DISCLAIMERS

The OCTAE College and Career Readiness Standards document below contains links to other websites, all of which are revised from time to time. *Laurens County Adult Education is neither responsible for the content of these links nor the current availability of the links.*

Some of the online links may take the teacher to a Common Core website that offers free worksheets. The teacher should always vet the worksheet before assigning it to students. Anyone who follows the news or social media has seen ridiculous Common Core math problems on worksheets that elementary school teachers have sent home with students for homework. Examine all worksheets closely to see that they will be effective for adult students before you decide to print and use them.

These documents are not perfect. They are merely intended to give the teacher a starting point for each standard.

Please send any corrections that need to be addressed to Anita Wilson at awilson@laurens55.org.

Constructive feedback is also welcomed.

Using the College and Career Readiness Standards Documents

1. Every document is formatted so that each standard is presented on exactly one page. Because of this formatting, the print size will differ from page to page depending on the length of the standard or the number of print or online resources aligned with the standard. Font sizes will range from 9 to 12, with most being either 10 or 11.

2. The list of print resources is merely a starting point. Included are the most commonly used books here at Laurens County Adult Education for the 2014 series GED® tests. Other resources include the Contemporary books, the Steck-Vaughn GED books, the Number Power series, etc., that were used for the 2002 series GED® tests. All of the Laurens County Adult Education sites will have some, but perhaps not all, of those additional resources since books have disappeared over the years and the older books have not been replaced. Some of the print resources are closely aligned, but many may be loosely aligned.

3. The list of online resources is also merely a starting point. As with print resources, some online resources are better than others. The teacher should always vet a website before sending students to that website. Khan Academy (Mathematics) and Learnzillion often include videos to explain the standard. Note that the links included in each document will take the teacher to a "home page" for each standard. Khan Academy, for example, may have several links under each standard, and when the teacher clicks on each link, the teacher will find several lessons to address the standard. Feel free to explore each website to determine lessons that best suit individual students.

4. The reading level for some of the print resources may be above the reading level of some of the students in your class who are on the Beginning ABE Level. The teacher may find the print resources useful for generating ideas for lessons for weaker readers.

5. The iPad resources mostly include the "Maths" app by Your Teacher. There is a "Fraction Math" app that can be useful for the low intermediate student.

For example, the directions on the iPad resources may look something like this:

Maths app >> **Pre-Algebra** >> Chapter 3: Fractions >> Multiples and Least Common Multiple

To reach this lesson, tap the "Maths App" folder at the bottom of the iPad. Then tap on "Maths." The home screen offers four courses (Pre-Algebra, Algebra 1, Geometry, and Algebra 2). Select "Pre-Algebra." Then select "Chapter 3: Fractions." The screen will open up to give you multiple topics. Select "Multiples and Least Common Multiple."

The Fraction Math app opens up with a menu of five selections (Settings, Set, New, Terms, and Tip). Start with "Settings." A new menu opens up to let the teacher select addition, subtraction, multiplication, division, or any combination of the four operations by sliding the button beside each symbol. The teacher may then determine whether to allow only the same denominators, allow whole numbers, allow mixed numbers, allow negative numbers, or allow big numbers (greater than 12). Each lesson can be customized to fit the individual student's needs.

Number and Operations: Base Ten

Understand place value

Standard 2.NBT.1 **Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:**

a. 100 can be thought of as a bundle of ten tens – called a "hundred."
b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

Background knowledge needed

Understanding place values of ones and tens

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #1, Place Value

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, pp. 14 – 17
2. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, p. 18
3. KeyTrain Applied Mathematics Level 1, pp. 43 – 47

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.1

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.1a

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.1b

https://learnzillion.com/lessonsets/747-understand-three-digit-place-value-by-counting-grouping-and-using-base-ten-blocks

https://learnzillion.com/lessonsets/388-understand-three-digit-place-value-by-drawing-and-modeling

https://quizlet.com/26877086/place-value-3-digit-numbers-session-2-flash-cards/

http://www.ixl.com/math/grade-2 Place values, M.1, M.2, M.4, and M.5

https://www.illustrativemathematics.org/2.NBT.A.1

Number and Operations: Base Ten

Understand place value

Standard 2.NBT.2 **Count within 1000; skip-count by 5s, 10s, and 100s.**

Background knowledge needed

Understanding place value and being able to compute mentally

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #5, Skip Count

Print resources

1. KeyTrain Applied Mathematics, Level 1, pp. 15 – 25 (includes counting by 5s, 10s, and 12s, but not 100s)

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.2

https://learnzillion.com/lessonsets/389-understand-skip-counting-and-its-connection-to-repeated-addition-and-number-patterns

https://learnzillion.com/lessonsets/570-use-patterns-and-strategies-to-skip-count-within-1-000

http://www.ixl.com/math/grade-2 Counting and number patterns, A.1, A.2, and A.3

https://www.illustrativemathematics.org/content-standards/2/NBT/A/2

Number and Operations: Base Ten

Understand place value.

Standard 2.NBT.3 **Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.**

Background knowledge needed

Being able to read numbers in words as opposed to symbols
Understanding place value in order to write expanded form of numbers

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #6, Expanded Form

Print resources

1. Steck-Vaughn Basic Essentials of Mathematics, p. 6
2. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, p. 10
3. Contemporary's Number Power 1, p. 10 (numbers go above 1000 in places)
4. Contemporary's Math Skills That Work, Book 1, pp. 4 – 5

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.3

https://learnzillion.com/lessonsets/726-read-and-write-numbers-to-1000

https://learnzillion.com/lessonsets/720-read-and-write-numbers-to-1-000

http://www.ixl.com/math/grade-2 Names of numbers, C.4

https://www.illustrativemathematics.org/content-standards/2/NBT/A/3

Numbers and Operations: Base Ten

Understand place value.

