# TOWNSHIP OF UNION PUBLIC SCHOOLS

# Grade 4 Mathematics

Adopted October 20,2020

## Mission Statement

The mission of the Township of Union Public Schools is to build on the foundations of honesty, excellence, integrity, strong family, and community partnerships. We promote a supportive learning environment where every student is challenged, inspired, empowered, and respected as diverse learners. Through cultivation of students' intellectual curiosity, skills and knowledge, our students can achieve academically and socially, and contribute as responsible and productive citizens of our global community.

## Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

# Unit 1 - Module A

## Unit Title: Mathematics – Place Value and Operations with Whole Numbers –

## Grade level: Grade 4
## Timeframe: 15 Days

### Rationale

*Grade 4 – Place Value and Operations with Whole Numbers - Unit 1, Module A*

Unit 1 focuses on place value and builds on learners' prior work reading and writing numbers using base-ten numerals, number names, and expanded form. Learners go beyond representing numbers to 1000 to representing any whole number in any of these forms. They use these understandings to round numbers to any place.

Having been introduced to multiplication and division in grade 3, grade 4 learners use these understandings to find factor pairs and to determine whether one whole number is a multiple of another one-digit number. They deepen their understanding of multiplication and relationships to represent verbal statements of multiplicative comparisons as multiplication equations. The continue to solve multistep word problems and extend that skill to interpreting problems for which the remainder must be interpreted. Learners represent these problems using equations with a variable. They use both mental computation and estimation strategies to assess the reasonableness of their answers.

In grade 3, learners' experiences developed fluency for addition and subtraction within 1000. They demonstrated fluency using various strategies and algorithms based on place value or properties of operations. In grade 4, students become fluent with the standard algorithm for addition and subtraction for any multi-digit whole numbers.

Note: Double asterisks (**) indicate that the example(s) included within the New Jersey Student Learning Standard may be especially informative when considering the Student Learning Objective.

### Essential Questions

- How do we recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right?
- How do we read and write multi-digit whole numbers using base ten numerals, number names, and expanded form?
- How do we compare two multi-digit numbers based on means of the digits in each place using, >, =, and < symbols to record the results

- How do we fluently add and subtract multi-digit whole numbers using the standard algorithm?.

## Standards

**Standards (Taught and Assessed):**

**4.NBT.A.1** Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
**4.NBT.A.2** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
**4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place.
**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**Key**: Major Cluster Supporting Cluster Additional Cluster

## Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| Iready<br>Unit Summative Assessment | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
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| **4.NBT.A.1 – WALT** recognize that a digit represents 10 times the value of what it represents in the place value to its right | Think about what I know/what I have learned about:<br><br>• place value positions of whole numbers to one million<br>• the value of each digit in a given number to one million<br>• multiplying by 10 | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in |

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| | place one position to the left<br>• strategies for multiplying by 10<br>• the relationship of the place value positions in whole numbers to one million<br>• a digit in one place represents 10 times what it represents in the place to its right<br><br>***Essential Vocabulary:***<br>base ten system<br>place value<br>place value positions (hundreds, ten thousands, millions, etc.) | | • Virtual Nerd 4.NBT.A.1<br>• Learn Zillion Video Lessons<br>• Study Jams - Place Value<br>• Visualizing Large Numbers<br>• Khan Academy - Questions and Video Lessons<br>• Place Values<br>• Convert Between Place Values<br>• Place Value Number Line | **At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **4.NBT.A.2 – WALT** read and write multi digit whole numbers in base-ten numerals, word, and expanded form | Think about what I know/what I have learned about:<br><br>• place value positions to the millions place<br>• value of a digit in a given number up to one million<br>• correctly reading the symbols <, >, and =<br>• comparing two numbers up to one million<br>• using the symbols <, >, and = to record the correct relationship between two numbers up to one million | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Virtual Nerd - 4.NBT.A.1<br>• Learn Zillion - Read, write, and compare multi-digit whole numbers | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **4.NBT.A.2 – WALT** compare two multi digit numbers based on place value using <,>, =, to record the results of the comparison | | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards | | |

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| | numbers up to one million in base-ten numerals, expanded, and word form<br>• writing whole numbers up to one million in base-ten numerals, expanded, and word form<br><br>***Essential Vocabulary:***<br>*equal, =*<br>*expanded form*<br>*greater than, >*<br>*less than, <*<br>*numeral*<br>*place value positions (ten thousands, millions, etc.)* | | Understand place value in terms of word forms<br>• Study Jams - Expanded Notation<br>• Study Jams - Ordering Whole Numbers<br>• Khan Academy – Questions and Video Lessons<br>• Place Value<br>• Word Names for Numbers<br>• Compare Numbers<br>• Addition Patterns over Increasing Place Values<br>• Inequalities with Multiplication<br>• Inequalities with Division<br>• Inequalities - Addition, Subtraction, Multiplication & Division<br>• Comparing Numbers | |
| **4.NBT.A.3 – WALT** round multi-digit numbers to any place using place value understanding | Think about what I know/what I have learned about:<br><br>• whole numbers from zero to one million.<br>• the names and values of the digits in any given place value position up to one million | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:** | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.U[illegible]igher level |

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| | any selected place value up to one million, beyond just the leading digit.<br>• determining whether the digit being rounded goes up by one or stays the same based on the value of the digit to the right.<br>• using place value models to reason about numbers.<br><br>***Essential Vocabulary:***<br>*estimate*<br>*place*<br>*place value positions (hundred thousand, million, etc.)*<br>*round/rounding*<br>*ten thousand*<br>*value*<br>*whole number* | | • Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Round multi-digit whole numbers to any place<br>• Study Jams - Estimating Whole Numbers<br>• Khan Academy – Questions and Video Lessons<br>• Rounding<br>• Estimate Sums<br>• Estimate Sums: Word Problems<br>• Estimate Differences<br>• Estimate Differences: Word Problems<br>• Estimate Products<br>• Estimate Products II<br>• Divide by 1-Digit Numbers: Estimate Quotients<br>• Estimate Quotients<br>• Place Value | and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **4.NBT.B.4 – WALT** add multi-digit whole numbers using the standard algorithm working towards accuracy and efficiency | Think about what I know/what I have learned about:<br><br>• basic addition facts.<br>• basic subtraction facts.<br>• how to add with regrouping.<br>• how to subtract with regrouping.<br>• understanding how the base ten system works.<br>• connect the standard | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Indivi[illegible]zed as |
| **4.NBT.B.4 – WALT** subtract multi-digit whole numbers using [illegible] | | • Iready<br>• Spiral Review<br>• Do Now | | |

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| accuracy and efficiency | strategies based on place value and/or non-standard algorithms.<br>• explain how and why the standard algorithm for addition and subtraction works.<br>• checking my answer for reasonableness.<br>• adding or subtracting using the standard algorithm.<br><br>***Essential Vocabulary:***<br>*addition*<br>*algorithm*<br>*difference*<br>*inverse operation*<br>*regrouping*<br>*standard algorithm*<br>*subtraction*<br>*sum* | • GO Math standards assessment | & Subtracting<br>• Study Jams - Adding & Subtracting<br>• Study Jams – Adding<br>• Study Jams – Subtracting<br>• Virtual Nerd - Adding & Subtracting<br>• Khan Academy – Questions and Video Lessons<br>• Add Numbers up to Millions<br>• Add Numbers up to Millions: Word Problems<br>• Addition: Fill in the Missing Digits<br>• Add 3 or More Numbers up to Millions<br>• Choose Numbers with a Particular Sum<br>• Subtract Numbers up to Millions<br>• Subtract Numbers up to Millions: Word Problems<br>• Subtraction: Fill in the Missing digits<br>• Choose Numbers with a Particular Difference | **IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level*<br>*Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*Go-Math*<br>*Ed-Connect*<br>*District Grade Level*<br>*Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| Summative Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *Connect* | **ELL:**Model and Provide Example. Est h a non-verbal cue to redirect students when not on task.Student / use a |

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| *Created* | **GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
|---|---|
| *Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# Unit 1 - Module B

## Unit Title: Mathematics – Place Value and Operations with Whole Numbers –
**Grade level: Grade 4**

**Timeframe: 15 days**

## Rationale

*Grade 4 – Place Value and Operations with Whole Numbers - Unit 1, Module A*

Unit 1 focuses on place value and builds on learners' prior work reading and writing numbers using base-ten numerals, number names, and expanded form. Learners go beyond representing numbers to 1000 to representing any whole number in any of these forms. They use these understandings to round numbers to any place.

Having been introduced to multiplication and division in grade 3, grade 4 learners use these understandings to find factor pairs and to determine whether one whole number is a multiple of another one-digit number. They deepen their understanding of multiplication and relationships to represent verbal statements of multiplicative comparisons as multiplication equations. They continue to solve multistep word problems and extend that skill to interpreting problems for which the remainder must be interpreted. Learners represent these problems using equations with a variable. They use both mental computation and estimation strategies to assess the reasonableness of their answers.

In grade 3, learners' experiences developed fluency for addition and subtraction within 1000. They demonstrated fluency using various strategies and algorithms based on place value or properties of operations. In grade 4, students become fluent with the standard algorithm for addition and subtraction for any multi-digit whole numbers.

Note: Double asterisks (**) indicate that the example(s) included within the New Jersey Student Learning Standard may be especially informative when considering the Student Learning Objective.

## Essential Questions

- How do we generate a number or shape pattern that follows a given rule?
- How do we find factor pairs?

- How do we solve multistep word problems?

