



## Alloway Township School

*Home of the Tigers*

*Amy Morley*  
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### **Grade 3 Unit 4— Dates: 2/27/25 - 4/4/25**

#### **Rationale for Unit 4 Expectations**

Unit 4 focuses on the foundational fraction concepts. In Grade 2 students partition circles and rectangles into two, three, or four equal shares, and describe the shares using the words halves, thirds, or fourths. Learners build upon this knowledge while using what they've learned about area in the previous unit to reason about fractions. They come to understand unit fractions as quantities formed by partitioning a whole into equal parts. They use visual fraction models to represent simple fractions, to generate simple equivalent fractions, and to compare two fractions by reasoning about their size. Learners also come to understand fractions as numbers by placing them on the number line, and that all fractions are built from unit fractions. They use this knowledge to reason about rules and find fractional lengths on rules. Learners conclude the unit by representing fractional measurement data on line plots.

#### **Unit 4 Description & Expectations**

Days of Instruction: 28 days

Unit Completion Date: 4/4

Unit Themes: Fractions: Equivalence and Comparison, Measurement, and Data

[Topic: Understand What a Fraction Is](#)

[Topic: Fractions on a Number Line](#)

[Topic: Understand Equivalent Fractions](#)

[Topic: Find Equivalent Fractions](#)

[Topic: Mid-Unit Assessment](#)

[Topic: Understand Comparing Fractions and Use Symbols to Compare Fractions](#)

[Topic: Measure Length and Plot Data on Line Plots](#)

[Topic: Applying Our Knowledge](#)

[Topic: Unit Review and Assessment](#)

Whole Group Instruction	Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
<b>Guidelines</b>		
<b>30-45 minutes of daily instruction using Core Resources</b>	<b>30-45 minutes of daily differentiation</b>	
<p><b>Number Sense Making Routines: (5-10 minutes daily)</b> Number sense is built through experiences. Vary your sense making routines based on the needs of your classroom. They may be a whole group activity, but they also may be done as a small group depending upon the need. Example areas of focus: Verbal Counting, Object Counting, Cardinality, Subitizing, Spatial Relationships, One/Two More &amp; Less, Benchmark Numbers, Part-Part-Whole, Magnitude, etc.</p> <p><b>Core Resource for Whole Group Instruction:</b> Ready Classroom Math (30-45 minutes daily)</p> <p>Ready Classroom Math design &amp; expectations:</p>	<p><b>Number of groups to meet with each day: two</b></p> <p>When planning for differentiation, it is important to first think about what each student needs. You may have different focuses for different groups of students. Below are suggestions to consider when planning for small group differentiated instruction.</p>	<p>Activities should be aligned to specific skills &amp; standards addressed during whole group instruction and practice of fluency standards.</p>

- **Understand Lessons** - Focus on developing conceptual understanding and help students connect new concepts to familiar ones as they learn new skills and strategies.
- **Strategy Lessons** - Focus on helping students persevere in solving problems, discuss solution strategies, and compare multiple representations through the *Try-Discuss-Connect* routine. Strategy Lessons are taught over multiple days (usually 3-5 days) and consist of different sessions.
  - **Explore Session(s)** follow the *Try-Discuss-Connect Routine* and draw on students' prior knowledge and make connections to new concepts.
  - **Develop Session(s)** develop strategies and understanding through problem solving and discourse.
  - **Refine Session(s)** are when students work independently with a partner, while the teacher monitors performance and differentiates instruction.
- **Math in Action Lessons (Grades 2-6)** - Feature open-ended problems with many points of entry and more than one possible solution. In Math in Action Lessons students apply strategies and build procedural fluency.

*Try - Discuss - Connect Routine* is primarily used in Explore and Develop Sessions in Ready Math. Each Step in this routine will have expected Language Routines, Teacher Moves and Conversation Tips. *Language Routines* are predictable, repeatable formats that help students process word problems and communicate their growing understanding. *Teacher Moves* are powerful facilitation techniques to guide conversations in which students talk with each other rather than responding to the teacher. *Conversation Tips* are specific hints that show students what it means to engage in academic discourse. The six tips show students what it means to participate in academic discourse: listening attentively, explaining ideas, justifying, building on the ideas of others, disagreeing respectfully and making connections.