Standard 2.NBT.4 **Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.**

Background knowledge needed

Understanding the concepts of "greater than" using the > symbol, "less than" using the < symbol, and "equal" using the = symbol
Understanding place value

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #7, Compare Numbers >, <, and =

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, p. 19
2. Steck-Vaughn Math Skills for the Workplace: Whole Numbers, p. 13
3. KeyTrain Applied Mathematics, Level 1, pp. 46 – 55

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.A.4

https://learnzillion.com/lessonsets/719-compare-two-3-digit-numbers-and-record-the-results

http://www.ixl.com/math/grade-2 Comparing and ordering, B.1

https://www.illustrativemathematics.org/content-standards/2/NBT/A/4

Numbers and Operations: Base Ten

Use place value understanding and properties of operations to add and subtract.

Standard 2.NBT.6 **Add up to four two-digit numbers using strategies based on place value and properties of operations.**

Background knowledge needed

Knowing basic addition facts (use flash cards, if needed)
Understanding the concepts of place value and "carrying" to the next place

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #10, Add 2-Digit Numbers

Print resources

1. Steck-Vaughn Basic Essentials of Mathematics, Book 1, pp. 8 -11 (Focus only on 2-digit numbers)
2. Steck-Vaughn Building Strategies: Mathematics, pp. 32 – 36 (Focus only on 2-digit numbers)
3. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, pp. 34 – 35
4. KeyTrain Applied Mathematics, Level 1, pp. 109 – 111

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.B.6

https://learnzillion.com/lessonsets/760-add-two-digit-numbers-by-decomposing-numbers-and-making-tens

https://learnzillion.com/lessonsets/591-add-up-to-four-two-digit-numbers-using-place-value-and-properties-of-operations

http://www.ixl.com/math/grade-2 Addition – two digits, G.1 – G.5

https://www.illustrativemathematics.org/content-standards/2/NBT/B/6

Number and Operations: Base Ten

Use place value understanding and properties of operations to add and subtract.

Standard 2.NBT.7 **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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.**

Background knowledge needed

Understanding addition and subtraction facts (use flash cards as needed)
Understanding the concepts of "carrying" for addition and "borrowing" for subtraction

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #11, Tens and Ones to 1000

Print resources

1. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, Units 1 and 2
2. Steck-Vaughn Building Strategies: Mathematics, Unit 2
3. Contemporary's Number Power 1, chapters on Addition and Subtraction
4. Steck-Vaughn GED Mathematics (the red book), pp. 42 – 43
5. KeyTrain Applied Mathematics, Level 1, chapters on Addition and Subtraction

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.B.7

https://learnzillion.com/lessonsets/479-use-models-and-drawing-strategies-to-add-and-subtract-within-1000

https://learnzillion.com/lessonsets/394-add-and-subtract-within-1000

http://www.ixl.com/math/grade-2 Addition – three digits, I.1 – I.3;
Subtraction – three digits, J.1 – J.3

https://www.illustrativemathematics.org/2.NBT.B.7

Number and Operations: Base Ten

Use place value understanding and properties of operations to add and subtract.

Standard 2.NBT.8 **Mentally add 10 or 100 to a given number 100 – 900, and mentally subtract 10 or 100 from a given number 100 – 900.**

Background knowledge needed

Understanding place value
Knowing how to add and subtract mentally

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Numbers and Operations >> #12, 100 Less, 100 More

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.B.8

https://learnzillion.com/lessonsets/722-add-or-subtract-10-from-a-number-within-1000

https://learnzillion.com/lessonsets/721-mentally-add-or-subtract-10-or-100-from-a-number-within-1000

https://learnzillion.com/lessonsets/482-mentally-add-and-subtract-10-or-100

http://www.ixl.com/math/grade-2 Addition – two digits, G.1; Addition – three digits, I.1; Subtraction – two digits, H.1; Subtraction – three digits, J.1

https://www.illustrativemathematics.org/2.NBT.B.8

Number and Operations: Base Ten

Use place value understanding and properties of operations to add and subtract.

Standard 2.NBT.9 **Explain why addition and subtraction strategies work, using place value and the properties of operations.**

Background knowledge needed

Understanding the relationship between addition and subtraction as inverse operations
Knowing that addition is commutative but subtraction is not

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Operations >> #9, Relate Addition and Subtraction; also, #10, Think Addition to Subtraction

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-2-NBT#2.NBT.B.9

https://learnzillion.com/lessonsets/526-explain-addition-and-subtraction-strategies

https://learnzillion.com/lessonsets/377-explain-addition-and-subtraction-strategies

https://www.illustrativemathematics.org/2.NBT.B.9

Number and Operations: Base Ten

Use place value understanding and the properties of operations to add and subtract.

Standard 3.NBT.1 **Use place value understanding to round whole numbers to the nearest 10 or 100.**

Background knowledge needed

Understanding place value and rounding rules

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Numbers and Operations >> #3, Rounding Numbers

Print resources

1. Contemporary's Number Power 1, p. 11
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 7
3. Steck-Vaughn Building Strategies: Mathematics, p. 23
4. Steck-Vaughn Math Skills for the Workforce, pp. 20 – 21

Online resources

https://www.khanacademy.org/commoncore/grade-3-NBT#3.NBT.A.1

https://learnzillion.com/lessonsets/370-round-whole-numbers-to-the-nearest-10-or-100

http://www.ixl.com/math/grade-3 Estimation and rounding, L.1

https://www.illustrativemathematics.org/content-standards/3/NBT/A/1/tasks/1805

Number and Operations: Base Ten

Use place value understanding and the properties of operations to add and subtract.