## Standards

### Standards (Taught and Assessed):

**4.OA.C.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
**4.OA.B.4** Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
**4.OA.A.1** Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
**4.OA.A.2** Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

**Key**: Major Cluster Supporting Cluster Additional Cluster

### Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

### Social-Emotional Learning Competencies

- Self-Management
- Social Awareness
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level*<br>*Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|---|---|---|
| **4.OA.C.5 – WALT**<br>generate a number or shape pattern that follows a given rule | Think about what I know/what I have learned about:<br><br>• a pattern follows a rule.<br>• a pattern repeats.<br>• observations and | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>GT: Provide enrichment |

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| **4.OA.C.5 – WALT** identify the features of a pattern that are not explicit in the rule | patterns.<br>• identifying the given rule of a pattern.<br>• using tools to extend a pattern.<br>• creating or continuing a number or shape pattern after being given a rule.<br><br>***Essential Vocabulary***<br><br>*features*<br>*pattern*<br>*rule*<br>*sequence* | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | • Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Khan Academy<br>• Learn Zillion Video Lessons<br>• Sequence by Multiplying<br>• Missing Terms of a Sequence<br>• Finding a Patterns with Tables<br>• Write a Rule for a Pattern<br>• Study Jams - Number Patterns<br>• Study Jams - Geometric Patterns<br>• Online Math Manipulatives | the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **4.OA.B.4 – WALT** find all factors pairs for a whole number in the range 1 through 100 | Think about what I know/what I have learned about:<br><br>• multiplication and division facts through 10 (products to 100).<br>• a factor is a number being multiplied.<br>• a multiple is the product of two factors.<br>• a product is a multiple of each of its factors.<br>• a prime number has exactly two factors - one and itself. | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Khan Academy<br>• Prime and Composite Numbers<br>• Multiples<br>• Inverse Operations | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ |

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| | has three or more factors.<br>• identifying a number that is a multiple of a given one digit number.<br>• finding all factor pairs for whole numbers in the range 1-100.<br>• identifying prime or composite numbers.<br><br>***Essential Vocabulary***<br><br>*composite*<br>*divide/division*<br>*factor*<br>*factor pairs*<br>*multiple*<br>*multiply/multiplication*<br>*prime*<br>*product* | | • Learn Zillion Video Lessons<br>• Khan Academy Questions and Video Lessons<br>• Pan Balance Numbers - Balance equations<br>• Factor Trail Game - Printable board game<br>• Online Multiplication Games<br>• Factor Tree<br>• Factor Feeder<br>• Factor Quiz I<br>• Factor Quiz II | |
| **4.OA.B.4 – WALT** recognize that a whole number is a multiple of each of its factors | | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | | |
| **4.OA.B.4 – WALT** determine whether a given whole number is a multiple of a given one-digit number in the range 1 through 100 | | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | | |
| **4.OA.B.4 – WALT** determine whether a given whole number is prime or composite in the range 1 through 100 | | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | | |
| **4.OA.A.1 – WALT** interpret multiplication equations as a comparison statement | *I understand situations of multiplicative comparison.*<br>*I know how to read a multiplication equation.*<br>*I know strategies to solve multiplication problems.*<br>*I know the ratio is constant in a multiplicative comparison.* | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide chment |

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| **4.OA.A.1 – WALT** represent verbal comparison statements as multiplication equations | *I know strategies to solve multiplication and division problems.*<br>*I know multiplication and division are inverse operations.*<br><br>***Essential Vocabulary***<br><br>*equation*<br>*factor*<br>*interpret*<br>*multiple*<br>*multiplicative comparison*<br>*product* | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | • Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Khan Academy - Questions and Video Lessons<br>• Missing Factors<br>• Multiplicative Comparisons<br>• Learn Zillion - Understand multiplicative comparison by comparing it to additive comparison<br>• Multiplicative Comparisons<br>• 4.OA.A.1 and 4.OA.A.2 Lesson A - Includes printable classwork and homework<br>• 4.OA.A.1 and 4.OA.A.2 Lesson B - Includes printable classwork and homework<br>• 4.OA.A.1 and 4.OA.A.2 A&B Answers<br>• Multiplicative Comparisons I<br>• 4.OA.A.1 and 4.OA.A.2<br>• Multiplicative Comparisons II<br>• Multiplicative Comparisons Activity & Worksheet | the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **OA.A.2 – WALT** | *I know strategies to* | | | |

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| comparison from additive comparison<br><br>**4.OA.A.2 – WALT**<br>multiply and divide to solve word problems involving multiplicative comparisons, using drawings and equations containing a variable to represent the problem | *about:*<br><br>• situations of multiplicative comparison<br>• how to read a multiplication equation<br>• about strategies to solve multiplication problems<br>• that the ratio is constant in a multiplicative comparison.<br>• additive comparison<br>• strategies to solve multiplication and division problems<br>• multiplication and division are inverse operation<br><br>***Essential Vocabulary***<br><br>equation<br>factor<br>interpret<br>multiple<br>multiplicative comparison<br>product | Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment<br><br>• Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | • Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Khan Academy - Questions and Video Lessons<br>• Missing Factors<br>• Multiplicative Comparisons<br>• Learn Zillion - Understand multiplicative comparison by comparing it to additive comparison<br>• Multiplicative Comparisons<br>• 4.OA.A.1 and 4.OA.A.2 Lesson A - Includes printable classwork and homework<br>• 4.OA.A.1 and 4.OA.A.2 Lesson B - Includes printable classwork and homework<br>• 4.OA.A.1 and 4.OA.A.2 A&B Answers<br>• Multiplicative Comparisons I | verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

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| | | | • Multiplicative Comparisons II<br>• Multiplicative Comparisons Activity & Worksheet | |
| **4.OA.A.3 – WALT** solve multi-step whole number word problems that have whole number answers, including problems in which remainders must be interpreted | Think about what I know/what I have learned about:<br>• a letter represents an unknown quantity<br>• multi-step word problems using equations and a symbol for the unknown<br>• multi-step word problems and determine the appropriate operation to solve<br>• mental math and estimation to determine the reasonableness of an answer<br>• interpret a remainder based on the context of a problem | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion Video Lessons<br>• Study Jams - Word Problems to Equations<br>• Study Jams - Reasonableness & Estimation<br>• Study Jams - Equations & Word Problems<br>• Khan Academy - Questions and Video Lessons<br>• Multi-Step Word Problems<br>• Multi-Step Word Problems & Video Lessons<br>• Multi-Step Word Problems with Estimating - Upper Level<br>• 4.OA.A.3 Lesson A - | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |
| **4.OA.A.3 – WALT** represent these problems using equations with a letter standing for the unknown quantity | Think about what I know/what I have learned about:<br>• a symbol (letter) can be used as the unknown number in an equation and/or word problem for the unknown | Iready<br>Spiral Review<br>Do Now<br>Standards Assessment<br>GO Math standards assessment | | |
| **4.OA.A.3 – WALT** assess | Think about what I | • Iready | | |

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| computation, estimation strategies, and rounding | • estimation strategies<br>• mental math strategies<br>• mental math and estimation to determine the reasonableness of an answer | • Do Now<br>• Standards Assessment<br>• GO Math standards assessment | classwork and homework<br>• 4.OA.A.3 Lesson B - Includes printable classwork and homework<br>• 4.OA.A.3 A&B Answers | |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level*<br>*Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level*<br>*Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments. |

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| | **At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| Summative Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| Interdisciplinary Connections | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary. |

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| | **At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# CAR Unit 2 - Module A

| **Unit Title: Mathematics – Multi-digit Multiplication and Division & Fraction Equivalence –** |
|---|
| **Grade level: Grade 4** |
| **Timeframe: 2nd Marking Period** |
| **Rationale** |

*Grade 4 – Multi-digit Multiplication and Division & Fraction Equivalence – Unit 2*

In Unit 2, learners extend their work with multiplication and division to focus on multi-digit numbers. They multiply whole numbers up to four digits by a one-digit number and multiply two two- numbers. They work with four-digit dividends and one-dig visors to

multiply and divide, while illustrating and explaining their calculations using equations, rectangular arrays, and area models. Learners build on the work of the prior unit – solving word problems that involve multiplicative comparison – to solve multi-step word problems involving the four operations. They represent these problems using equations with variables and they use mental computation and appropriate estimation strategies to determine whether their answers are reasonable.

In second module of this unit, learners build upon their grade 3 understandings of fraction equivalence. In grade 3, learners determined fraction equivalence by comparing size or by locating fractions at the same point on the number line. They also recognized and generated simple equivalent fractions and used visual fraction models to illustrate their equivalence. Now in grade 4, learners compare the number of parts and the size of the parts when comparing two fractions that are the same size. They use this principle to recognize and generate equivalent fractions.

Unit 2 concludes as students develop understanding of adding and subtracting fractions as joining and separating parts that refer to the same whole. With this understanding in place, they then decompose fractions whose numerator is larger than into a sum of fractions and justify these decompositions with visual fraction models.

## Essential Questions

- How do we multiply a whole number of up to four digits by a one-digit number?
- How do we illustrate and explain the calculation by using equations, rectangular arrays, and/or area models?
- How do we find whole number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division?
- How do we illustrate and explain the calculation by using equations, rectangular arrays, and/or area models?
- How do we solve multistep word problems posed with whole numbers and having whole-number answers using the four operations?
- How do we represent these problems using equations with a letter standing for the unknown quantity?
- How do we assess the reasonableness of answers using mental computation and estimation strategies including rounding?
- How do we apply the area and perimeter formulas for rectangles in real world and mathematical problems?
- How do we fluently add and subtract multi-digit whole numbers using the standard algorithm?

## Standards

### Standards (Taught and Assessed):

**4.NBT.B.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

using equations, rectangular arrays, and/or area models.