**Gifted Students:** When planning for students who are gifted, consider differentiating the content, process or product.

**Tier I Remedial Groups:** When planning for remedial work (additional work on grade level concepts), identify your Essential Understandings, Objectives, Standards, skills being taught, and Learner Outcomes, then, anticipate the most common unique needs and common misconceptions. Doing this will help you to plan effectively, and form groups based on daily exit tickets and Ready Unit Prerequisite Report. Support students using scaffolding and/or additional practice for grade level concepts and skills.

**Tier II or Tier III Remedial Groups:** When planning your grade level instruction for students that are in Tier II or Tier III considerations of each individual students' Math Intervention Plan need to be taken. Interventions and number sense relationships

● **Try It** - The teacher displays the *Start* question to draw on prior knowledge to the day's session. The teacher guides students in making sense of the problem, and to slow down to recognize and understand important information in the problem before beginning to solve. Teacher displays the problem and uses:

- *Language Routines* - Three Reads, Co-Crafted Questions, Notice/Wonder and Say It Another Way
- *Teacher Moves* - Turn & Talk and Individual Think Time (*Typically 10 seconds to 2 minutes*)

Students apply what they have learned while making sense of the problem to represent the situation using a Part-Part-Whole model and begin solving.

● **Discuss It** - Students work in pairs to share their thinking - even incomplete thinking. Students should analyze their representations and strategies while using sentence frames when appropriate. The teacher strategically selects and sequences students' representations and strategies based upon the learning goal of the lesson. While circulating the teacher should use:

- *Language Routines* - Compare & Contrast and Collect & Display
- *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs (*Repeat, Reword, Rephrase, Record*)

Selected students present and explain their solution methods and listen to critiques of others. The teacher facilitates the discussion and the class looks at highlighted strategies in the *Picture It* and *Model It* sections.

● **Connect It** - The teacher and students connect representations and strategies using a combination of individual work time and partner and whole-class discourse. Carefully selected questions lead students to recognize important mathematical ideas that were initially presented in the **Try It** problem. The teacher should use:

- *Language Routines* - Collect & Display and Compare & Connect
- *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs

should be leveraged to support students with grade level content (bridging foundational concepts to support students' work at grade level content). Resources should be aligned to core content instructional resources (ie, Tools for Instruction, Fluency Skills & Practice pages, Prerequisite Lessons, Reteach Activities, Vocabulary pages, etc.), while a direct explicit connection between intervention strategies and grade level content is built.

<p><b>Closing: (2-5 minutes daily)</b></p> <p>The closure should be directly related to the goal of the lesson. Formal closure to lessons may consist of synthesizing information learned during the lesson that relates to the objective. For example, students could share with the class something new that they learned that day (the question should be detailed and related to the goal/objective), complete an exit ticket (related to the goal/objective), reflect on what challenged them (related to the goal/objective), etc.</p>		
<p><b>Whole Group Instruction</b></p>	<p><b>Differentiation: Teacher Table</b></p>	<p><b>Differentiation: Independent Practice/Small Group Center</b></p>
<p><b>Unit Resources</b></p>		
<ul style="list-style-type: none"> <li>● Suggested Pacing Guide</li> <li>● Ready Unit Flow and Progression Video</li> <li>● Ready Math Background: Models, Progressions, and Teaching Tips</li> <li>● Ready Interactive Tutorials</li> <li>● Ready Unit Self Reflection</li> <li>● Ready Unit Review</li> <li>● Ready Discourse Cards/Cube</li> <li>● Ready Digital Math Tools</li> <li>● Silent Hand Signals</li> <li>● <a href="#">Georgia Frameworks</a> (K-5)</li> <li>● Howard County, MD: <ul style="list-style-type: none"> <li>○ <a href="#">Gr 3</a></li> </ul> </li> <li>● Achieve the Core <a href="#">Coherence Map</a></li> <li>● <a href="#">Illustrative Mathematics</a></li> <li>● Mindset Mathematics (<a href="#">Gr 3-6</a>) by Jo Boaler</li> <li>● <a href="#">You Cubed</a></li> </ul>	<ul style="list-style-type: none"> <li>● Scheduling Small Groups and Rotations</li> <li>● CFAs</li> <li>● RCM Fluency Practice Pages</li> <li>● RCM Prerequisite Lessons</li> <li>● RCM Tools for Instruction Lessons</li> <li>● RCM Discourse Bookmarks</li> <li>● <a href="#">K-5 Math Teaching Resources</a> (no direct links to free documents!)</li> <li>● Virtual Manipulatives: <ul style="list-style-type: none"> <li>○ <a href="#">K6-ThinkCentral</a> - counters, base ten blocks, number line, 100s chart,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Scheduling Small Groups and Rotations</li> <li>● RCM Unit Game</li> <li>● RCM Literacy Connections Activities</li> <li>● RCM Discourse Bookmarks</li> <li>● <a href="#">K-5 Math Teaching Resources</a> (no direct links to free documents!)</li> <li>● Howard County, MD: <ul style="list-style-type: none"> <li>○ <a href="#">Gr 3</a></li> </ul> </li> </ul>