Standard 3.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.**

Background knowledge needed

Understanding addition and subtraction algorithms (e.g., always starting from the right and working back to the left for "carrying" and "borrowing)

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Numbers and Operations >> #4, Addition, Multi-digit to 1000 and #5, Subtraction, Multi-digit from 1000

Print resources

1. Steck-Vaughn Access Mathematics, Unit 1, Lesson 2
2. Contemporary's Number Power 1, lessons on Addition and Subtraction
3. Building Skills with TABE, 2nd Edition, Level E, lessons on Addition and Subtraction
4. TABE Fundamentals, Level M, Lessons 1 – 4
5. KeyTrain Applied Mathematics, Level 1, chapters on Addition and Subtraction

Online resources

https://www.khanacademy.org/commoncore/grade-3-NBT#3.NBT.A.2

https://learnzillion.com/lessonsets/324-adding-and-subtracting-within-1-000

https://learnzillion.com/lessonsets/77-addition-and-subtraction

https://learnzillion.com/lessonsets/59-solve-addition-and-subtraction-word-problems

http://www.ixl.com/math/grade-3 Addition, C.1 – C.16; Subtraction, D.1 – D.9

https://www.illustrativemathematics.org/content-standards/3/NBT/A/2

Number and Operations: Base Ten

Use place value understanding and the properties of operations to add and subtract.

Standard 3.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.**

Background knowledge needed

Knowing multiplication tables up to 9 × 9
Knowing multiples of 10

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Numbers and Operations >> #6, Multiplying Whole Numbers (may be aligned to standard, but may contain other factors besides multiples of 10)

Print resources

1. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 25

Online resources

https://www.khanacademy.org/commoncore/grade-3-NBT#3.NBT.A.3

https://learnzillion.com/lessonsets/566-multiply-one-digit-whole-numbers-by-multiples-of-10

https://learnzillion.com/lessonsets/78-multiply-and-divide-1-digit-numbers (multiplication lessons only)

http://www.ixl.com/math/grade-3 Multiplication – skill builders, F.11

https://www.illustrativemathematics.org/content-standards/3/NBT/A/3

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.1 **Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is portioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*.**

Background knowledge needed

Being able to understand visually how one whole is partitioned into equals parts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Fractions, Decimals, and Money >> #1, Introduction to Fractions

Print resources

1. Common Core Basics Mathematics, Lesson 3.1
2. Steck-Vaughn GED Mathematics, Unit 1, Lesson 5
3. Steck-Vaughn Building Strategies: Mathematics, pp. 118 – 119
4. Steck-Vaughn Access Mathematics, Unit 2, Lesson 5
5. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 40
6. Contemporary's Number Power 2, p. 11
7. Steck-Vaughn Math Skills for the Workplace 2, p. 11
8. KeyTrain Applied Mathematics Level 2, pp. 190 – 198

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.1

https://learnzillion.com/lessonsets/89-understand-a-fraction-1-b-as-part-of-a-whole-partitioned-into-b-equal-parts

https://learnzillion.com/lessonsets/79-understand-fractions

http://www.ixl.com/math/grade-3 Understand fractions, S.1 – S.5

https://www.illustrativemathematics.org/content-standards/3/NF/A/1

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.2 **Understand a fraction as a number on the number line; represent fractions on a number line diagram.**

3.NF.2a **Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.**

3.NF.2b **Represent a fraction *a*/*b* on a number line diagram by marking off a length a/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.**

Background knowledge needed

Understanding the number line
Understanding that, the larger the denominator, the smaller the portion into which the whole has been divided (therefore, the smaller the fraction)

iPad resources

NONE

Print resources

1. Steck-Vaughn Math Skills for the Workforce 2, pp. 29 – 30
2. Steck-Vaughn Access Mathematics, pp. 80 – 81
3. Steck-Vaughn Building Strategies: Mathematics, p. 5

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.2

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.2a

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.2b

https://learnzillion.com/lessonsets/334-represent-fractions-on-a-number-line

https://learnzillion.com/lessonsets/80-fractions-on-number-lines

http://www.ixl.com/math/grade-3 Understand fractions, S.9 – S.14

https://www.illustrativemathematics.org/3.NF.A.2

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.3 **Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.**

Background knowledge needed

Being able to see visually how whole amounts of equal size can be divided into equal amounts (e.g., ½, 2/4, 3/6, etc.)

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Fractions, Decimals, and Money >> #5, Equivalent Fractions

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, p. 120
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 42
3. KeyTrain Applied Mathematics, Level 2, pp. 204 - 207

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3

https://learnzillion.com/lessonsets/335-understand-equivalent-fractions

http://www.ixl.com/math/grade-3 Equivalent fractions, T.4 – T.6

https://www.illustrativemathematics.org/3.NF.A.3

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.3a **Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.**

Background knowledge needed

Understanding the number line
Understanding the markings on a ruler that show equal amounts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Fractions, Decimals, and Money >> #5, Equivalent Fractions

Print resources

1. Steck-Vaughn Math Skills for the Workforce: Fractions, p. 24
2. Steck-Vaughn Access Mathematics, p. 76
3. Steck-Vaughn Building Strategies: Mathematics, p. 120

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3a

https://learnzillion.com/lessonsets/335-understand-equivalent-fractions

http://www.ixl.com/math/grade-3 Equivalent fractions, T.1 – T.3

https://www.illustrativemathematics.org/3.NF.A.3

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.3b **Recognize and generate simple equivalent fractions, e.g., ½ = 2/4, 3/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.**

Background knowledge needed

Being able to shade equal amounts on a visual model

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Fractions, Decimals, and Money >> #5, Equivalent Fractions