**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

**4.MD.A.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**Key:** Major Cluster Supporting Cluster Additional Cluster

## Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

# Instructional Plan

**-Assessment and Reflection**

| | 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| **SLO – WALT**<br><br>**We are learning to/that** | **Student Strategies** | **Formative Assessment** | **Activities and Resources** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
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| **4.NBT.B.5 – WALT** multiply up to four-digit by one digit numbers using strategies based on place value and properties of operations<br><br>**4.NBT.B.5 – WALT** multiply two two-digit numbers using strategies based on place value and properties of operations<br><br>**4.NBT.B.5 – WALT** illustrate and explain the multiplication calculation by using equations, | Think about what I know/what I have learned about:<br><br>• various strategies for multiplication (e.g., partial products, arrays, etc.)<br>• multiplication is the same as repeated addition<br>• visual models can be used to show multiplication<br>• properties of multiplication | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Multiply Multi-Digit Whole Numbers | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed |

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| | multiplication<br>• explain the strategy I used to solve a multiplication problem<br>• show my thinking by creating rectangular arrays<br>• show my thinking by creating area models<br>• write an equation to a model of a multiplication problem.<br><br>***Essential Vocabulary:***<br><br>area model<br>Commutative Property of Multiplication<br>Distributive Property of Multiplication over Addition<br>equal groups<br>equation<br>factor<br>Identity Property of Multiplication<br>partial product<br>place value<br>product<br>rectangular array<br>strategy | | multiplication problems<br>• Study Jams – Distributive Property<br>• Virtual Nerd – Multiplication<br>• Khan Academy – Questions and Video Lessons<br>• Multiply 1-digit numbers by 2-digit numbers<br>• Multiply 1-digit numbers by 3-digit or 4-digit numbers<br>• Multiplication patterns over increasing place values<br>• Properties of multiplication<br>• Distributive property: find the missing factor<br>• Multiply using the distributive property<br>• Multiply a 2-digit number by a 2-digit number: complete the missing steps<br>• Multiply a 2-digit number by a 2-digit number<br>• Multiply numbers ending in zeroes<br>• Multiplication – | stated in IEP |

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| | | | Digit<br>• 4.NBT.B.5 - 60 pages of PDF worksheets | |
| **4.NBT.B.6 – WALT** find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value<br><br>**4.NBT.B.6 – WALT** illustrate and explain the division calculation by using equations, rectangular arrays, and/or area models<br><br>**4.NBT.B.6 – WALT** find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based properties of operations and/or the relationship between multiplication and division | Think about what I know/what I have learned about:<br><br>• division can be creating groups with the same quantity in each group<br>• division can be putting objects or numbers into an unknown number of groups<br>• division can be derived through repeated subtraction<br>• multiplication and division have an inverse relationship<br>• I can use models, such as rectangular arrays and area models, to show division concepts and solve division operations.<br>• multiplication and division algorithms.<br>• I know what the remainder means in a division problem.<br>• how to check if my | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Whole number quotients & remainders with up to four-digit dividends<br>• Study Jams – Divisibility<br>• Study Jams – Long Division<br>• Virtual Nerd – 4.NBT.B.6 Division<br>• Khan Academy – Questions and Video Lessons<br>• Properties of division<br>• Divide 2-digit numbers by 1-digit | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | reasonable<br>• I can use the properties of operations to solve division problems.<br>• illustrate and explain which strategy/or model was used to find the quotient<br><br>**Essential Vocabulary:**<br><br>dividend<br>divisor<br>product<br>properties of operations<br>remainder<br>quotient | | numbers by 1-digit numbers: word problems<br>• Divide 2-digit numbers by 1-digit numbers: complete the table<br>• Divide larger numbers by 1-digit numbers<br>• Divide larger numbers by 1-digit numbers: complete the table<br>• Divide numbers ending in zeroes by 1-digit numbers<br>• Division – Single Digit<br>• 4.NBT.B.6 - 53 pages of PDF worksheets<br>• Soft Schools - Long Division | |
| **4.OA.A.3 – WALT** solve multi-step whole number word problems that have whole number answers, including problems in which remainders must be interpreted<br><br>**4.OA.A.3 – WALT** represent these problems using equations with a letter standing for the | Think about what I know/what I have learned about:<br><br>• estimation strategies<br>• mental math strategies<br>• a letter represents an unknown quantity<br>• represent multi-step | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | Activities:<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>Online Resources:<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and |

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| **4.OA.A.3 – WALT** assess the reasonableness of answers using mental computation, estimation strategies, and rounding | a symbol for the unknown<br>• interpret multi-step word problems and determine the appropriate operation to solve<br>• mental math and estimation to determine the reasonableness of an answer<br>• interpret a remainder based on the context of a problem<br><br>**Essential Vocabulary:** | | Lessons<br>• Study Jams - Word Problems to Equations<br>• Study Jams - Reasonableness & Estimation<br>• Study Jams - Equations & Word Problems<br>• Khan Academy - Questions and Video Lessons<br>• Multi-Step Word Problems<br>• Multi-Step Word Problems & Video Lessons<br>• Multi-Step Word Problems with Estimating - Upper Level<br>• Multi-Step Word Problems I<br>• Multi-Step Word Problems II<br>• 4.0A.A.3 Worksheets | **At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |
| **4.MD.A.3 – WALT** apply the area formula for rectangles in real world and mathematical problems<br><br>**4.MD.A.3 – WALT** apply perimeter formulas for rectangles in real world and mathematical problems | Think about what I know/what I have learned about:<br>• explain the area and perimeter formula<br>• use the formulas to solve problems | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | Activities:<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>Online Resources: | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo |

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| | **Essential vocabulary:**<br><br>area<br>distance<br>formula<br>length<br>perimeter<br>product<br>rectangle<br>side<br>square unit<br>sum<br>two-dimensional figure<br>width | | • ThinkCentral.com<br>• Nearpod Lessons<br>• Area and Perimeter Lessons<br>• Learn Zillion – Apply formulas for area and perimeter<br>• Virtual Nerd – Perimeter<br>• Study Jams – Perimeter<br>• Study Jams – Surface Area<br>• Khan Academy – Questions and Video Lessons<br>• Perimeter<br>• Area of squares and rectangles<br>• Compare area and perimeter of two figures<br>• Relationship between area and perimeter<br>• Use area and perimeter to determine cost<br>• Perimeter and Area | techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |
| **4.NBT.B.4 – WALT** add multi-digit whole numbers using the standard algorithm working towards accuracy and efficiency | Think about what I know/what I have learned about:<br><br>• basic addition facts<br>• basic subtraction | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment GO Math standards | Activities:<br><br>• Complete corresponding GO Math lesson.<br>• Standards based | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingu[illegible] dictionary. |

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| numbers using the standard algorithm working towards accuracy and efficiency | regrouping<br>• how to subtract with regrouping<br>• how the base ten system works<br>• connecting the standard algorithm for addition and subtraction to strategies based on place value and/or non-standard algorithms<br>• explain how and why the standard algorithm for addition and subtraction works<br>• check my answer for reasonableness<br>• add or subtract using the standard algorithm.<br><br>**Essential Vocabulary:**<br><br>addition<br>algorithm<br>difference<br>inverse operation<br>regrouping<br>standard algorithm<br>subtraction<br>sum | | Online Resources:<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Adding & Subtracting<br>• Study Jams - Adding & Subtracting<br>• Study Jams – Adding<br>• Study Jams – Subtracting<br>• Virtual Nerd - Adding & Subtracting<br>• Khan Academy – Questions and Video Lessons<br>• Add Numbers up to Millions<br>• Add Numbers up to Millions: Word Problems<br>• Addition: Fill in the Missing Digits<br>• Add 3 or More Numbers up to Millions<br>• Choose Numbers with a Particular Sum<br>• Subtract Numbers up to Millions<br>• Subtract Numbers up to Millions: | activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | • Subtraction: Fill in the Missing digits<br>• Choose Numbers with a Particular Difference<br>• Addition and Subtraction - Single & Multi-Digit<br>• Addition<br>• Subtraction | |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary. |

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| | higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| Summative Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Unit Title: Mathematics – Multi-digit Multiplication and Division & Fraction Equivalence –**
**Grade level: Grade 4**

**Timeframe: 2nd Marking Period**

## Rationale

*Grade 4 – Multi-digit Multiplication and Division & Fraction Equivalence – Unit 2*

In Unit 2, learners extend their work with multiplication and division to focus on multi-digit numbers. They multiply whole numbers up to four digits by a one-digit number and multiply two two-digit numbers. They work with four-digit dividends and one-digit divisors to find whole number quotients. Learners continue to use strategies based on place value and the properties of operations from grade 3 to multiply and divide, while illustrating and explaining their calculations using equations, rectangular arrays, and area models. Learners build on the work of the prior unit – solving word problems that involve multiplicative comparison – to solve multi-step word problems involving the four operations. They represent these problems using equations with variables and they use mental computation and appropriate estimation strategies to determine whether their answers are reasonable.

In second module of this unit, learners build upon their grade 3 understandings of fraction equivalence. In grade 3, learners determined fraction equivalence by comparing size or by locating fractions at the same point on the number line. They also recognized and generated simple equivalent fractions and used visual fraction models to illustrate their equivalence. Now in grade 4, learners compare the number of parts and the size of the parts when comparing two fractions that are the same size. They use this principle to recognize and generate equivalent fractions.

Unit 2 concludes as students develop understanding of adding and subtracting fractions as joining and separating parts that refer to the same whole. With this understanding in place, they then decompose fractions whose numerator is larger than into a sum of fractions and justify these decompositions with visual fraction models.

## Essential Questions

- How do we explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models?
- How do we use this principle to recognize and generate equivalent fractions?
- How to compare two fractions with different numerators and different denominators by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½?

- How do we understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$?
- How do we understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
- How do we understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$?
- How do we decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation?
- How do we justify decompositions, e.g., by using a visual fraction model?