- [Online Manipulatives in Mathigon](#)
- [PBS Learning Media](#)
- San Francisco Unified School District (SFUSD)
  - [Gr 3](#)
- Three Act Tasks:
  - [Ms. Castillo's Math](#) (K-5)
  - [Graham Fletcher](#) (K-6)
  - [Robert Kaplinsky](#) (K-6)
  - [Jon Orr](#) (Gr 3-6)
  - [Kyle Pearce](#) (Gr 3-6)
- Sense Making Routines:
  - [Subitizing Slides](#) (Steve Wyborney)
  - [Estimation 180](#) (Andrew Stadel)
  - [Esti-Mysteries](#) (Steve Wyborney)
  - [Even More Esti-Mysteries](#) (Steve Wyborney)
  - [Estimation Clipboard](#) (Steve Wyborney)
  - [Which One Doesn't Belong](#) (Christopher Danielson)
  - [Math Visuals](#) (Berkley Everett)
  - [Would You Rather...?](#) (John Stevens)
  - [Numberless Word Problems](#) (Brian Bushart)
  - [Number Talk Images](#) (Tracey Zager & Pierre Tranche)
  - Daily Routines to Jumpstart Math Class
  - [Clothesline Math](#) (Dan Kaufmann)
  - [Math Spy](#) (Dan Kaufmann)
  - [Same or Different](#) (Brian Bushart)
  - [Same But Different](#) (Sue Looney)
  - [Splat](#) (Steve Wyborney)

- graphs, fractions,  
measurement
- [TheMathLearningCenter](#) - ten frames, counters, time, number line, math rack, geoboards
  - [Glencoe WorkMats/Storyboards/Manip.](#)
  - [SplatSquare-InteractiveHundredsChart](#)
  - [EduPlace - NumberLine](#) - allows for multiple jumps to introduce open number line concept, decomposing numbers
  - [virtual Rekenrek](#)
  - [Dreambox Teacher Tools](#)

<ul style="list-style-type: none"> <li>○ <a href="#">Open Middle</a> (Robert Kaplinsky)</li> <li>○ <a href="#">Get to Math K-5</a></li> <li>○ <a href="#">Number Talks K-5</a> (Kristen Northrop)</li> <li>○ <a href="#">Visual Patterns</a></li> </ul>		
<b>Whole Group Instruction</b>	<b>Differentiation: Teacher Table</b>	<b>Differentiation: Independent Practice/Small Group Center</b>
<b>Assessments</b>		
<ul style="list-style-type: none"> <li>● Ready Unit Assessment</li> <li>● Mid-Unit Assessment</li> <li>● Ready Lesson Quizzes</li> <li>● Ready - Math In Action</li> <li>● CFAs</li> <li>● Exit Tickets</li> </ul>	<ul style="list-style-type: none"> <li>● Daily log of small group instruction</li> <li>● Anecdotal Notes</li> <li>● Grade Level Math Interview</li> <li>● CFAs</li> <li>● RCM Fluency Practice Pages</li> <li>● RCM Prerequisite Lessons</li> <li>● RCM Tools for Instruction Lessons</li> <li>● Exit Tickets</li> <li>● Achieve the Core <a href="#">Coherence Map</a></li> <li>● <a href="#">Illustrative Mathematics</a></li> </ul>	<p>Examples of accountability measures: Recording sheets, Fluency Practice Pages, exit tickets, rubrics, reflections, etc.</p>
<b>Standards</b>		
<p>3.NF.A.1 Understand a fraction <math>1/b</math> as the quantity formed by 1 part when a whole is partitioned into <math>b</math> equal parts; understand a fraction <math>a/b</math> as the quantity formed by <math>a</math> parts of size <math>1/b</math>.</p> <p>3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p>	<p>In addition to Whole Group Standards, you may choose to focus on grade level fluency standards or other priority standards listed below:</p> <p><b>**Unit 4 Center Focuses:</b></p>	