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, pp. 121 – 122
2. Steck-Vaughn Access Mathematics, pp. 77 – 78
3. Steck-Vaughn Math Skills for the Workforce: Fractions, pp. 15-16, 19 – 20
4. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 43
5. Contemporary's Number Power 2, pp. 15 – 18

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3b

https://learnzillion.com/lessonsets/222-recognize-and-generate-simple-equivalent-fractions

https://learnzillion.com/lessonsets/335-understand-equivalent-fractions

http://www.ixl.com/math/grade-3 Equivalent fractions, T.6 and T.9

https://www.illustrativemathematics.org/3.NF.A.3

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.NF.3c **Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.** *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; location 4/4 and 1 at the same point of a number line diagram.*

Background knowledge needed

Understanding the number line
Understanding visual models

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3c

https://learnzillion.com/lessonsets/335-understand-equivalent-fractions

http://www.ixl.com/math/grade-3 Equivalent fractions, T.4, T.7 and T.8

https://www.illustrativemathematics.org/3.NF.A.3

Number and Operations: Fractions

Develop understanding of fractions as numbers.

Standard 3.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.**

Background knowledge needed

Understanding that, the larger the denominator, the smaller the fraction when comparing fractions with the same numerator but different denominators

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Fractions, Decimals, and Money >> #4, Ordering and Comparing Fractions 1, and #6, Ordering and Comparing Fractions 2

Print resources

1. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 44
2. Steck-Vaughn Math Skills for the Workforce: Fractions, pp. 23 – 24
3. Steck-Vaughn Access Mathematics, p. 79

Online resources

https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3d

https://learnzillion.com/lessonsets/337-compare-fractions-with-the-same-numerator-or-the-same-denominator

https://learnzillion.com/lessonsets/337-compare-fractions-with-the-same-numerator-or-the-same-denominator

http://www.ixl.com/math/grade-3 Compare fractions, U.1 – U.5, U.10, U.11

https://www.illustrativemathematics.org/3.NF.A.3

Operations and Algebraic Thinking

Represent and solve problems involving addition and subtraction.

Standard 2.OA.1 **Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.**

Background knowledge needed

Understanding how to translate from words to symbols to know when to add and when to subtract

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #12, Equations

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, pp. 40 – 41, 52 – 53
2. Steck-Vaugh Access Mathematics, lessons on Addition and Subtraction have word problems scattered throughout the lessons
3. Steck-Vaughn Math Skills for the Workplace: Whole Numbers, lessons in Units 2 and 3 have word problems scattered throughout the lessons
4. Steck-Vaughn Basic Essentials of Mathematics, Book 1, pp. 18 – 19
5. Contemporary's Number Power 1, pp. 27 – 30, 52 – 56

Online resources

https://www.khanacademy.org/commoncore/grade-2-OA

https://learnzillion.com/lessonsets/727-add-and-subtract-within-100-to-solve-word-problems

https://learnzillion.com/lessonsets/607-solve-addition-and-subtraction-word-problems-by-drawing-models

http://www.ixl.com/math/grade-2 Addition – three digits, I.4; Subtractions – three digits, J.4; Mixed operations, L.9 (See also addition and subtraction word problems for one digit and two digits)

https://www.illustrativemathematics.org/content-standards/2/OA/A/1

Operations and Algebraic Thinking

Add and subtract within 20.

Standard 2.OA.2 **Fluently add and subtract within 20 using mental strategies. Know from memory all sums of two one-digit numbers.**

Background knowledge needed

Memorization of addition facts up to 9 + 9

iPad resources

Open "iTooch Apps" folder >> Elementary >> Math Grade 2 >> Operations >> #14, Sums and Differences to 20

Print resources

1. Contemporary's Number Power 1, pp. 15 and 35
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, pp. 5 and 12
3. Steck-Vaughn Math Skills for the Workplace: Whole Numbers, pp. 29 and 55
4. Steck-Vaughn Building Strategies: Mathematics, pp. 29 and 42

Online resources

https://www.khanacademy.org/commoncore/grade-2-OA#2.OA.B.2

https://learnzillion.com/lessonsets/728-add-and-subtract-within-20

https://learnzillion.com/lessonsets/592-use-mental-strategies-to-add-and-subtract-within-20

http://www.ixl.com/math/grade-2 Addition – one digit, E.5 – E.7

https://www.illustrativemathematics.org/content-standards/2/OA/B/2

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

Standard 3.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.*

Background knowledge needed

Counting and addition strategies

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #6, Multiplying Whole Numbers

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, pp. 60 – 61 loosely aligns with this standard
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, pp. 20 – 21
3. Contemporary's Number Power 1, p. 65 (the multiplication table)
4. KeyTrain Applied Mathematics, Level 1, pp. 209 - 210

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.A.1

https://learnzillion.com/lessonsets/395-interpret-products-of-whole-numbers-using-pictures-arrays-and-number-lines

https://learnzillion.com/lessonsets/379-interpret-products-of-whole-numbers-and-model-multiplication-using-arrays-pictures-and-equations

https://learnzillion.com/lessonsets/273-interpret-products-of-whole-numbers

https://learnzillion.com/lessonsets/60-solve-real-world-multiplication-problems

http://www.ixl.com/math/grade-3 Multiplication, E.1

https://www.illustrativemathematics.org/3.OA.A.1

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

Standard 3.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, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.** *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

Background knowledge needed

Understanding the concept of dividing a whole into equal parts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #9, Dividing Whole Numbers

Print resources

(These resources are very loosely aligned to this standard.)

1. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 27
2. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, p. 124
3. Steck-Vaughn Building Strategies: Mathematics, pp. 70 -71
4. KeyTrain Applied Mathematics, Level 1, pp. 288 - 290

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.A.2

https://learnzillion.com/lessonsets/299-interpreting-whole-number-quotients-of-whole-numbers

https://learnzillion.com/lessonsets/91-interpret-whole-number-quotients-of-whole-numbers

http://www.ixl.com/math/grade-3 Division, G.1 – G.4

https://www.illustrativemathematics.org/content-standards/3/OA/A/2

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

Standard 3.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.**

Background knowledge needed

Understanding arrays and dividing amounts into equal groups

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #11, Problem Solving 1: Arrays; #12, Equations; #13, Problem Solving 2: Using a Variable

Print resources

Though many of the print resources have multiplication and division word problems, the problems are not limited to multiplication and division within 100.

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.A.3

https://learnzillion.com/lessonsets/611-solve-multiplication-and-division-word-problems

https://learnzillion.com/lessonsets/60-solve-real-world-multiplication-problems

https://learnzillion.com/lessonsets/58-understand-area-and-arrays

http://www.ixl.com/math/grade-3 Multiplication, E.3; Division, G.3

https://www.illustrativemathematics.org/content-standards/3/OA/A/3

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

Standard 3.OA.4 **Determine the unknown whole number in a multiplication or division equation relating three whole numbers.** *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48; 5 = □ ÷ 3, 6 × 6 = ?.*

Background knowledge needed

Understanding multiplication facts and that division is the inverse operation of multiplication

iPad resources

NONE

Print resources

1. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, pp. 87 and 125
2. Steck-Vaughn Building Strategies: Mathematics, pp. 61 and 71

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.A.4

https://learnzillion.com/lessonsets/304-determine-unknown-whole-numbers-in-multiplication-or-division-equations

https://learnzillion.com/lessonsets/61-use-properties-of-operations-and-fact-families-to-solve-word-problems

http://www.ixl.com/math/grade-3 Multiplication, E.4; Division, G.4

https://www.illustrativemathematics.org/content-standards/3/OA/A/4

Operations and Algebraic Thinking

Understand properties of multiplication and the relationship between multiplication and division.

Standard 3.OA.5 **Apply properties of operations as strategies to multiply and divide.** *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication)*

3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication)

Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56 (Distributive property)

Background knowledge needed

Understanding commutative, associative, and distributive properties

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #7, Properties of Multiplication

Print resources

1. Steck-Vaughn GED Mathematics (the red book), p. 59 (commutative and associative properties for addition and multiplication)
2. Common Core Basics Mathematics, p. 27 (commutative property of multiplication)
3. Contemporary's GED Mathematics, pp. 39 - 43

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.B.5

https://learnzillion.com/lessonsets/226-apply-properties-of-operations-as-strategies-to-multiply-and-divide

http://www.ixl.com/math/grade-3 Properties, J.5 – J.9

https://www.illustrativemathematics.org/3.OA.B.5

Operations and Algebraic Thinking

Understand properties of multiplication and the relationship between multiplication and division.

Standard 3.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.*

Background knowledge needed

Understanding multiplication facts and their relationship to division

iPad resources

NONE

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, p. 71 loosely aligns to this standard
2. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, p. 126
3. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 27
4. KeyTrain Applied Mathematics, Level 1, pp. 288 - 295

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.B.6

https://learnzillion.com/lessonsets/341-understand-division-as-unknown-factor-problems

http://www.ixl.com/math/grade-3 Division, G.13 – G.15

https://www.illustrativemathematics.org/content-standards/3/OA/B/6

Operations and Algebraic Thinking

Multiply and divide within 100.

Standard 3.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 that 40 ÷ 5 = 8) or properties of operations. Know from memory all products of two one-digit numbers.**

Background knowledge needed

Multiplication facts up to 9 × 9

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #9, Dividing Whole Numbers, and #10, Multi-digit Division

Print resources

1. Contemporary's Number Power, Book 1, pp. 90 – 92
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, pp. 27 – 28 (through row 9 on p. 28)
3. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, pp. 123 – 126
4. Steck-Vaughn Building Strategies: Mathematics, pp. 70 – 71
5. KeyTrain Applied Mathematics, Level 1, pp. 296 - 326

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.C.7

https://learnzillion.com/lessonsets/396-multiply-and-divide-within-100

https://learnzillion.com/lessonsets/302-multply-and-divide-within-100

http://www.ixl.com/math/grade-3 Multiplication - skill builders, F.1 – F.10; Division, G.1 and G.2

https://www.illustrativemathematics.org/content-standards/3/OA/C/7

Operations and Algebraic Thinking

Solve problems involving the four operations, and identify and explain patterns in mathematics.

Standard 3.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.**

Background knowledge needed

Understanding how to translate from words to symbols, knowing when to use addition, subtraction, multiplication, and division

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #16, Problem Solving 3: Multi-step Problems

Print resources

1. Steck-Vaughn Building Strategies: Mathematics, pp. 52 – 53
2. Steck-Vaughn Basic Essentials of Mathematics, Book 1, p. 38 (will need to use a calculator)
3. Steck-Vaughn Math Skills for the Workforce: Whole Numbers, pp. 33, 59, 99, 132; also, Unit 6
4. Contemporary's Number Power, Book 1, pp. 27, 52, 79, 111
5. Steck-Vaughn GED Mathematics (the red book), pp. 46 – 47, 52 – 64 (will need to use calculator)

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.D.8

https://learnzillion.com/lessonsets/318-solving-two-step-word-problems-including-those-with-unknown-quantities

http://www.ixl.com/math/grade-3 Mixed operations, I.8, I.9, and I.11

https://www.illustrativemathematics.org/content-standards/3/OA/D/8

Operations and Algebraic Thinking

Solve problems involving the four operations, and identify and explain patterns in mathematics.