## Standards

### Standards (Taught and Assessed):

**4.NF.A.1** Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

**4.NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or < .

**4.NF.B.3** Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$.

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

**4.NF.B.3** Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

**Key:** Major Cluster Supporting Cluster Additional Cluster

### Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills

- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

# Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|---|---|---|
| **4.NF.A.1 – WALT** explain how a fraction *a/b* is | Think about what I know/what I have learned | • Iready<br>Spiral Review | **Activities:** | **ELL:**Model and Provid<br>Exam Establish a |

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| × *a*)/ (*n* × *b*) by using visual fraction models<br><br>**4.NF.A.1 – WALT** understand that the number and size of the parts of equivalent fractions differ even though the two fractions are the same size<br><br>**4.NF.A.1 – WALT** recognize and generate equivalent fractions | • using visual fraction models appropriately<br>• when a denominator increases, the number of pieces it is divided into increases and the size of each piece decreases<br>• two fractions can be equivalent even though the numerators and denominators are different numerals<br>• how two fractions can be equivalent when the number of items in the sets they are describing is different<br>• determine when two fractions are equivalent<br>• explain and illustrate why fractions are equivalent or not equivalent<br>• generate equivalent fractions for a given fraction<br><br>**Essential Vocabulary:** | • Standards Assessment<br>• GO Math standards assessment | corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Equivalent Fractions - Includes a visual for Smart Board and a video lesson<br>• Fraction Bars - Equivalent fractions for Smart Board Viewing<br>• Learn Zillion - Understand and explain equivalent fractions using visual models<br>• Study Jams – Fraction Introduction (reteach/activate prior knowledge)<br>• Study Jams – Equivalent Fractions<br>• Virtual Nerd – 4.NF.A.1<br>• Khan Academy – Questions and Video Lessons<br>• Equivalent | students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | compare<br>denominator<br>equivalent<br>factors<br>fraction<br>numerator | | Equivalent Fractions<br>• Interactive Fraction Bars<br>• Fraction Bars<br>• Benchmark Fractions<br>• Equivalent Fractions | |
| **4.NF.A.2 – WALT** recognize that, when comparing two fractions, they must refer to the same whole<br><br>**4.NF.A.2 – WALT** record the results of comparison with symbols >, =, or <,<br><br>**4.NF.A.2 – WALT** compare two fractions with different numerators and different denominators by comparing to benchmark fraction such as ½<br><br>**4.NF.A.2 – WALT** compare two fractions with different numerators and different denominators by creating common denominators and numerators | Think about what I know/what I have learned about:<br>• how to use fraction models to show equivalent fractions<br>• how to create equivalent fractions<br>• larger the denominator, the smaller the partitions of the whole<br>• comparisons of fractions are only valid if the whole is the same size<br>• use a variety of strategies to compare fractions<br>• record the result of the comparison using symbols >, =, or <, and justify my conclusions | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Fraction Bars – Equivalent fractions for Smart Board Viewing to Compare<br>• Comparing & Ordering Fractions<br>• Learn Zillion - Compare fractions by creating common denominators or numerators | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | compare<br>denominator<br>equivalent<br>factors<br>fraction<br>numerator | | fractions and mixed numbers<br>• Study Jams – Ordering fractions and decimals<br>• Virtual Nerd – 4.NF.A.2<br>• Khan Academy – Questions and Video Lessons<br>• Benchmark fractions<br>• Compare fractions using benchmarks<br>• Compare fractions<br>• Order fractions<br>• Compare sums and differences of fractions<br>• Fraction Bars<br>• Benchmark Fraction Bars<br>• Comparing & Ordering Fractions<br>• Comparing Fractions - 9 page PDF<br>• Fractions - Covers several areas of fractions | |
| **4.NF.B.3a – WALT** addition of fractions can be thought of as joining parts that refer to the same whole<br><br>**4.NF.B.3a – WALT** | Think about what I know/what I have learned about:<br>• fraction is an expression of a whole divided into | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary. |

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| be thought of as separating parts that refer to the same whole | • denominator represents the whole that has been divided into EQUAL sized pieces<br>• fractions are made up of smaller fractions and can be decomposed<br>• fractions can be composed and decomposed<br>• use visual models to decompose a fraction. For example, 7/12 = 4/12 + 1/12 + 1/12 + 1/12<br>• justify and record the decomposition of a fraction in more than one way<br>• use models to add and subtract fractions<br>• add or subtract mixed numbers<br>• solve word problems with fractions<br><br>**Essential Vocabulary:**<br><br>compose<br>decompose<br>denominator<br>fraction | | • Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Fraction Bars – Equivalent fractions for Smart Board Viewing<br>• Decomposing Whole Numbers - Important review/background for concept<br>• Learn Zillion – Understand and explain equivalent fractions using visual models<br>• Virtual Nerd - Understand a fraction a/b with a > 1 as a sum of fractions 1/b<br>• Study Jams – Add & Subtract fractions with same denominator<br>• Khan Academy – Questions and Video Lessons<br>• Add fractions with like denominators using number lines<br>• Subtract fractions with like denominators using number lines<br>• Add and subtract | activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | whole<br>justify | | number lines<br>• Add and subtract fractions with like denominators<br>• Compare sums and differences of fractions with like denominators<br>• Add 3 or more fractions with like denominators<br>• Compare sums of unit fractions<br>• Compare differences of unit fractions<br>• Compare sums and differences of unit fractions<br>• Decompose fractions into unit fractions<br>• Decompose fractions<br>• Decompose fractions multiple ways<br>• Add and subtract fractions with like denominators<br>• Add 3 or more fractions with like denominators<br>• Decompose Fractions<br>• Adding Subtracting Fractions Like Denominators | |

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| | | | Fractions Like Denominators<br>• Fraction Bars<br>• Benchmark Fraction Strips<br>• Decompose Whole Numbers - Teaching decomposing starts with whole numbers<br>• Decompose Fractions<br>• Adding Fractions/Subtracting Fractions - Like Denominator<br>• Adding Fractions/Subtracting Fractions - Unlike Denominator | |
| **4.NF.B.3b – WALT** decompose a fraction, in multiple ways, into a sum of fractions that have the same denominator<br><br>**4.NF.B.3b – WALT** record each decomposition by an equation<br><br>**4.NF.B.3b – WALT** justify decompositions using visual fraction models | Think about what I know/what I have learned about:<br>• a fraction is an expression of a whole divided into parts<br>• denominator represents the whole that has been divided into EQUAL sized pieces<br>• fractions are made | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Fraction Bars – Equivalent fractions | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a |

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| | fractions and can be decomposed<br>• fractions can be composed and decomposed<br>• use visual models to decompose a fraction. For example, 7/12 = 4/12 + 1/12 + 1/12 + 1/12<br>• justify and record the decomposition of a fraction in more than one way<br>• models to add and subtract fractions<br>• add or subtract mixed numbers<br>• solve word problems with fractions<br><br>**Essential Vocabulary:**<br><br>compose<br>decompose<br>denominator<br>fraction<br>numerator<br>parts<br>whole<br>justify | | • Decomposing Whole Numbers - Important review/background for concept<br>• Learn Zillion – Understand and explain equivalent fractions using visual models<br>• Virtual Nerd - Understand a fraction a/b with a > 1 as a sum of fractions 1/b<br>• Study Jams – Add & Subtract fractions with same denominator<br>• Khan Academy – Questions and Video Lessons<br>• Add fractions with like denominators using number lines<br>• Subtract fractions with like denominators using number lines<br>• Add and subtract fractions with like denominators using number lines<br>• Add and subtract fractions with like denominators<br>• Compare sums and differences of | **IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | denominators<br>• Add 3 or more fractions with like denominators<br>• Compare sums of unit fractions<br>• Compare differences of unit fractions<br>• Compare sums and differences of unit fractions<br>• Decompose fractions into unit fractions<br>• Decompose fractions<br>• Decompose fractions multiple ways<br>• Add and subtract fractions with like denominators<br>• Add 3 or more fractions with like denominators<br>• Decompose Fractions<br>• Adding Subtracting Fractions Like Denominators<br>• Adding Subtracting Fractions Like Denominators<br>• Fraction Bars<br>• Benchmark Fraction Strips<br>• Decompose Whole | |

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| | | | Teaching decomposing starts with whole numbers<br>• Decompose Fractions<br>• Adding Fractions/Subtracting Fractions - Like Denominator<br>• Adding Fractions/Subtracting Fractions - Unlike Denominator | |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
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|---|---|
| *Ed-Connect*<br>*District Grade Level Created* | dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| **Summative Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failur 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| Interdisciplinary Connections | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# CAR Unit 3 - Module A

## Unit Title: Mathematics – Building Fractions & Decimal Notation –

**Grade level: Grade 4**

**~~Timeframe: 3rd Marking Period~~**

## Rationale

*Grade 4 – Building Fractions & Decimal Notation – Unit 3*

The focus of Unit 3 is early operations with fractions. Learners add and subtract fractions with like denominators. They solve word problems involving both addition and subtraction of fractions, including fractions data gathered from line plots. Learners multiply fractions by whole numbers and understand that fractions that are not unit fractions are multiples of some basic unit fraction. As with earlier grades, learners continue to model their fractions understanding with visual fraction models .

Previous understandings of fraction equivalence are extended to express a fraction with denominator 10 as an equivalent fraction with denominator 100. Learners use this technique to add two fractions with respective denominators 10 and 100, use decimal notation for fractions with these two denominators, and compare two decimals. The unit concludes as learners revisit solving multistep word problems posed with whole numbers and use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. These problems include those involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

## Essential Questions

- How a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$?
- How a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$?
- How to make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛)?
- How to Solve problems involving addition and subtraction of fractions by using information presented in line plots?
- How to apply and extend previous understandings of multiplication to multiply a fraction by a whole number?