- a. Represent a fraction  $1/b$  on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into  $b$  equal parts. Recognize that each part has size  $1/b$  and that the endpoint of the part based at 0 locates the number  $1/b$  on the number line.
- b. Represent a fraction  $a/b$  on a number line diagram by marking off  $a$  lengths  $1/b$  from 0. Recognize that the resulting interval has size  $a/b$  and that its endpoint locates the number  $a/b$  on the number line.

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

- a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
- b. Recognize and generate simple equivalent fractions, e.g.,  $1/2 = 2/4$ ,  $4/6 = 2/3$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.
- c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form  $3 = 3/1$ ; recognize that  $6/1 = 6$ ; locate  $4/4$  and 1 at the same point of a number line diagram.*
- d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.

**3.MD.B.4** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

**Foundational Fraction Skill** Skip-count by unit fractions and other fractional amounts (e.g., skip-count by  $1/3$ , skip-count by  $1/2$ , skip-count by  $1/4$  ... ).

**3.OA.C.7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations.

**3.NBT.A.2** Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.





## Unit 4 Math Pacing Guide

Topic: Understand What a Fraction Is		
<b>Student Learning Standard(s):</b>	<b>3.NF.A.1</b>	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into $b$ equal parts; understand a fraction $a/b$ as the quantity formed by $a$ parts of size $1/b$ .
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> </ul>	
<b>Days:</b> 3 2/27 - 3/3	<b>Focus:</b> Major Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N
Critical Knowledge & Skills		
<b>Objective:</b>	<b>We are learning to:</b> <i>*All sessions</i> <ul style="list-style-type: none"> <li>• Understand that a fraction is a whole divided into some number of equal parts.</li> <li>• Understand and recognize the parts of a fraction.</li> <li>• Understand that unit fractions are the same building block of whole numbers.</li> </ul>	
<b>Essential Question(s):</b>	How are drawings useful in math?	

Core Resources	
Core Whole Group Resources	Core Formative Assessment
<a href="#">Ready Classroom Math Lessons</a> <b>Lesson 20</b> 3 Sessions *Lesson materials per student: 4 unit tiles, 10 color tiles (5 yellow, 5 red), Activity sheets: Circle and Square	-RCM Lesson Quizzes -CFAs

Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
<p>-Anchor Chart Links -<a href="#">Fractions</a> Anchor Chart <a href="#">3.NF.A.1</a></p> <p>-Number Sense Lessons/Resources</p> <p>-Interactive Tools: <a href="#">Math Learning Center Fractions</a> <a href="#">Toy Theater Fraction Strips</a></p> <p>-Hands On: Give students six different colored strips of paper. One strip will be one whole. Have students label it. Fold another strip in half. Label both pieces <math>\frac{1}{2}</math>. And so on.</p> <p>-Brainpop Video: <a href="#">Parts of a Whole</a></p> <p>-LearnZillion: <a href="#">3.NF.1 &amp; 3.G.2</a></p> <p>-<a href="#">Visual Fractions Website</a></p> <p>-<a href="#">3 Act: Cover it Up by Kyle Pearce</a></p> <p>-<a href="#">Online Manipulatives in Mathigon</a></p>	<p>-iReady Individual Path</p> <p>-iReady Teacher Assigned Lessons</p> <p>-RCM Interactive Practice: NAME</p> <p>-RCM Center Activities</p> <p>-RCM Enrichment Activities</p> <p>-<a href="#">Visual Fractions Website</a></p> <p>-<a href="#">Inside Mathematics</a></p> <p>-Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a></p> <p>-Fact Practice for Flexibility: <a href="#">Splash Learn</a></p>	<p>-RCM Prerequisite Lessons</p> <p>-RCM Tools for Instruction</p> <p>- <b>Unit Fraction</b> – any fraction that has a numerator of one. Ex: <math>\frac{1}{4}</math> and <math>\frac{1}{2}</math> and a pizza cut into 8 equal slices has 8 slices and each slice has a quantity <math>\frac{1}{8}</math> of the whole pizza.</p> <p>-Give students six different colored strips of paper. One strip will be one whole. Have students label it. Fold another strip in half. Label both pieces <math>\frac{1}{2}</math>. And so on.</p> <p>-<a href="#">Inside Mathematics</a></p>
Vocabulary for Students		Mentor Text List
<p>Denominator    fraction    numerator    unit fraction</p>		<p><i>Apple Fractions</i> by Jerry Pallotta (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Give Me Half!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Half You Heard of Fractions?</i> by Thomas Adamson (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Multiplying Menace</i> by Pam Calvert (<a href="#">YouTube Read Aloud</a>)</p> <p><i>My Half Day</i> by Doris Fisher and Dani Sneed (<a href="#">YouTube Read Aloud</a>)</p>

