</i> clauses to describe patterns and state rules for using mental math to multiply and divide.	Understand what <i>a number</i> and <i>the number</i> mean in word problems (e.g., <i>When a number is divided by 4, the quotient is 6,000. What is the number?</i>).
29. Estimate Products and Quotients	<ul style="list-style-type: none"> Basic multiplication and division facts Understanding of estimation and rounding 	You can estimate products and quotients in different ways.	<ul style="list-style-type: none"> compatible numbers 	Break long sentences apart to help understand them.	Identify when you need to complete more than one operation to solve a problem.
30. Division with Remainders	<ul style="list-style-type: none"> Basic concepts and vocabulary of division 	Sometimes when you divide, there is something left over.	<ul style="list-style-type: none"> remainder 	Use <i>if...then</i> statements and division vocabulary to tell when a division problem has or does not have a remainder.	Write the missing question when you know the answer to the problem.



Grade 4 (Level D)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
1. Place Value	<ul style="list-style-type: none"> Ability to count to 100 in English Basic concepts of place value 	Place value helps you read and write numbers and know the values of the digits in a number.	<ul style="list-style-type: none"> digit place value value period 	Use <i>there are/are there?</i> and correct pronunciation to ask and answer questions about place value.	Write correct number sentences when the problem includes word forms of large numbers.
2. Compare and Order Whole Numbers	<ul style="list-style-type: none"> Basic understanding of place value Ability to use number lines and base ten blocks 	You can use place value, a number line, or base ten blocks to compare and order numbers.	<ul style="list-style-type: none"> to compare to order equal to greater than less than 	Use comparative and superlative adjectives to compare and order numbers.	Identify extra information.
3. Round Whole Numbers	<ul style="list-style-type: none"> Concept of place value and place names through millions 	You can use a number line or rounding rules to round numbers.	<ul style="list-style-type: none"> to round to the nearest about halfway between 	Use the antonyms <i>round up</i> and <i>round down</i> and <i>because</i> to explain how you round numbers.	Use real-world knowledge.
4. Money	<ul style="list-style-type: none"> Names and values of U.S. coins and bills 	Start with the largest bills and the largest coins to count money. Count on (count up) to make change.	<ul style="list-style-type: none"> dollar bill coin cent to make change to count on (count up) 	Use <i>if</i> clauses and <i>will</i> clauses to ask and answer questions about making change.	Make a list of the coins you need to make change to help you solve problems.
5. Mental Math	<ul style="list-style-type: none"> Basic concepts of addition and subtraction 	You can add and subtract in your head in different ways.	<ul style="list-style-type: none"> mental math property to break apart to compensate (adjust) 	Use root words to remember the meanings of commutative, associative, and identity.	Explain why you decided to break apart numbers or compensate (adjust) to solve a problem using mental math.
6. Estimation	<ul style="list-style-type: none"> Basic concepts of addition and subtraction Rounding 	When you estimate, you use numbers that are easy to add and subtract in your head. Your answer is close to the exact answer.	<ul style="list-style-type: none"> reason-able unreasonable exact answer estimate to estimate 	Use <i>because</i> to explain how to estimate.	Use clue words to explain when to estimate and when to find an exact answer.

Try ALN in Your Classroom!

A complete ALN sampler for teaching a Grade 4 unit on Estimation is included on pages 28–46. Contact your sales representative (see the inside back cover) to request a sampler for each grade level.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
7. Multiplication and Division Concepts	<ul style="list-style-type: none"> Basic concepts, vocabulary, and facts of multiplication and division 	Multiplication and division are opposites.	<ul style="list-style-type: none"> array equal groups fact family inverse (opposite) operations 	Use the synonyms <i>every</i> , <i>each</i> , and <i>all</i> to describe all the groups in multiplication and division.	Think about totals and equal groups to decide whether to multiply or divide.
8. Multiplication Properties and Division Rules	<ul style="list-style-type: none"> Basic concepts and vocabulary of multiplication and division 	You can use the properties of multiplication and the rules of division to multiply and divide more easily.	<ul style="list-style-type: none"> Zero Property of Multiplication Identity Property of Multiplication Commutative Property of Multiplication Associative Property of Multiplication 	Identify what the word <i>number</i> refers to.	Understand the question. (Think about what really happens when you use a certain operation.)