## Standards

**4.NF.B.3** Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$.

c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

**4.NF.B.3** Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$.

d. Solve word problems involving addition and subtraction of fractions, referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

**4.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction $a/b$ as a multiple of $1/b$. *For example, use a visual fraction model to represent 5/4 as the product 5 × (¼), recording the conclusion by the equation 5/4 = 5 × (1/4).*

**4.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

b. Understand a multiple of $a/b$ as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5.*
*(In general, n × (a/b) = (n × a)/b.)*

**4.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

**Key:** Major Cluster Supporting Cluster Additional Cluster

## Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems a[illegible] rsevere in solving them

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

# Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
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| **4.NF.B.3c – WALT** add and subtract mixed numbers with like denominators | Think about what I know/what I have learned about: | • Iready<br>• Spiral Review<br>• Do Now<br>Standards | **Activities:**<br><br>• Complete corresponding GO | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire studer[illegible]vhen not on |

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| **4.NF.B.3c – WALT** add and subtract mixed numbers with like denominators | fractions<br>• the properties of operations to solve addition and subtraction problems involving mixed numbers with like denominators<br>• whole number addition and subtraction to solve problems with mixed numbers<br>• adding and subtracting fractions to solve problems with mixed numbers<br>• mixed numbers can be combined or separated (composed and decomposed)<br>• a variety of strategies for adding and subtracting mixed numbers<br>• mixed numbers can be combined or separated (composed and decomposed)<br><br>**Essential Vocabulary:**<br><br>improper fraction | • GO Math standards assessment | hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Add and subtract mixed numbers with like denominators<br>• Virtual Nerd - Understand a fraction a/b with a > 1 as a sum of fractions 1/b<br>• Study Jams - Adding and Subtract mixed numbers<br>• Khan Academy – Questions and Video Lessons<br>• Add and subtract mixed numbers with like denominators<br>• Adding Subtracting Mixed Numbers<br>• Fraction Bars<br>• Benchmark Fraction Strips<br>• Adding Subtracting Mixed Numbers | bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| **4.NF.B.3d – WALT** solve word problems involving addition and subtraction of fractions that refer to the same whole and have like denominators using visual fraction models<br><br>**4.NF.B.3d – WALT** solve word problems involving addition and subtraction of fractions that refer to the same whole and have like denominators using equations to represent the problem | Think about what I know/what I have learned about:<br><br>• create an equation with fractions to represent a word problem<br>• solve word problems involving fractions with like denominators<br>• creating visual fraction models to solve a word problem<br>• the strategies for solving addition and subtraction problems with fractions with like denominators (e.g., visual fraction models, using the properties of addition, drawings, objects, etc.)<br>• use what I know about addition and subtraction with whole numbers and apply it to fractions<br>• add or subtract fractions that have like denominators to solve the equation for a word | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Fraction Word Problems<br>• Learn Zillion - Solve word problems involving addition and subtraction of fractions with like denominators<br>• Virtual Nerd - Solve word problems involving addition and subtraction of fractions<br>• Khan Academy – Questions and Video Lessons<br>• Add and subtract fractions with like denominators: word problems<br>• Add and subtract fractions with like | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | **Essential Vocabulary:**<br><br>strategies | | • Fraction Word Problems<br>• Fraction Bars<br>• Benchmark Fraction Strips<br>• Problem Solving Guide - graphic organizer for word problems<br>• Fraction Word Problems | |
| **4.MD.B.4 - WALT** make a line plot to display a data set of measurements using unit fractions (½, ¼, ⅛)<br><br>**4.MD.B.4 - WALT** use data presented in line plots to solve problems involving addition and subtraction of fractions. | Think about what I know/what I have learned about:<br><br>• adding fractions using information presented in line plots<br>• subtract fractions using information presented in line plots<br>• measure objects to 1/8 of a unit<br>• how to make a line plot<br>• represent a data set on a line plot<br>• add and subtract fractions based on the information represented on the line plot<br><br>**Essential Vocabulary:** | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Line Plots<br>• Learn Zillion – Create line plots to display data and use line plots to solve problems<br>• Study Jams – Line Plots<br>• Khan Academy – Questions and Video Lessons<br>• Interpret line plots<br>• Create line plots | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | line plot | | | |
| **4.NF.B.4a – WALT** a fraction *a/b* is a multiple of 1/*b* | Think about what I know/what I have learned about:<br>• multiplication is repeated addition<br>• adding unit fractions is the same as multiplying a unit fraction by a whole number<br>• how a fraction is a multiple of another fraction using models, drawings, or equations | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Multiplying Fractions - Various Lessons<br>• Learn Zillion – Understand multiplication of fractions by whole numbers<br>• Virtual Nerd - Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.<br>• Khan Academy – Questions and Video Lessons<br>• Multiply unit | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | number lines<br>• Multiply unit fractions and whole numbers: sorting<br>• Multiply unit fractions by whole numbers<br>• Multiply fractions by whole numbers using number lines<br>• Multiply fractions and whole numbers: sorting<br>• Multiply fractions by whole numbers<br>• Multiply unit fractions by whole numbers: word problems<br>• Multiply fractions by whole numbers: word problems<br>• Multiply fractions and mixed numbers by whole numbers in recipes<br>• Multiply Fractions | |
| **4.NF.B.4b – WALT** a multiple of *a*/*b* is also a multiple of 1/*b* using a visual fraction model | Think about what I know/what I have learned about:<br>• multiplication is repeated addition.<br>• adding unit fractions is the same as multiplying a unit fraction by a | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br>**Online Resources:** | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br>**GT:**Provide enrichmen activities to expand upo the cur[illegible]ulum.Use |

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| | • how a fraction is a multiple of another fraction using models, drawings, or equations | | • Nearpod Lessons<br>• Multiplying Fractions - Various Lessons<br>• Learn Zillion – Understand multiplication of fractions by whole numbers<br>• Virtual Nerd - Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.<br>• Khan Academy – Questions and Video Lessons<br>• Multiply unit fractions by whole numbers using number lines<br>• Multiply unit fractions and whole numbers: sorting<br>• Multiply unit fractions by whole numbers<br>• Multiply fractions by whole numbers using number lines<br>• Multiply fractions and whole numbers: sorting<br>• Multiply fractions by whole numbers | techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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|---|---|---|---|---|
| | | | fractions by whole numbers: word problems<br>• Multiply fractions by whole numbers: word problems<br>• Multiply fractions and mixed numbers by whole numbers in recipes<br>• Multiply Fractions | |
| **4.NF.B.4b – WALT** multiply a fraction by a whole number by using the idea that *a/b* is a multiple of 1/*b* ** | | | | |
| **4.NF.B.4c – WALT** solve word problems involving multiplication of a fraction by a whole number, using fraction models and equations to represent the problem | Think about what I know/what I have learned about:<br>• multiplication is repeated addition<br>• adding unit fractions is the same as multiplying a unit fraction by a whole number<br>• how a fraction is a multiple of another fraction using models, drawings, or equations | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br>**Online Resources:**<br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Multiplying Fractions - Various Lessons<br>• Learn Zillion – Understand multiplication of fractions by whole | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br>**At risk:**Individualized a needed<br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | • Virtual Nerd - Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.<br>• Khan Academy – Questions and Video Lessons<br>• Multiply unit fractions by whole numbers using number lines<br>• Multiply unit fractions and whole numbers: sorting<br>• Multiply unit fractions by whole numbers<br>• Multiply fractions by whole numbers using number lines<br>• Multiply fractions and whole numbers: sorting<br>• Multiply fractions by whole numbers<br>• Multiply unit fractions by whole numbers: word problems<br>• Multiply fractions by whole numbers: word problems<br>• Multiply fractions and mixed numbers | |

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| | | | in recipes<br>• Multiply Fractions | |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**nmative Assessments (add rows as needed)**

| | 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# CAR Unit 3 - Module B

## Unit Title: Mathematics – Building Fractions & Decimal Notation –

**Grade level: Grade 4**
**Timeframe: 3rd Marking Period**

## Rationale

*Grade 4 – Building Fractions & Decimal Notation – Unit 3*

The focus of Unit 3 is early operations with fractions. Learners add and subtract fractions with like denominators. They solve word problems involving both addition and subtraction of fractions, including fractions data gathered from line plots. Learners multiply fractions by whole numbers and understand that fractions that are not unit fractions are multiples of some basic unit fraction. As with earlier grades, learners continue to model their fractions understanding with visual fraction models .

Previous understandings of fraction equivalence are extended to express a fraction with denominator 10 as an equivalent fraction with denominator 100. Learners use this technique to add two fractions with respective denominators 10 and 100, use decimal notation for fractions with these two denominators, and compare two decimals. The unit concludes as learners revisit solving multistep word problems posed with whole numbers and use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. These problems include those involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

## Essential Questions

- How do we express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100?
- How do we use decimal notation for fractions with denominators 10 or 100?
- How do we compare two decimals to hundredths by reasoning about their size.
- How do we recognize that comparisons are valid only when the two decimals refer to the same whole?
- How do we record the results of comparisons with the symbols >, =, or <?
- How do we know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; *l*, ml; hr, min, sec. within a single system of measurement, express measurements in a larger unit in terms of a smaller unit?
- How do we record measurement equivalents in a two-column table?

unit in terms of a smaller unit?

- How do we represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale?
- How do we represent fluently add and subtract multi-digit whole numbers using the standard algorithm?
- How do we solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted?
- How do we represent these problems using equations with a letter standing for the unknown quantity?
- How do we assess the reasonableness of answers using mental computation and estimation strategies including rounding?