Topic: Understand Fractions on a Number Line		
<b>Student Learning Standard(s):</b>	<b>3.NF.A.2</b>	<p>Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p> <p>a. Represent a fraction <math>1/b</math> on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into <math>b</math> equal parts. Recognize that each part has size <math>1/b</math> and that the endpoint of the part based at 0 locates the number <math>1/b</math> on the number line.</p> <p>b. Represent a fraction <math>a/b</math> on a number line diagram by marking off <math>a</math> lengths <math>1/b</math> from 0. Recognize that the resulting interval has size <math>a/b</math> and that its endpoint locates the number <math>a/b</math> on the number line.</p>
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> <li>• MP.7 Look for and make use of structure.</li> </ul>	
<b>Days:</b> 3 3/4 - 3/6	<b>Focus:</b> Major Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N
Critical Knowledge & Skills		
<b>Objective:</b>	<b>We are learning to:</b> <i>*All sessions</i>	

	<ul style="list-style-type: none"> <li>• Understand that, in addition to whole numbers, number lines can show equal parts of a whole, or fractions.</li> <li>• Understand fractions as numbers on a number line and use number lines to count and identify fractional parts.</li> <li>• Represent fractions on a number line that are less than, equal to or greater than one.</li> </ul>
<b>Essential Question(s):</b>	How are drawings useful in math?

Core Resources		
Core Whole Group Resources	Core Formative Assessment	
<a href="#">Ready Classroom Math Lessons</a> <b>Lesson 21</b> 3 Sessions *Lesson material per student: Activity sheet: Number Lines	-RCM Lesson Quizzes -CFAs	
Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links <a href="#">Fractions on a line</a> -Number Sense Lessons/Resources -Interactive Tools - Use strips or fraction pieces to make fraction number lines. - <a href="#">3.NF.A.2 Closest to 1/2</a> - <a href="#">3.NF.A.2 Find 1 Starting from 5/3</a> - <a href="#">3.NF.A.2 Locating Fractions Greater than One on the Number Line</a> - <a href="#">Same or Different by Brian Bushart</a> - <a href="#">Online Manipulatives in Mathigon</a>	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities - Use strips or fraction pieces to make fraction number lines. - <a href="#">3.NF.A.2 Closest to 1/2</a> - <a href="#">3.NF.A.2 Find 1 Starting from 5/3</a> - <a href="#">3.NF.A.2 Locating Fractions Greater than One on the Number Line</a> - <a href="#">Inside Mathematics</a> -Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a> -Fact Practice for Flexibility: <a href="#">Splash Learn</a> - <a href="#">3NFA2 Fractions on a Number Line Shared Drive</a>	-RCM Prerequisite Lessons -RCM Tools for Instruction - Use strips or fraction pieces to make fraction number lines. - <a href="#">3.NF.A.2 Closest to 1/2</a> - <a href="#">3.NF.A.2 Find 1 Starting from 5/3</a> - <a href="#">3.NF.A.2 Locating Fractions Greater than One on the Number Line</a> - <a href="#">Inside Mathematics</a>