9. Multiplication and Division Facts	<ul style="list-style-type: none"> Concepts and vocabulary of multiplication and division Skip counting 	There are many different ways to find the answers to multiplication and division facts.	<ul style="list-style-type: none"> multiple pattern 	Use regular and irregular past tense verbs and so to describe how you found a product or quotient.	Decide whether to multiply or divide.
10. Model Multiplication by 1- and 2-Digit Numbers	<ul style="list-style-type: none"> Basic concepts of place value Basic multiplication facts Addition of 1- and 2-digit numbers 	When you multiply, you can break apart the numbers into tens and ones to help find products.	<ul style="list-style-type: none"> Distributive Property to regroup ____ as ____ partial product 	Use <i>by</i> plus an <i>-ing</i> verb to explain how you can use the Distributive Property to find products.	Solve problems with unknown vocabulary words.
11. Model Division by 1- and 2-Digit Numbers	<ul style="list-style-type: none"> Basic concepts and vocabulary of division 	When you divide things into equal groups, sometimes you have something left over.	<ul style="list-style-type: none"> remainder to bring down left/left over 	Use word order and writing order to correctly read and write the two forms of division.	Explain why a remainder is reasonable or unreasonable.
12. Mental Math and Estimation with Multiplication and Division	<ul style="list-style-type: none"> Rounding Estimation Basic concepts and vocabulary of multiplication and division 	You can use patterns of zeros, estimation, or compatible numbers to do multiplication or division problems in your head.	<ul style="list-style-type: none"> compatible numbers under-estimate over-estimate divisible 	Use synonyms of <i>because</i> (<i>as</i> , <i>since</i>) to describe patterns for multiplying and dividing with zeros.	Explain why you chose rounding or compatible numbers to estimate multiplication and division problems.
13. Algebraic Expressions	<ul style="list-style-type: none"> Basic concepts of addition, subtraction, multiplication, and division 	An expression uses numbers and symbols to show a problem.	<ul style="list-style-type: none"> algebra expression symbol to simplify (evaluate) variable unknown 	Recognize and use phrases that represent unknown variables.	Act out a problem to help write an expression.
14. Algebraic Equations	<ul style="list-style-type: none"> Concepts of expressions and variables Order of operations 	To solve an equation, you need to find the value of the variable.	<ul style="list-style-type: none"> equation inequality to solve/solution 	Use sequence words and phrases such as <i>Let n equal ____</i> to describe how to write, solve, and check an equation.	Write equations to help solve problems.



Grade 4 (Level D) (continued)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
15. Patterns and Functions	<ul style="list-style-type: none"> Concepts of equation and variable 	You can write equations for rules that describe patterns.	<ul style="list-style-type: none"> rule input/output (function) table to extend 	Use <i>when</i> clauses and <i>if</i> clauses to describe how to extend a function table.	Make a function table to help solve a problem.
16. Time	<ul style="list-style-type: none"> Telling time Units of time Names of days of the week and months of the year 	You can use time to tell how long something will take to do or how long it will be until something happens.	<ul style="list-style-type: none"> analog clock digital clock elapsed time 	Use <i>since</i> and <i>until</i> to talk about elapsed time.	Decide what measurement unit to use to calculate elapsed time.
17. Measures of Length (Customary and Metric)	<ul style="list-style-type: none"> Concept of measurement Concept and vocabulary of estimation Concept and vocabulary of comparing and ordering 	We use units of length to measure and compare how long things are.	<ul style="list-style-type: none"> units of measure linear units customary metric 	Use <i>about</i> and <i>actually</i> to describe estimating and measuring using customary and metric linear units.	Decide whether to use multiplication or division when changing customary units of measure.
18. Measures of Capacity and Weight/Mass (Customary and Metric)	<ul style="list-style-type: none"> Concept of measurement Concept and vocabulary of estimation Concept and vocabulary of comparing and ordering 	Units of capacity, weight, and mass can be used to measure and compare things.	<ul style="list-style-type: none"> capacity to hold weight to weigh mass 	Use <i>greater than</i> , <i>less than</i> , and <i>equal to</i> to compare units of capacity, weight, and mass.	Identify the steps needed to solve a multi-step problem.
19. Collect and Organize Data	<ul style="list-style-type: none"> Skip counting by fives Basic addition and subtraction skills Concept and vocabulary of ordering numbers 	When you collect data, you can organize and display it in different ways.	<ul style="list-style-type: none"> data survey/to survey tally chart line plot stem-and-leaf plot outline 	Use word associations to remember vocabulary words.	Tell if a statement about data on a chart or plot is correct or not, and explain why.