Standard 3.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.

Background knowledge needed

Ability to recognize patterns visually and determine the next object or number in the sequence

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Operations >> #14, Identifying Arithmetic Patterns

Print resources

1. KeyTrain Applied Mathematics, Level 1 (entire document includes patterns)

Online resources

https://www.khanacademy.org/commoncore/grade-3-OA#3.OA.D.9

https://learnzillion.com/lessonsets/258-identify-and-explain-arithmetic-patterns-using-properties-of-operations

http://www.ixl.com/math/grade-3 Properties, J.3, J.5, J.9, and J.10

https://www.illustrativemathematics.org/content-standards/3/OA/D/9

Geometry

Reason with shapes and their attributes.

Standard 2.G.1 **Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.**

Background knowledge needed

Knowledge of shapes having up to six sides (or faces)

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #1, Polygons

Print resources

1. Steck-Vaughn GED Mathematics, Lesson 23 (defines triangles and parallelograms, but lesson is actually about applying formulas)
2. Common Core Basics Mathematics, Lesson 12.1 (introduces a few geometric figures)
3. Kaplan Big Book: Geometry, Lesson 1 (introduces a few geometric figures)
4. Contemporary's GED Mathematics, pp. 231 - 233

Online resources

https://www.khanacademy.org/commoncore/grade-2-G#2.G.A.1

https://learnzillion.com/lessonsets/691-identify-triangles-quadrilaterals-pentagons-hexagons-and-cubes

https://learnzillion.com/lessonsets/641-draw-shapes-with-specified-attributes

https://learnzillion.com/lessonsets/630-identify-triangles-quadrilaterals-pentagons-hexagons-and-cubes

https://learnzillion.com/lessonsets/618-recognize-and-draw-shapes-with-specified-attributes

http://www.ixl.com/math/grade-2 Geometry, T.1 – T.6

https://www.illustrativemathematics.org/content-standards/2/G/A/1

Geometry

Reason with shapes and their attributes.

Standard 2.G.3 **Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.**

Background knowledge needed

Understanding the concept of equal parts

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-2-G#2.G.A.3

https://learnzillion.com/lessonsets/651-partition-circles-and-rectangles-into-two-three-or-four-equal-shares-not-necessarily-with-the-same-shape-describe-the-shares-using-fraction-vocabulary

https://learnzillion.com/lessonsets/579-partition-rectangles-and-circles-into-equal-shares

http://www.ixl.com/math/grade-2 Fractions, U.1 and U.2

https://www.illustrativemathematics.org/content-standards/2/G/A/3

Geometry

Reason with shapes and their attributes.

Standard 3.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.**

Background knowledge needed

Being able to distinguish between a square, a rectangle, a rhombus, and a trapezoid; being able to verbalize the common attributes of each

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #2, Quadrilaterals

Print resources

1. Contemporary's GED Mathematics, pp. 231 - 233

Online resources

https://www.khanacademy.org/commoncore/grade-3-G#3.G.A.1

https://learnzillion.com/lessonsets/694-understand-shape-categories-and-attributes

https://learnzillion.com/lessonsets/392-understand-shape-categories-and-attributes

http://www.ixl.com/math/grade-3 Geometry, R.1, R.2, and R.26

https://www.illustrativemathematics.org/content-standards/3/G/A/1

Geometry

Reason with shapes and their attributes.

Standard 3.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 ¼ of the area of the shape.*

Background knowledge needed

Understanding the concept of equal parts

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-3-G#3.G.A.2

https://learnzillion.com/lessonsets/580-partition-shapes-into-parts-with-equal-areas

http://www.ixl.com/math/grade-3 Geometry, R.11

https://www.illustrativemathematics.org/content-standards/3/G/A/2

Measurement and Data

Measure and estimate lengths in standard units.

Standard 2.MD.2 **Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.**

Background knowledge needed

Understanding the units of measurement on a ruler

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Measurement and Data >> #4, Using a Ruler

Print resources

1. Contemporary's Math Skills That Work, Book 2, pp. 142 – 147
2. KeyTrain Applied Mathematics, Level 2, Measurement Unit

Online resources

https://www.khanacademy.org/commoncore/grade-2-MD#2.MD.A.2

https://learnzillion.com/lessonsets/714-measure-the-same-object-using-two-different-unit-lengths

http://www.ixl.com/math/grade-2 Measurement, S.2 and S.3

https://www.illustrativemathematics.org/content-standards/2/MD/A/2

Measurement and Data

Measure and estimate lengths in standard units.

Standard 2.MD.3 **Estimate lengths using units of inches, feet, centimeters, and meters.**

Background knowledge needed

Identifying units of customary measurement and metric measurement and understanding their relative sizes

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Measurement and Data >> #5, Using the Right Units to Estimate

Print resources

1. KeyTrain Applied Mathematics, Level 2, Measurement Unit

Online resources

https://www.khanacademy.org/commoncore/grade-2-MD#2.MD.A.3

https://learnzillion.com/lessonsets/716-estimate-lengths-in-inches-feet-centimeters-and-meters

http://www.ixl.com/math/grade-2 Measurement, S.2 and S.8

https://www.illustrativemathematics.org/content-standards/2/MD/A/3

Measurement and Data

Measure and estimate lengths in standard units.