## Standards

### Standards (Taught and Assessed):

**4.NF.C.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*

**4.NF.C.6** Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

**4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <.

**4.MD.A.1** Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; *l*, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*

**4.MD.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

**Key**: Major Cluster Supporting Cluster Additional Cluster

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

## Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
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| **4.NF.C.5 – WALT** express a fraction with denominator of 10 as an equivalent fraction that has a denominator of 100<br><br>**4.NF.C.5 – WALT** add two fractions, one with a denominator of 10 and one with a denominator of 100, by writing each fraction as a fraction with denominator 100** | Think about what I know/what I have learned about:<br><br>• decimals can be written as fractions and fractions can be written as decimals<br>• fractions with a denominator *10* or *100* are called *decimal fractions*<br>• generate equivalent decimal fractions<br>• properly name fractions and decimals (e.g., 7/10 and .7 are "seven tenths")<br>• add fractions with like denominators<br>• add decimal fractions<br>• fractions with a denominator *10* or *100* are called *decimal fractions*<br>• write decimal fractions as decimals in a variety of situations | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - 4.NF.C.5 - Express fractions with a denominator of 10 as equivalent to fractions with denominators of 100<br>• Khan Academy – Questions and Video Lessons<br>• Fractions with denominators of 10, 100, and 1000<br>• Add up to 4 fractions with denominators of 10 and 100 | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | fractions using a variety of models<br><br>**Essential Vocabulary:**<br><br>decimal fraction<br>hundredths<br>tenths<br>convert | | fractions with denominators of 10, 100, and 1000<br>• Graph decimals on number lines<br>• Graph fractions as decimals on number lines<br>• Convert decimals between standard and expanded form using fractions<br>• Convert fractions and mixed numbers to decimals<br>• Convert decimals to fractions and mixed numbers<br>• Decimals & Fractions<br>• Study Jams – Place values for decimals | |
| **4.NF.C.6 – WALT** use decimal notation for fractions with denominators 10 or 100 ** | Think about what I know/what I have learned about:<br><br>• decimals can be written as fractions and fractions can be written as decimals.<br>• fractions with a denominator 10 or 100 are called decimal fractions.<br>• generate equivalent | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments. |

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| | fractions and decimals (e.g., 7/10 and .7 are "seven tenths")<br>• add fractions with like denominators<br>• add decimal fractions<br>• fractions with a denominator 10 or 100 are called decimal fractions<br>• write decimal fractions as decimals in a variety of situations<br>• understand decimal fractions using a variety of models<br><br>**Essential Vocabulary:**<br><br>decimal fraction<br>hundredths<br>tenths<br>convert | | notation for fractions with denominators 10 or 100<br>• Virtual Nerd - 4.NF.C.6 - Express a fraction with denominator 10 as an equivalent fraction with denominator 100<br>• Virtual Nerd - 4.NF.C.6 - Decimal notation for fractions with denominators 10 or 100.<br>• Study Jams – Place values for decimals | needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |
| **4.NF.C.7 – WALT** compare two decimals to hundredths by reasoning about their size.<br><br>**4.NF.C.7 – WALT** recognize that comparisons are valid only when the two decimals refer to the same whole and to record the results of comparisons with the symbols >, =, or < | Think about what I know/what I have learned about:<br><br>• read and write decimals through the hundredths<br>• comparisons are valid when the two decimals refer to the same whole<br>• compare two | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and |

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| | reasoning about their size<br>• justify conclusions about the comparison of decimals using visual models and other methods<br>• relate a decimal to a whole number<br>• use what I know about fractions to help me compare decimals<br><br>**Essential Vocabulary:**<br><br>comparison symbols (<, >, =)<br>decimals<br>hundredths<br>tenths<br>visual models for decimals (grid paper, number line, base ten blocks etc.)<br>whole | | Compare two decimals to hundredths by reasoning about their size<br>• Virtual Nerd - Comparing decimals<br>• Study Jams – Comparing decimals on a number line<br>• Khan Academy – Questions and Video Lessons<br>• Compare money amounts<br>• Compare decimals on number lines<br>• Compare decimal numbers<br>• Put decimal numbers in order<br>• Put tricky decimals in order<br>• Compare fractions and decimals on number lines<br>• Comparing Decimals | **At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |
| **4.MD.A.1 – WALT** know relative sizes of measurement units within one system of units | Think about what I know/what I have learned about: | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards | **Activities:**<br><br>• Complete corresponding GO | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on |

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| sec.<br><br>**4.MD.A.1 – WALT** express measurements in larger units in terms of a smaller unit within a single system of measurement<br><br>**4.MD.A.1 – WALT** record measurement equivalents in a two-column table** | measurement<br>• relative sizes of measurement units within one system of units<br>• length is measured with meters (m), kilometers (km), centimeters (cm), millimeters (mm), inches (in), feet (ft)<br>• volume is measured with liters (l), milliliters (ml)<br>• mass is measured with grams (g), kilograms (kg), ounces (oz), pounds (lb)<br>• time is measured with hours (hr), minutes (min), and seconds (sec)<br>• reason about the measure of objects using benchmarks and mental images of the sizes of measurement units<br>• express and record larger units in terms of smaller units<br>• record measurement equivalencies in a two-column table<br><br>**Essential Vocabulary:** | assessment | hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Study Jams - Units of Measurement<br>• Study Jams - US Customary Units of Measurement<br>• Study Jams - Tools of Measurement<br>• Study Jams - Measurement of Length<br>• Study Jams - Measurement of Temperature<br>• Study Jams - Time Conversions<br>• Learn Zillion - Know relative sizes of measurement units<br>• Virtual Nerd - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.<br>• Khan Academy – Questions and Video Lessons<br>• Which customary | **GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | centimeter (cm.)<br>convert<br>customary system<br>equivalent<br>estimate<br>gram (g.)<br>kilogram (kg.)<br>kilometer (km.)<br>liter (l.)<br>meter (m.)<br>metric system<br>millimeter (ml.)<br>minute (min.)<br>ounce (oz.)<br>pound (lb.)<br>second (sec.)<br>system of measurement<br>two-column table<br>unit | | convert customary units of length<br>• Compare and convert customary units of weight<br>• Compare and convert customary units of volume<br>• Compare and convert customary units<br>• Conversion tables - customary units<br>• Which metric unit is appropriate?<br>• Compare and convert metric units of length<br>• Compare and convert metric units of weight<br>• Compare and convert metric units of volume<br>• Compare and convert metric units<br>• Conversion tables - metric units<br>• Convert mixed customary units<br>• Convert time units<br>• Fractions of time units<br>• Measurement Conversions | |
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| distances, intervals of time, liquid volumes, masses of objects, and money, using the four operations<br><br>**4.MD.A.2 – WALT** solve word problems involving measurement that includes simple fractions or decimals, using the four operations<br><br>**4.MD.A.2 – WALT** solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit, using the four operations<br><br>**4.MD.A.2 – WALT** represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale | about:<br><br>• different ways we can display measurements<br>• different tools and strategies that you can use to solve measurement problems<br>• measurement concepts helps us communicate mathematically and make sense of real-life situations<br>• use +, -, x, and ÷ to solve word problems<br>• solve measurement word problems that include whole numbers, fractions, and decimals<br>• convert larger units into equivalent smaller units to solve a problem<br><br>**Essential Vocabulary:**<br><br>convert<br>distance<br>intervals<br>mass<br>measurement | • Do Now<br>• Standards Assessment<br>• GO Math standards assessment | • Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion – Solve word problems involving the conversion of measurement data<br>• *The lessons below come from Standard 4.MD.A.1, but are useful for 4.MD.A.2 if not viewed yet.<br>• Virtual Nerd – Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.<br>• Study Jams – Units of Measurement<br>• Study Jams – US Customary Units of Measurement<br>• Study Jams – Tools of Measurement | non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | scale<br>volume | | Length<br>• Study Jams – Measurement of Temperature<br>• Khan Academy – Questions and Video Lessons<br>• Making change<br>• Price lists with addition and subtraction<br>• Price lists with multiplication<br>• Unit prices<br>• Add and subtract mixed customary units<br>• Add and subtract mixed time units<br>• Elapsed time<br>• Elapsed time: word problems<br>• Find start and end times: multi-step word problems<br>• Add and subtract fractions with unlike denominators in recipes<br>• Solve decimal problems using diagrams<br>• Measurement Word Problems | |

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| using the standard algorithm, working towards accuracy and efficiency<br><br>**4.NBT.B.4 – WALT**<br>subtract multi-digit whole numbers using the standard algorithm, working towards accuracy and efficiency | about:<br><br>• basic addition facts<br>• basic subtraction facts<br>• add with regrouping<br>• subtract with regrouping<br>• base ten system works<br>• connect the standard algorithm for addition and subtraction to strategies based on place value and/or non-standard algorithms<br>• how and why the standard algorithm for addition and subtraction works<br>• check my answer for reasonableness<br>• add or subtract using the standard algorithm<br><br>**Essential Vocabulary:**<br><br>addition<br>algorithm<br>difference<br>inverse operation<br>regrouping<br>standard algorithm<br>subtraction | • Do Now<br>• Standards Assessment<br>• GO Math standards assessment | • Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Adding & Subtracting<br>• Study Jams - Adding & Subtracting<br>• Study Jams – Adding<br>• Study Jams – Subtracting<br>• Virtual Nerd - Adding & Subtracting<br>• Khan Academy – Questions and Video Lessons<br>• Add Numbers up to Millions<br>• Add Numbers up to Millions: Word Problems<br>• Addition: Fill in the Missing Digits<br>• Add 3 or More Numbers up to Millions<br>• Choose Numbers | non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | • Subtract Numbers up to Millions<br>• Subtract Numbers up to Millions: Word Problems<br>• Subtraction: Fill in the Missing digits<br>• Choose Numbers with a Particular Difference<br>• Addition and Subtraction - Single & Multi-Digit<br>• Addition<br>• Subtraction | |
| **4.OA.A.3 – WALT** solve multi-step whole number word problems that have whole number answers, including problems in which remainders must be interpreted<br><br>**4.OA.A.3 – WALT** represent these problems using equations with a letter standing for the unknown quantity<br><br>**4.OA.A.3 – WALT** assess the reasonableness of answers using mental computation, estimation strategies, and rounding | Think about what I know/what I have learned about:<br><br>• estimation strategies<br>• mental math strategies<br>• a letter represents an unknown quantity<br>• multi-step word problems using equations and a symbol for the unknown<br>• interpret multi-step word problems and determine the appropriate operation to solve | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• 4.OA.A.3 Lesson A - Includes printable classwork and homework<br>• 4.OA.A.3 Lesson B - Includes printable classwork and homework | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | estimation to determine the reasonableness of an answer<br>• interpret a remainder based on the context of a problem | | Answers<br>• Learn Zillion Video Lessons<br>• Study Jams - Word Problems to Equations<br>• Study Jams - Reasonableness & Estimation<br>• Study Jams - Equations & Word Problems<br>• Khan Academy - Questions and Video Lessons<br>• Multi-Step Word Problems<br>• Multi-Step Word Problems & Video Lessons<br>• Multi-Step Word Problems with Estimating - Upper Level<br>• Multi-Step Word Problems I<br>• Multi-Step Word Problems II<br>• 4.0A.A.3 Worksheets | |