20. Read and Make Graphs	<ul style="list-style-type: none"> Skip counting Basic concepts of fractions Concept and vocabulary of comparing numbers 	You can use different kinds of graphs to organize data and compare information in different ways.	<ul style="list-style-type: none"> graph scale interval 	Use <i>large/small enough to</i> _____ to describe the scale and interval of a graph.	Explain why you chose a particular kind of graph to help solve a problem.
21. Points, Lines, Line Segments, Rays, and Angles	<ul style="list-style-type: none"> Concept that things can be measured 	We can use geometry to describe things in our world.	<ul style="list-style-type: none"> geometry line point angle 	Use geometric terms to describe and identify drawings.	Understand long sentences.
22. Triangles, Other Polygons, and Circles	<ul style="list-style-type: none"> Concepts of line segments and angles 	You can classify and name polygons and circles in different ways.	<ul style="list-style-type: none"> plane figure polygon regular polygon 	Use multiple classification criteria to learn the names of plane figures.	Understand problems in the form of riddles.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
23. Transformations and Symmetry	<ul style="list-style-type: none"> Names of plane figures 	You can move shapes to see if they are the same, or fold them to see if the two sides match.	<ul style="list-style-type: none"> transformation translation reflection rotation congruent symmetry 	Use the suffix <i>-tion</i> to recognize related nouns and verbs.	Understand true/false statements with <i>always</i> , <i>sometimes</i> , and <i>never</i> .
24. Perimeter and Area	<ul style="list-style-type: none"> Basic concepts of plane figures Concept of estimation Ability to add and to multiply 	You can use different ways to find the distance around a figure or find the number of square units that cover a figure.	<ul style="list-style-type: none"> perimeter area square unit formula 	Use <i>same (alike)</i> and <i>different</i> to compare and contrast area and perimeter.	Solve problems with unknown vocabulary.
25. Solid Figures and Volume	<ul style="list-style-type: none"> Concept of estimation Names of plane figures 	You can use different ways to find volume, and use patterns to make models of solid figures.	<ul style="list-style-type: none"> solid figure face edge net volume cubic unit 	Use riddles to describe solid figures.	Understand passive phrases with <i>can be</i> ____ in word problems.
26. Read and Write Fractions	<ul style="list-style-type: none"> Concept of division into parts Concept of equal parts 	Fractions name parts of a whole region, parts of a group (set) of objects, or parts of a number line.	<ul style="list-style-type: none"> fraction numerator denominator group (set) whole (region) 	Use sentences containing multiple phrases to ask and answer questions about fractions.	Understand problems with <i>suppose</i> .
27. Compare and Order Equivalent Fractions	<ul style="list-style-type: none"> Concepts of fractions Concepts of multiplication and division Concepts and vocabulary of comparing and ordering numbers 	Equivalent fractions name the same amount; you can use them to compare and order fractions.	<ul style="list-style-type: none"> equivalent fraction simplest form 	Use the synonyms <i>other than</i> and <i>except to</i> describe rules for finding equivalent fractions.	Identify extra information.
28. Mixed Numbers and Improper Fractions	<ul style="list-style-type: none"> Concepts of fractions Concepts of multiplication and division 	Some fractions have a value that is greater than one.	<ul style="list-style-type: none"> mixed number improper fraction 	Give and follow commands using the synonyms <i>write ____ as</i> , <i>change ____ to</i> , <i>rewrite ____ as</i> , <i>rename ____ as</i> , to write improper fractions and mixed numbers.	Solve multi-step problems.
29. Add and Subtract Fractions and Mixed Numbers with Like and Unlike Denominators	<ul style="list-style-type: none"> Concepts and vocabulary of addition and subtraction Concepts of fractions and equivalent fractions 	You use different rules to add and subtract fractions with like denominators and fractions with unlike denominators.	<ul style="list-style-type: none"> like denominators unlike denominators 	Use prefixes and suffixes to show relationships among words.	Explain what is wrong with the solution to a problem.
30. Decimal Concepts	<ul style="list-style-type: none"> Basic concepts of place value Basic concepts of fractions 	Decimal numbers and fractions both show parts of a whole.	<ul style="list-style-type: none"> decimal decimal point tenths hundredths thousandths 	Give and respond to commands about decimals, using correct pronunciation to distinguish between tens and tenths, etc.	Understand when a question asks you to explain.