<a href="#">-Grade 3 NJSLA Reasoning/Modeling Problems Slide #17</a>	<a href="#">-Same or Different by Brian Bushart</a>	
Vocabulary for Students		Mentor Text List
Denominator    fraction    numerator    unit fraction    mixed number	<i>Apple Fractions</i> by Jerry Pallotta ( <a href="#">YouTube Read Aloud</a> ) <i>Give Me Half!</i> by Stuart J. Murphy ( <a href="#">YouTube Read Aloud</a> ) <i>Half You Heard of Fractions?</i> by Thomas Adamson ( <a href="#">YouTube Read Aloud</a> ) <i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy ( <a href="#">YouTube Read Aloud</a> ) <i>Multiplying Menace</i> by Pam Calvert ( <a href="#">YouTube Read Aloud</a> ) <i>My Half Day</i> by Doris Fisher and Dani Sneed ( <a href="#">YouTube Read Aloud</a> )	

Topic: Understand Equivalent Fractions		
<b>Student Learning Standard(s):</b>	<b>3.NF.A.3a</b>	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> <li>• MP.7 Look for and make use of structure.</li> </ul>	

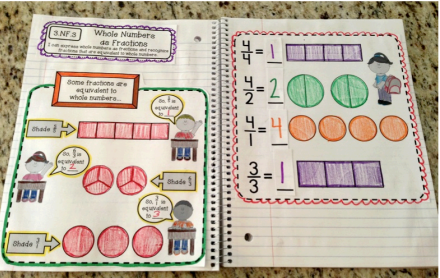
<b>Days:</b> 3 3/7 - 3/11	<b>Focus:</b> Major Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N
<b>Critical Knowledge &amp; Skills</b>		
<b>Objective:</b>	<b>We are learning to:</b> <i>*All sessions</i> <ul style="list-style-type: none"> <li>Understand two fractions as equivalent if they are the same size, cover the same area, or are on the same point on a number line.</li> <li>Recognize, generate, and explain equivalent fractions using fraction models and number lines.</li> </ul>	
<b>Essential Question(s):</b>	How are drawings useful in math?	

<b>Core Resources</b>		
<b>Core Whole Group Resources</b>	<b>Core Formative Assessment</b>	
<a href="#">Ready Classroom Math Lessons</a> <b>Lesson 22</b> 3 Sessions **3.NF.3 Lesson 22 Session 3 - needed additional resources since the Refine Session was completely different that the previous 2 sessions and the quiz had nothing to do with the Refine day and did with Sessions 1 and 2. Materials had been located and printed - <b>Jess has them in her Teacher's Manual.</b>	-RCM Lesson Quizzes -CFAs	
<b>Additional Leveled Resources</b>		
<b>Activities and Additional Resources for Whole Group</b>	<b>Differentiated Independent Activities/Center Ideas</b>	<b>Teacher Table Differentiated Resources</b>
-Anchor Chart Links <a href="#">Equivalent Fractions</a> -Number Sense Lessons/Resources -Interactive Tools	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME	-RCM Prerequisite Lessons -RCM Tools for Instruction - <a href="#">Inside Mathematics</a>

<p>-Brainpop Videos:  <a href="#">Equivalent Fractions</a>  -3 Act: <a href="#">Butter Believe It by MsCastillosMath</a>  <a href="#">-Online Manipulatives in Mathigon</a></p> <p>-Grade 3 NJSLA Reasoning/Modeling Problems Slide #25</p>	<p>-RCM Center Activities  -RCM Enrichment Activities  -<a href="#">Inside Mathematics</a>  -Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a>  -Fact Practice for Flexibility: <a href="#">Splash Learn</a></p>	
Vocabulary for Students		Mentor Text List
<p>Denominator    fraction    numerator    unit fraction  equivalent fractions</p>	<p><i>Apple Fractions</i> by Jerry Pallotta (<a href="#">YouTube Read Aloud</a>)  <i>Give Me Half!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)  <i>Half You Heard of Fractions?</i> by Thomas Adamson (<a href="#">YouTube Read Aloud</a>)  <i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)  <i>Multiplying Menace</i> by Pam Calvert (<a href="#">YouTube Read Aloud</a>)  <i>My Half Day</i> by Doris Fisher and Dani Sneed (<a href="#">YouTube Read Aloud</a>)</p>	