**Benchmark Assessment 1**

| **nchmark Assessment** | **Modifications (ELL, Special Education, Gifted, A** | **'sk of Failure** |
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| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| **Benchmark Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| **Summative Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments. |

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| | **IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failur 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# CAR Unit 4 - Module A

## Unit Title: Mathematics – Geometry and Measurement –

**Grade level: Grade 4**
**Timeframe: 4th Marking Period**

## Rationale

*Grade 4 – Geometry and Measurement – Unit 4*

In this final unit, learners build, draw, and analyze two-dimensional shapes to deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry. They identify key parts of figures such as parallel lines, perpendicular lines, points, line segments, and right angles. Learners recognize angles as geometric shapes formed by two rays, understand concepts of angle measurement, and measure angles using protractors. They sketch angles and use the understanding that angle measure is additive to create and solve equations to find unknown angle measures.

## Essential Questions

- How do we draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines?
- How do we identify these in two-dimensional figures?
- How do we classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size?
- How do we recognize right triangles as a category, and identify right triangles?
- How do we recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts?
- How do we identify line-symmetric figures and draw lines of symmetry?

## Standards

**Standards (Taught and Assessed):**

dimensional figures.

**4.G.A.2** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

**4.G.A.3** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

**Key:** Major Cluster Supporting Cluster Additional Cluster

## Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

# Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual |

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| | **GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and Resources (add rows as needed)**

| **SLO – WALT**<br><br>**We are learning to/that** | **Student Strategies** | **Formative Assessment** | **Activities and Resources** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
|---|---|---|---|---|
| **4.G.A.1 – WALT** draw points, lines, line segments, rays, right angles, acute angles, obtuse angles, perpendicular lines and parallel lines<br><br>**4.G.A.1 – WALT** identify points, lines, line segments, rays, right angles, acute angles, obtuse angles, perpendicular lines and parallel lines in two-dimensional figures | Think about what I know/what I have learned abou:<br><br>• difference between a line, a line segment, and a ray<br>• definitions of and can draw and describe the following geometric terms:<br>1. Points<br>2. Lines (parallel and perpendicular)<br>3. Line segments<br>4. Rays<br>5. Angles (right, acute, obtuse and straight)<br>• must know and be able to identify the | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Points,Lines, Angles<br>• Classify Two-Dimensional & Right Angles<br>• Learn Zillion – Draw and identify points, lines, rays, and angles | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | perpendicular)<br>2. Angles (acute, obtuse, and right)<br>3. Triangles (acute, obtuse, and right)<br>• know and be able to identify the following (taught in previous grades):<br>1. Cube<br>2. Half/Quarter Circle<br>3. Hexagon<br>4. Pentagon<br>5. Polygon<br>6. Quadrilateral<br>7. Rectangle<br>8. Rhombus/Rhombi<br>9. Square<br>10. Trapezoid<br>11. Triangle<br><br>**Essential Vocabulary:**<br><br>acute angle<br>angles (right, obtuse, acute and straight)<br>degrees<br>line segment<br>obtuse angle<br>parallel lines<br>perpendicular lines<br>point<br>ray<br>right angle<br>straight angle<br>classify<br>two-dimensional | | dimensional shapes, including right triangles, using their properties<br>• Virtual Nerd - 4.G.A.2<br>• Virtual Nerd - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.<br>• Study Jams – Types of Lines<br>• Khan Academy – Questions and Video Lessons<br>• Acute, right, obtuse, and straight angles<br>• Lines, line segments, and rays<br>• Parallel, perpendicular, intersecting<br>• Identify 2-dimensional and 3-dimensional shapes<br>• Classify triangles by angles<br>• Which 2-dimensional shape is being described?<br>• Classify | |

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| | | | • Points,Lines, Angles<br>• Classify Two-Dimensional & Right Angles | |
| **4.G.A.2 – WALT** classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines<br><br>**4.G.A.2 – WALT** classify two-dimensional figures based on the presence or absence of angles of a specified size<br><br>**4.G.A.2 – WALT** identify right triangles and recognize right triangles as a category | Think about what I know/what I have learned about:<br><br>• definitions of and can draw and describe the following geometric terms:<br>1. Points<br>2. Lines (parallel and perpendicular)<br>3. Line segments<br>4. Rays<br>5. Angles (right, acute, obtuse and straight)<br>• explain the difference between a line, a line segment, and a ray<br>• know and be able to identify the following:<br>1. Lines (parallel and perpendicular)<br>2. Angles (acute, obtuse, and right)<br>3. Triangles (acute, obtuse, and right)<br>• know and be able to identify the | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Points,Lines, Angles<br>• Classify Two-Dimensional & Right Angles<br>• Learn Zillion – Draw and identify points, lines, rays, and angles<br>• Learn Zillion – Classify two-dimensional shapes, including right triangles, using their properties<br>• Virtual Nerd - 4.G.A.2<br>• Virtual Nerd - Draw points, lines, | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | previous grades):<br>1. Cube<br>2. Half/Quarter Circle<br>3. Hexagon<br>4. Pentagon<br>5. Polygon<br>6. Quadrilateral<br>7. Rectangle<br>8. Rhombus/Rhombi<br>9. Square<br>10. Trapezoid<br>11. Triangle<br><br>**Essential Vocabulary:**<br><br>acute angle<br>angles (right, obtuse, acute and straight)<br>degrees<br>line segment<br>obtuse angle<br>parallel lines<br>perpendicular lines<br>point<br>ray<br>right angle<br>straight angle<br>classify<br>two-dimensional<br>triangle (acute, obtuse, right) | | obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.<br>• Study Jams – Types of Lines<br>• Khan Academy – Questions and Video Lessons<br>• Acute, right, obtuse, and straight angles<br>• Lines, line segments, and rays<br>• Parallel, perpendicular, intersecting<br>• Identify 2-dimensional and 3-dimensional shapes<br>• Classify triangles by angles<br>• Which 2-dimensional shape is being described?<br>• Classify quadrilaterals<br>• Points,Lines, Angles<br>• Classify Two-Dimensional & Right Angles | |
| **4.G.A.3 – WALT** a line of ·mmetry is a line across | Think about what I know/what I have learned | • Iready Spiral Review | **Activities:** | **ELL:**Model and Provid Examr' Establish a |

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| **4.G.A.3 – WALT** recognize a line of symmetry<br><br>**4.G.A.3 – WALT** identify line-symmetric figures and draw lines of symmetry | • a figure is symmetric when it can be divided by at least one line into two congruent parts where the two parts are mirror images of one another<br>• a line of symmetry is a line on which a figure can be folded so the two parts match exactly<br>• a figure can have more than one line of symmetry<br>• a figure with at least one line of symmetry is symmetric<br>• identify shapes that are symmetric<br>• categorize two-dimensional figures as line-symmetric and non-line-symmetric<br>• draw in the line(s) of symmetry for line-symmetric shapes<br>• explain why a given shape is non-line-symmetric<br><br>**Essential Vocabulary:**<br><br>line of symmetry | Assessment<br>• GO Math standards assessment | Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Symmetry<br>• Lines of Symmetry<br>• Learn Zillion – Recognize and draw lines of symmetry and line-symmetric figures<br>• Study Jams - Line of Symmetry<br>• Khan Academy – Questions and Video Lessons<br>• Lines of symmetry<br>• Symmetry | task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| Summative Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready* | **ELL:**Model and Provide Example. Establish a non-verbal cue to |

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| *Ed-Connect*<br>*District Grade Level Created* | dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| **Interdisciplinary Connections** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

# CAR Unit 4 - Module B

## Unit Title: Mathematics – Geometry and Measurement –

**Grade level: Grade 4**
**Timeframe: 4th Marking Period**

## Rationale

*Grade 4 – Geometry and Measurement – Unit 4*

In this final unit, learners build, draw, and analyze two-dimensional shapes to deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry. They identify key parts of figures such as parallel lines, perpendicular lines, points, line segments, and right angles. Learners recognize angles as geometric shapes formed by two rays, understand concepts of angle measurement, and measure angles using protractors. They sketch angles and use the understanding that angle measure is additive to create and solve equations to find unknown angle measures.

## Essential Questions

- How do we recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement?
- How do we measure angles in whole-number degrees using a protractor?
- How do we sketch angles of specified measure?
- How do we recognize angle measure as additive?
- How do we solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted?
- How do we represent these problems using equations with a letter standing for the unknown quantity?
- How do we assess the reasonableness of answers using mental computation and estimation strategies including rounding?
- How do we fluently add and subtract multi-digit whole numbers using the standard algorithm?