Grade 5 (Level E)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
1. Place Value of Whole Numbers and Decimals	<ul style="list-style-type: none"> Basic understanding of place value Basic understanding of decimals Names of places through hundred thousands and decimal places through thousandths 	The value of a digit in a number depends on its position in the number.	<ul style="list-style-type: none"> digit place value period decimal 	Use correct pronunciation to ensure comprehensibility of whole numbers and decimals.	Find the question.
2. Compare and Order Whole Numbers and Decimals	<ul style="list-style-type: none"> Basic concepts of place value for whole numbers and decimals Ability to use a number line 	When you compare and order numbers, you can use a number line or place value.	<ul style="list-style-type: none"> alignment to compare to order 	Use <i>greater than</i> , <i>less than</i> , and <i>because</i> to explain how to compare numbers.	Understand questions about comparing and ordering.
3. Round Whole Numbers and Decimals	<ul style="list-style-type: none"> Basic concepts of place value for whole numbers and decimals Ability to use a number line 	You can use place value or a number line to round numbers.	<ul style="list-style-type: none"> to round rounding place to increase by one replace 	Use <i>round/rounded to the _____</i> to form questions, commands, and responses about rounded numbers.	Explain why you chose a number line or rounding rules to round numbers.
4. Properties of Addition	<ul style="list-style-type: none"> Basic concepts and vocabulary of addition and subtraction 	You can use the properties of addition to add in your head.	<ul style="list-style-type: none"> Commutative Property of Addition Associative Property of Addition Identity Property of Addition compensation, to compensate (adjust) 	Use <i>is changed</i> and <i>but</i> to describe the Commutative and Associative Properties of Addition.	Describe how you used a property of addition to do a mental math problem.
5. Estimate Whole Numbers and Decimals	<ul style="list-style-type: none"> Basic concepts and vocabulary of addition and subtraction Rounding 	There are different ways to estimate sums and differences.	<ul style="list-style-type: none"> to estimate (v)/ estimate (n) front-end estimation clustering, to cluster 	Use <i>when</i> clauses and vocabulary words to talk about different ways of estimating.	Decide whether to add or subtract when you estimate.
6. Patterns and Estimation in Multiplication	<ul style="list-style-type: none"> Basic concepts and vocabulary of estimation Basic concepts, vocabulary, and facts of multiplication Basic concepts and vocabulary of place value 	There are different ways to estimate products and to multiply.	<ul style="list-style-type: none"> multiple pattern mental math 	Use a gerund phrase with <i>by</i> and <i>so</i> clauses to explain how you can multiply using mental math or estimation.	Use real-world information.
7. Properties of Multiplication	<ul style="list-style-type: none"> Basic concepts, vocabulary, and facts of multiplication 	You can use the properties of multiplication to help solve problems.	<ul style="list-style-type: none"> Commutative Property of Multiplication Associative Property of Multiplication Identity Property of Multiplication Zero Property of Multiplication Distributive Property of Multiplication 	Use synonyms of <i>break apart</i> and <i>so</i> clauses to describe how to solve a multiplication problem using the Distributive Property.	Choose a property of multiplication to help solve a word problem, and explain why you chose it.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
8. Patterns and Estimation in Division	<ul style="list-style-type: none"> Basic concepts and vocabulary of estimation Basic concepts, vocabulary, and facts of division Basic concepts and vocabulary of place value 	There are different ways to divide mentally and to estimate quotients.	<ul style="list-style-type: none"> compatible numbers basic facts inverse operations 	Answer questions beginning with the phrases <i>What number ___?</i> and <i>What value of n ___?</i> to describe how to estimate quotients, using compatible numbers and patterns.	Decide whether to multiply or divide.
9. Factors and Divisibility	<ul style="list-style-type: none"> Odd and even Basic multiplication and division concepts and facts 	You can use rules about division to help find the factors of a number, and to decide if a number has more than two factors.	<ul style="list-style-type: none"> factor divisible prime number composite number prime factorization 	Use <i>is divisible by</i> to ask and answer questions about divisibility rules and prime and composite numbers.	Understand sentences with multiple clauses and phrases.
10. Common Factors and Common Multiples	<ul style="list-style-type: none"> Basic concepts and facts of multiplication 	You can use common factors and common multiples of numbers to help solve problems.	<ul style="list-style-type: none"> common factor greatest common factor (GCF) common multiple least common multiple (LCM) 	Use <i>that</i> clauses to define mathematical terms.	Act out a problem to decide whether to find the GCF or the LCM.