Standard 2.MD.4 **Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.**

Background knowledge needed

Being able to use a ruler to measure length and compare lengths

iPad resources

NONE

Print resources

1. Contemporary's Number Power 2, pp. 134 – 135
2. KeyTrain Applied Mathematics, Level 2, Measurement Unit

Online resources

https://www.khanacademy.org/commoncore/grade-2-MD#2.MD.A.4

https://learnzillion.com/lessonsets/587-measure-objects-to-determine-differences-in-lengths

https://www.illustrativemathematics.org/content-standards/2/MD/A/4

Measurement and Data

Relate addition and subtraction to length.

Standard 2.MD.6 **Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram.**

Background knowledge needed

Understanding the concept of the whole numbers and their locations on a number line

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Measurement and Data >> #8, Measuring Length and Distance

Print resources

1. Steck-Vaughn GED Mathematics (the red book), pp. 40 – 41 loosely aligns with this standard

Online resources

https://www.khanacademy.org/commoncore/grade-2-MD#2.MD.B.6

https://learnzillion.com/lessonsets/742-create-and-use-number-lines-to-solve-addition-and-subtraction-problems

https://www.illustrativemathematics.org/content-standards/2/MD/B/6

Measurement and Data

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Standard 3.MD.1 **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.**

Background knowledge needed

Understanding that one hour is divided into 60 minutes

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Measurement and Data >> #1, Review of Time, and #2, Elapsed Time

Print resources

1. Contemporary's Math Skills that Work, Book 1, pp. 166 – 168
2. KeyTrain Applied Mathematics, Levels 2 and 3, Measurement Unit

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.A.1

https://learnzillion.com/lessonsets/139-tell-write-and-measure-time-to-the-minute

https://learnzillion.com/lessonsets/173-solve-elapsed-time-word-problems

http://www.ixl.com/math/grade-3 Time, O.1 – O.4

https://www.illustrativemathematics.org/content-standards/3/MD/A/1

Measurement and Data

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Standard 3.MD.2 **Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilogram (kg), and liters (l).**

Background knowledge needed

Understanding of the metric units of measure for mass and volume

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Measurement and Data >> #6, Liquid Volume

Print resources

1. KeyTrain Applied Mathematics, Level 2, Measurement Unit

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.A.2

https://learnzillion.com/lessonsets/283-measure-and-estimate-liquid-volumes-and-masses-of-objects

https://learnzillion.com/lessonsets/754-measure-and-estimate-mass-and-volume-of-liquids-and-use-results-to-solve-problems

http://www.ixl.com/math/grade-3 Measurement, Q.10, Q.12, and Q.13

https://www.illustrativemathematics.org/content-standards/3/MD/A/2

Measurement and Data

Represent and interpret data.

Standard 2.MD.10 **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.**

Background knowledge needed

Understanding that data can be represented in different types of graphs

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Graphs and Statistics >> #2, Circle Graphs, and #5, Pictographs

Print resources

1. Contemporary's GED Mathematics, pp. 201 – 204 (reading bar graphs)
2. Steck-Vaughn Access Mathematics, pp. 30 – 31
3. Steck-Vaughn Basic Essentials of Mathematics, Book 2, p. 67 (reading bar graphs)
4. Common Core Basics Mathematics, Lesson 9.2 (focus on bar graphs)
5. KeyTrain Applied Mathematics, Level 4, pp. 159 – 165
6. Kaplan Big Book: Data, Statistics, and Probability, Lesson 1 (pictographs)

Online resources

https://www.khanacademy.org/commoncore/grade-2-MD#2.MD.D.10

https://learnzillion.com/lessonsets/744-solve-problems-using-picture-graphs-and-bar-graphs

https://learnzillion.com/lessonsets/743-represent-data-in-a-bar-graph

https://learnzillion.com/lessonsets/690-solve-problems-using-information-presented-in-a-bar-graph

https://learnzillion.com/lessonsets/653-draw-picture-graphs-to-represent-data

http://www.ixl.com/math/grade-2 Data and graphs, R.3, R.5, and R.9

https://www.illustrativemathematics.org/content-standards/2/MD/D/10

Measurement and Data

Represent and interpret data.

Standard 3.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.*

Background knowledge needed

Knowing how to set up scales on a bar graph and a picture graph

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Graphs and Statistics >> #3, Bar Graphs

Print resources

1. Contemporary's GED Mathematics, pp. 201 – 204 (reading bar graphs)
2. Steck-Vaughn Access Mathematics, pp. 30 – 31
3. Steck-Vaughn Basic Essentials of Mathematics, Book 2, p. 67 (reading bar graphs)
4. Common Core Basics Mathematics, Lesson 9.2 (focus on bar graphs)
5. KeyTrain Applied Mathematics, Level 4, pp. 159 – 165
6. Kaplan Big Book: Data, Statistics, and Probability, Lesson 1 (pictographs)

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.B.3

https://learnzillion.com/lessonsets/655-draw-scaled-picture-and-bar-graphs

https://learnzillion.com/lessonsets/569-answer-questions-using-information-in-scaled-picture-and-bar-graphs

http://www.ixl.com/math/grade-3 Data and graphs, P.9 and P.10

https://www.illustrativemathematics.org/content-standards/3/MD/B/3

Measurement and Data

Represent and interpret data.

Standard 3.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.**

Background knowledge needed

Understanding of a line plot and how to use a ruler marked with halves and fourths

iPad resources

NONE

Print resources

1. KeyTrain Applied Mathematics, Levels 2 and 3, Measurement Units
2. Contemporary's Math Skills That Work, Book 2, pp. 144 – 145

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.B.4

https://learnzillion.com/lessonsets/588-generate-and-display-measurement-data

https://learnzillion.com/lessonsets/656-generate-and-display-measurement-data-using-rulers-marked-with-halves-and-fourths-of-an-inch

http://www.ixl.com/math/grade-3 Measurement, Q.3; Data and graphs, P.7 and P.8

https://www.illustrativemathematics.org/content-standards/3/MD/B/4

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.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 be used to measure area.
b. A plane figure which can be covered without gaps or overlaps by *n* square units is said to have an area of *n* square units.