## Standards

**Standards (Taught and Assessed):**

a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one degree angle," and can be used to measure angles.

b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

**4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

**4.MD.C.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

**4.OA.A.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

**4.NBT.B.4** Fluently add and subtract multi-digit whole numbers using the standard algorithm.

**Key**: Major Cluster Supporting Cluster Additional Cluster

## Highlighted Career Ready Practices and 21st Century Themes/Skills

- 9.1.4.A.1 Recognize a problem and brainstorm ways to solve the problem individually or collaboratively.
- 9.1.4.A.2 Evaluate available resources that can assist in solving problems.
- 9.1.4.A.5 Apply critical thinking and problem-solving skills in classroom and family settings.
- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.

- CRP11. Use technology to enhance productivity.

## Social-Emotional Learning Competencies

- Self-Awareness
- Self-Management
- Relationship Skills
- Responsible Decision-Making

# Instructional Plan

**Pre-Assessment and Reflection**

| Pre-Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Student Learning Objectives (SLO), Strategies, Formative Assessment, Activities and**

**Resources (add rows as needed)**

| SLO – WALT<br><br>We are learning to/that | Student Strategies | Formative Assessment | Activities and Resources | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|---|---|---|
| **4.MD.C.5 – WALT** recognize angles as geometric shapes that are formed wherever two rays share a common endpoint<br><br>**4.MD.C.5 – WALT** angles are measured in degrees | Think about what I know/what I have learned about:<br><br>• angle is the union of two rays with the same initial point<br>• angles are measured with | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:** | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activit 'o expand upo |

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| **4.MD.C.5a – WALT** an angle is measured by considering the fraction of the circular arc that is between the two points where the two rays intersect the circle<br><br>**4.MD.C.5a – WALT** a "one degree angle" is defined as 1/360 of the entire circle<br><br>**4.MD.C.5b – WALT** one degree angles can be used to measure angles | common endpoint of the rays<br>• the unit of measure for angles is degrees<br>• full rotation from the center of a circle is 360 degrees<br>• an angle that turns through 1/360 degree is called a "one degree" angle<br>• "one degree" angle can be used to measure angles<br>• measure an angle using a protractor<br>• sketch angles when given a measurement<br>• use a protractor to create a give angle<br>• an angle is the union of two rays with the same initial point<br>• angles are measured with reference to a circle with its center at a common endpoint of the rays<br>• an angle that turns counterclockwise through "n" one-degree angles has a measure of "n" | • ThinkCentral.com<br>• Nearpod Lessons<br>• Measuring Angles<br>• Learning Zillion<br>• Virtual Nerd – Angles<br>• Virtual Nerd – Degrees<br>• Study Jams – Review: Types of Lines<br>• Study Jams – Review: Classify Angles<br>• Study Jams – Construct Angles<br>• Study Jams – Measuring Angles<br>• Khan Academy – Questions and Video Lessons<br>• Angles of 90, 180, 270, and 360 degrees<br>• Angles of 90, 180, 270, and 360 degrees<br>• Estimate angle measurements<br>• Adjacent angles | techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | **Essential Vocabulary:**<br><br>arc<br>central angle<br>circular<br>degree<br>endpoint<br>line segment<br>point<br>ray<br>turn<br>vertex | | | | |
| **4.MD.C.6 – WALT** measure angles in whole-number degrees using a protractor<br><br>**4.MD.C.6 – WALT** sketch angles that have a specified measure<br><br>**4.MD.C.7 – WALT** angle measure as additive<br><br>**4.MD.C.7 – WALT** when an angle is decomposed into non-overlapping parts, the angle measurement of the whole equals the sum of the angle measures of its parts<br><br>**4.MD.C.7 – WALT** solve | Think about what I know/what I have learned about:<br><br>• an angle is the union of two rays with the same initial point<br>• angles are measured with reference to a circle with its center at a common endpoint of the rays<br>• the unit of measure for angles is degrees and can be measured using a protractor<br>• a full rotation from the center of a circle is 360 degrees<br>• "one degree" angle | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion – Measure and sketch angles using a protractor<br>• Learn Zillion –Compose and Decompose Angles<br>• Khan Academy – Questions and Video Lessons<br>• Measure angles | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| angle measures on a diagram in real world and mathematical problems | measure angles<br>• angle that turns counterclockwise through "n" one-degree angles has a measure of "n" degrees<br>• sketch a variety of angles of a specified measure<br>• measure angles in whole-number degrees using a protractor<br>• non-overlapping angle segments can be added to find the total sum of the angle measures<br>• angle measures are additive<br>• whole angle is the sum of the angle parts<br>• that angles can be decomposed into parts<br>• develop mental images for important benchmark angles (30o, 45o, 60o, and 90o)<br>• determine whether to add or subtract to find the unknown angle on a diagram in real world and | | measurements<br>• Adjacent angles<br>• Measuring Angles<br>• Compose & Decompose Angels | |

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| | problems<br>• write an equation with a symbol for the unknown angle measure<br><br>**Essential Vocabulary:**<br><br>acute angle<br>adjacent angles<br>additive<br>angle<br>complementary angles<br>decomposed<br>degrees<br>non-overlapping<br>obtuse angle<br>ray<br>right angle<br>straight angle<br>supplementary angles | | | |
| **4.OA.A.3 – WALT** solve multi-step whole number word problems that have whole number answers, including problems in which remainders must be interpreted<br><br>**4.OA.A.3 – WALT** represent these problems using equations with a letter standing for the unknown quantity<br><br>**4.OA.A.3 – WALT** assess the reasonableness of answers using mental | Think about what I know/what I have learned about:<br><br>• estimation strategies<br>• mental math strategies<br>• a letter represents an unknown quantity<br>• represent multi-step word problems using equations and a symbol for the unknown<br>• interpret multi-step | • Iready<br>• Spiral Review<br>• Do Now<br>• Standards Assessment<br>• GO Math standards assessment | **Activities:**<br><br>• Complete corresponding GO Math lesson.<br>• Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• 4.OA.A.3 Lesson A - Includes printable classwork and homework | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichmen activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized needed |

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| | appropriate operation to solve<br>• use mental math and estimation to determine the reasonableness of an answer<br>• interpret a remainder based on the context of a problem. | | classwork and homework<br>• 4.OA.A.3 A&B Answers<br>• Learn Zillion Video Lessons<br>• Study Jams - Word Problems to Equations<br>• Study Jams - Reasonableness & Estimation<br>• Study Jams - Equations & Word Problems<br>• Khan Academy - Questions and Video Lessons<br>• Multi-Step Word Problems<br>• Multi-Step Word Problems & Video Lessons<br>• Multi-Step Word Problems with Estimating - Upper Level<br>• Multi-Step Word Problems I<br>• Multi-Step Word Problems II<br>• 4.0A.A.3 Worksheets | stated in IEP |
| **4.NBT.B.4 – WALT** add multi-digit whole numbers using the standard algorithm with accuracy | Think about what I know/what I have learned about: | • Iready<br>• Spiral Review<br>• Do Now Standards | **Activities:**<br>• Complete corresponding GO | **ELL:**Model and Provid Example. Establish a non-verbal cue to redire stude when not on |

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| **4.NBT.B.4 – WALT**<br>subtract multi-digit whole numbers using the standard algorithm with accuracy and efficiency | • basic subtraction facts<br>• how to add with regrouping<br>• how to subtract with regrouping<br>• base ten system works<br>• connect the standard algorithm for addition and subtraction to strategies based on place value and/or non-standard algorithms<br>• explain how and why the standard algorithm for addition and subtraction works<br>• check my answer for reasonableness<br>• add or subtract using the standard algorithm<br><br>**Essential Vocabulary:**<br><br>addition<br>algorithm<br>difference<br>inverse operation<br>regrouping<br>standard algorithm<br>subtraction<br>sum | • GO Math standards assessment | • Standards based hands on activity<br><br>**Online Resources:**<br><br>• Iready.Com<br>• ThinkCentral.com<br>• Nearpod Lessons<br>• Learn Zillion - Adding & Subtracting<br>• Study Jams - Adding & Subtracting<br>• Study Jams – Adding<br>• Study Jams – Subtracting<br>• Virtual Nerd - Adding & Subtracting<br>• Khan Academy – Questions and Video Lessons<br>• Add Numbers up to Millions<br>• Add Numbers up to Millions: Word Problems<br>• Addition: Fill in the Missing Digits<br>• Add 3 or More Numbers up to Millions<br>• Choose Numbers with a Particular Sum<br>• Subtract Numbers | bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upo the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized a needed<br><br>**IEP/504:** Modifications Accommodations as stated in IEP |

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| | | | up to Millions: Word Problems<br>• Subtraction: Fill in the Missing digits<br>• Choose Numbers with a Particular Difference<br>• Addition and Subtraction - Single & Multi-Digit<br>• Addition<br>• Subtraction | |

**Benchmark Assessment 1**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Benchmark Assessment 2**

| Benchmark Assessment | Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary. |

| | |
|---|---|
| | **At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Summative Assessments (add rows as needed)**

| **Summative Assessment** | **Modifications (ELL, Special Education, Gifted, At-risk of Failure 504) and Reflections** |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |

**Interdisciplinary Connections**

| Interdisciplinary Connections | Modifications (ELL, Special Education, Gifted, At-risk of Failure, 504) and Reflections |
|---|---|
| *I-Ready*<br>*GO Math*<br>*Ed-Connect*<br>*District Grade Level Created* | **ELL:**Model and Provide Example. Establish a non-verbal cue to redirect students when not on task.Students may use a bilingual dictionary.<br><br>**GT:**Provide enrichment activities to expand upon the curriculum.Use higher level questioning techniques in class and on assessments.<br><br>**At risk:**Individualized as needed<br><br>**IEP/504:** Modifications/ Accommodations as stated in IEP |