11. Fraction and Mixed Number Concepts	<ul style="list-style-type: none"> Basic concepts and vocabulary of division Ability to use a number line 	A fraction is a number that names part of a set, part of a whole, or part of a number line. Some fractions name amounts greater than one.	<ul style="list-style-type: none"> fraction numerator denominator mixed number improper fraction 	Use the passive phrases <i>can be written as</i> , <i>can be renamed as</i> , and <i>can be thought of as</i> to explain what fractions mean.	Identify information needed to solve multi-step problems.
12. Equivalent Fractions and Simplest Form	<ul style="list-style-type: none"> Basic concepts and vocabulary for fractions Ability to use number lines Basic concepts, vocabulary, and facts for multiplication and division 	You can use multiplication, division, or a number line to find different fractions that name the same amount.	<ul style="list-style-type: none"> equivalent fractions simplest form 	Use <i>by + gerund</i> to describe how to find equivalent fractions and simplest form.	Understand questions that refer to a data file.
13. Compare and Order Fractions	<ul style="list-style-type: none"> Concepts and vocabulary of comparing and ordering Concepts and vocabulary of fractions 	There are different ways to compare and order fractions and mixed numbers.	<ul style="list-style-type: none"> common denominator like unlike 	Use <i>if . . . then</i> statements to describe different ways to compare and order fractions.	Explain how you solved problems about comparing and ordering fractions and mixed numbers.
14. Add and Subtract Fractions with Unlike Denominators	<ul style="list-style-type: none"> Adding and subtracting like fractions Equivalent fractions 	You can use common denominators to add and subtract fractions with unlike denominators.	<ul style="list-style-type: none"> least common denominator (LCD) to rename 	Use definitions of individual words to determine the meaning of complex mathematical phrases.	Decide if unknown words are important or not.



Grade 5 (Level E) (continued)

Program Scope

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
15. Divide Fractions	<ul style="list-style-type: none"> Concepts and vocabulary of fractions Concepts and vocabulary of division Ability to use fraction strips (bars) 	You can divide fractions by using models or reciprocals.	<ul style="list-style-type: none"> reciprocal to exchange (to interchange) 	Use <i>multiplying</i> , <i>dividing</i> , and <i>the same as</i> to ask and answer questions about reciprocals.	Use drawings or models to understand when to divide by a fraction.
16. Points, Lines, Rays, and Angles	<ul style="list-style-type: none"> Concept that things can be measured in different ways 	Geometry uses special words and symbols to describe space and location.	<ul style="list-style-type: none"> figure endpoint degree vertex/ vertices angle 	Use definitions of geometric figures to draw and label the figures, and to say and write what they are.	Use drawings and definitions to explain true and false statements.
17. Triangles, Polygons, and Quadrilaterals	<ul style="list-style-type: none"> Concept of measuring angles Names of angles 	You can classify some shapes by the properties of their sides and angles.	<ul style="list-style-type: none"> polygon regular polygon closed plane figure 	Use word parts and memory aids to remember the names of geometric figures.	Use a Venn diagram.
18. Congruence, Transformations, and Symmetry	<ul style="list-style-type: none"> Names of plane figures 	You can flip, slide, or turn a figure without changing its size or shape. You can split some figures in half so that one side reflects onto the other.	<ul style="list-style-type: none"> transformation translation/slide reflection/flip rotation/turn symmetry 	Use <i>but not</i> , <i>both . . . and</i> , and <i>neither . . . nor</i> to describe congruent and similar figures and symmetry.	Understand questions with passive verbs.
19. Circles	<ul style="list-style-type: none"> Concepts of closed plane figure, point, line segment, angle, vertex Ability to measure angles 	A circle is a closed plane figure that is not a polygon.	<ul style="list-style-type: none"> circle center radius/ radii diameter chord central angle 	Use <i>always</i> , <i>never</i> , <i>sometimes</i> , and <i>because</i> clauses to explain facts about circles.	Follow directions to draw pictures to solve problems about circles.
20. Solid Figures	<ul style="list-style-type: none"> Names of plane figures Concept of congruence 	You can describe solid figures by their shape and by faces, bases, edges, and vertices.	<ul style="list-style-type: none"> polyhedron solid figure two-dimensional/ three-dimensional net 	Use riddles to understand and produce descriptions of solid figures and nets and different views of solid figures.	Use known vocabulary words to figure out new ones in word problems.