Background knowledge needed

Recognizing a square unit visually

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #4, Area: Introduction to Unit Squares

Print resources

1. KeyTrain Applied Mathematics, Level 5, Perimeter and Area Unit
2. Contemporary's Number Power 1, p. 137
3. Steck-Vaughn GED Mathematics (the red book), pp. 172 – 173

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.5

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.5a

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.5b

https://learnzillion.com/lessonsets/106-understand-area-as-an-attribute-of-plane-figures-and-concepts-of-area-measurement

http://www.ixl.com/math/grade-3 Geometry, R.10 and R.11

https://www.illustrativemathematics.org/3.MD.C.5

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.MD.6 **Measure areas by counting unit squares (square cm, square m, square ft, and improvised units).**

Background knowledge needed

Recognizing unit squares and counting skills

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #4, Area: Introduction to Unit Squares

Print resources

1. KeyTrain Applied Mathematics, Level 5, Perimeter and Area Unit
2. Contemporary's Number Power 1, p. 137
3. Steck-Vaughn GED Mathematics (the red book), pp. 172 – 173

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.6

https://learnzillion.com/lessonsets/113-measure-area-by-counting-unit-squares

http://www.ixl.com/math/grade-3 Geometry, R.10

https://www.illustrativemathematics.org/3.MD.C.6

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.MD.7 **Relate area to the operations of multiplication and addition.**

Background knowledge needed

Understanding unit squares
Multiplication and division facts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #5, Area: Understanding Multiplication and Division

Print resources

1. Steck-Vaughn Basic Essentials of Mathematics, Book 2, pp. 44 – 45
2. Contemporary's GED Mathematics, pp. 240 – 243
3. KeyTrain Level 5, Perimeter and Area Unit

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.7

https://learnzillion.com/lessonsets/266-relate-area-to-multiplication-and-division

https://learnzillion.com/lessonsets/248-relate-area-to-the-operations-of-multiplication-and-addition

http://www.ixl.com/math/grade-3 Geometry, R.11 and R.12

https://www.illustrativemathematics.org/3.MD.C.7

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.MD.7a **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.**

Background knowledge needed

Understanding unit squares; using algebra tiles

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.7a

https://learnzillion.com/lessonsets/581-relate-area-to-multiplication-and-addition-using-unit-squares-and-arrays

https://learnzillion.com/lessonsets/58-understand-area-and-arrays

https://learnzillion.com/lessonsets/378-relate-area-to-multiplication-and-addition-using-arrays

https://www.illustrativemathematics.org/3.MD.C.7

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.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.**

Background knowledge needed

Understanding multiplication facts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #6, Problem Solving 1, and #7, Problem Solving 2

Print resources

1. KeyTrain Applied Mathematics, Level 5, Perimeter and Area Unit
2. Steck-Vaughn GED Mathematics (the red book), pp. 172 – 173
3. Contemporary's GED Mathematics, pp. 240 – 241
4. Steck-Vaughn Access Mathematics, pp. 48 – 49, 56 – 57
5. Steck-Vaughn Basic Essentials of Mathematics, Book 2, pp. 44 – 45
6. Contemporary's Math Skills That Work, Book 2, pp. 154 – 157

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.7b

https://learnzillion.com/lessonsets/581-relate-area-to-multiplication-and-addition-using-unit-squares-and-arrays

https://learnzillion.com/lessonsets/378-relate-area-to-multiplication-and-addition-using-arrays

https://learnzillion.com/lessonsets/58-understand-area-and-arrays

http://www.ixl.com/math/grade-3 Geometry, R.12 and R.13

https://www.illustrativemathematics.org/3.MD.C.7

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.MD.7c **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* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.**

Background knowledge needed

Using algebra tiles

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.7c

https://learnzillion.com/lessonsets/758-use-tiling-to-represent-distributive-property

https://learnzillion.com/lessonsets/725-use-tiling-and-area-models-to-represent-the-distributive-property

https://www.illustrativemathematics.org/3.MD.C.7

Measurement and Data

Geometric measurement: understand concepts of area and relate to area of multiplication and addition.

Standard 3.MD.7d **Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.**

Background knowledge needed

Ability to see how to separate rectilinear figures into familiar figures (rectangles, squares)

iPad resources

NONE

Print resources

NONE

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.C.7d

https://learnzillion.com/lessonsets/755-recognize-area-as-additive-find-area-of-figures-by-decomposing-them

http://www.ixl.com/math/grade-3 Geometry, R.14

https://www.illustrativemathematics.org/3.MD.C.7

Measurement and Data

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Standard 3.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.**

Background knowledge needed

Addition and multiplication facts

iPad resources

Open "iTooch Apps" folder >> Grade 3 >> Math >> Geometry >> #3, Perimeter

Print resources

1. KeyTrain Applied Mathematics, Level 5, Perimeter and Area Unit
2. Steck-Vaughn Access Mathematics, pp. 26 – 27
3. Contemporary's GED Mathematics, pp. 234 – 237
4. Steck-Vaughn GED Mathematics (the red book), pp. 170 – 171

Online resources

https://www.khanacademy.org/commoncore/grade-3-MD#3.MD.D.8

https://learnzillion.com/lessonsets/125-solve-real-world-and-mathematical-problems-involving-perimeters-of-polygons

http://www.ixl.com/math/grade-3 Geometry, R.8, R.9, R.16, R.17, and R.18

https://www.illustrativemathematics.org/content-standards/3/MD/D/8