21. Customary and Metric Measurement of Length, Weight/Mass, and Capacity	<ul style="list-style-type: none"> Concept of measuring with different units Concept that we use two different systems of units of measurement Ability to add, subtract, multiply, and divide whole numbers, fractions, and decimals. 	Sometimes when you compare measurements or add and subtract measurements, you have to change them from one unit to another.	<ul style="list-style-type: none"> customary unit metric unit length weight mass capacity 	Use comparative terms (<i>larger</i> , <i>smaller</i> , <i>more</i> , <i>fewer</i>) and <i>so</i> to describe how to change from one unit of measurement to another.	Convert units of measurement so the answer to a problem uses an appropriate unit.
22. Perimeter and Circumference	<ul style="list-style-type: none"> Concept of estimation Names of plane figures Ability to add and multiply Concepts and vocabulary for measuring length 	You can find the distance around a figure in different ways.	<ul style="list-style-type: none"> perimeter formula circumference pi (π) 	Use <i>because</i> to explain why you chose a particular method to find a perimeter or circumference.	Identify information that is not necessary to solve a problem.

Module Number and Name	Prerequisite Background Knowledge	Lesson 1: Understand the Main Idea	Lesson 2: Learn the Vocabulary	Lesson 3: Use More Language	Lesson 4: Solve Math Problems
23. Area, Surface Area, and Volume	<ul style="list-style-type: none"> Names of basic plane and solid figures Concept of algebraic formulas Concept of exponents 	There are different ways to measure the area inside a plane figure, the outside surface of a solid figure, and the space inside a solid figure.	<ul style="list-style-type: none"> exponents area surface area square unit cubic unit volume 	Use word families to identify pairs of related dimension words.	Identify important information.
24. Make and Read Graphs	<ul style="list-style-type: none"> Basic concepts of data collection and organization Skip counting 	Different kinds of graphs show information in different ways.	<ul style="list-style-type: none"> data graph/to graph axis/ axes scale interval trend 	Use different sentence patterns with <i>because</i> , <i>since</i> , and <i>so</i> to explain the relationship between the kind of graph and what the graph shows.	Understand questions based on graphed data.
25. Statistics and Data Analysis	<ul style="list-style-type: none"> Ability to add and divide Basic understanding of collecting and organizing data 	You can organize a set of numbers to show how they are related to each other.	<ul style="list-style-type: none"> mean median mode range 	Use knowledge of words and phrases that mean the same thing to understand directions about data sets.	Understand what different descriptions of data really mean.
26. Ratio and Proportion	<ul style="list-style-type: none"> Concepts of fractions and ability to simplify them 	You can compare quantities using ratios, proportions, and rates.	<ul style="list-style-type: none"> term ratio equivalent (equal) ratios proportion rate/ unit rate 	Find different phrases that can be used to express rates.	Use a drawing to represent numbers in ratios and proportions.
27. Percent	<ul style="list-style-type: none"> Understanding of ratio Understanding of equivalent fractions and decimals 	A percent tells how many out of 100. The same number can be written as a fraction, a decimal, or a percent.	<ul style="list-style-type: none"> percent 	Use word families to understand different ways of saying the same thing.	Find the question and the important facts in order to write a correct number sentence.
28. Probability	<ul style="list-style-type: none"> Ability to add, subtract, multiply, and divide Concept of fractions 	There are different ways to find the chance that something will happen.	<ul style="list-style-type: none"> probability event outcome tree diagram organized list 	Use <i>impossible</i> , <i>certain</i> , and phrases with <i>likely</i> to describe the probability that a particular outcome will occur.	Understand and respond to questions about chance with <i>if there were . . .</i> and <i>would be</i> .
29. Write and Solve Equations	<ul style="list-style-type: none"> Concepts and vocabulary for addition, subtraction, multiplication, and division Concept of mental math 	You can solve an equation by finding the value of the variable.	<ul style="list-style-type: none"> variable expression evaluate equation solution/ to solve order of operations 	Use indefinite phrases such as <i>a number</i> , <i>what number</i> , <i>some</i> , <i>several</i> , <i>more</i> , and <i>other</i> to convert equations to words, and describe what you have to do to solve the equations.	Convert words in a problem into an equation.
30. Functions and Ordered Pairs	<ul style="list-style-type: none"> Ability to add, subtract, multiply, and divide Concept of variable Ability to write and solve equations 	Number patterns can be shown on a function table. Functions can be written as equations and shown on a graph.	<ul style="list-style-type: none"> function function table (input/output table); table of values ordered pair 	Use <i>if</i> clauses to describe patterns, rules in function tables, and ordered pairs on a graph.	Identify steps needed to answer a question.