Topic: Find Equivalent Fractions		
<b>Student Learning Standard(s):</b>	<b>3.NF.A.3 b-c</b>	<p>3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>b. Recognize and generate simple equivalent fractions, e.g., <math>1/2 = 2/4</math>, <math>4/6 = 2/3</math>. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form <math>3 = 3/1</math>; recognize that <math>6/1 = 6</math>; locate <math>4/4</math> and 1 at the same point of a number line diagram.</i></p>
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> <li>• MP.7 Look for and make use of structure.</li> <li>• MP.8 Look for and express regularity in repeated reasoning.</li> </ul>	
<b>Days:</b> 5 3/12 - 3/18	<b>Focus:</b> Major Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N
Critical Knowledge & Skills		
<b>Objective:</b>	<p><b>We are learning to:</b> *All sessions</p> <ul style="list-style-type: none"> <li>• Use fraction models and number lines to identify and create equivalent fraction, including those that are greater than or equal to one whole.</li> <li>• Identify, model, and write equivalent fractions for whole numbers.</li> </ul>	
<b>Essential Question(s):</b>	How are drawings useful in math?	
Core Resources		

Core Whole Group Resources		Core Formative Assessment	
<p><a href="#">Ready Classroom Math Lessons</a></p> <p><b>Lesson 23</b></p> <p>5 Sessions</p> <p>*Lesson material per student: fraction tiles, Activity Sheet: Number Lines (Used for more than one activity)</p>		<p>-RCM Lesson Quizzes</p> <p>-CFAs</p>	
Additional Leveled Resources			
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources	
<p>-Anchor Chart Links: <a href="#">3.NF.A.3b</a>, 3.NF.A.3c</p> <p>Example</p> <p>Whole Numbers as Fractions (3.NF.3)</p>  <p>The anchor chart is titled 'Whole Numbers as Fractions (3.NF.3)'. It features a central box stating 'Some fractions are equivalent to whole numbers.' Below this, there are four examples of equivalent fractions with corresponding visual models: <math>\frac{4}{4} = 1</math> (a bar divided into 4 equal parts, all shaded), <math>\frac{4}{2} = 2</math> (two circles, each divided into 2 equal parts, all shaded), <math>\frac{4}{1} = 4</math> (four circles, each divided into 1 equal part, all shaded), and <math>\frac{3}{3} = 1</math> (a bar divided into 3 equal parts, all shaded). Arrows point from the text to the visual models.</p> <p>-Number Sense Lessons/Resources</p> <p>-Brainpop Videos: <a href="#">Equivalent Fractions</a> <a href="#">Mixed Numbers</a> <a href="#">-What Fraction am I? by Desmos</a> <a href="#">-Online Manipulatives in Mathigon</a></p>	<p>-iReady Individual Path</p> <p>-iReady Teacher Assigned Lessons</p> <p>-RCM Interactive Practice: NAME</p> <p>-RCM Center Activities</p> <p>-RCM Enrichment Activities</p> <p>-<a href="#">Inside Mathematics</a></p> <p>-Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a></p> <p>-Fact Practice for Flexibility: <a href="#">Splash Learn</a></p> <p>-<a href="#">What Fraction am I? by Desmos</a></p>	<p>-RCM Prerequisite Lessons</p> <p>-RCM Tools for Instruction</p> <p>-<a href="#">Inside Mathematics</a></p>	
Vocabulary for Students		Mentor Text List	
Denominator    fraction    numerator    equivalent fractions		<i>Apple Fractions</i> by Jerry Pallotta ( <a href="#">YouTube Read Aloud</a> )	

	<p><i>Give Me Half!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Half You Heard of Fractions?</i> by Thomas Adamson (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Multiplying Menace</i> by Pam Calvert (<a href="#">YouTube Read Aloud</a>)</p> <p><i>My Half Day</i> by Doris Fisher and Dani Sneed (<a href="#">YouTube Read Aloud</a>)</p>
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<b>Topic: Mid-Unit Assessment</b>	
<b>Days: 1</b>	<b>Mid-Unit Assessment Date: 3/9</b>
<b>Scoring Submission in LinkIt:</b>	<b>Data Review Date:</b>

<b>Topic: Understand Comparing Fractions and Use Symbols to Compare Fractions</b>		
<b>Student Learning Standard(s):</b>	<b>3. NF.A.3d</b>	<p>3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual fraction model.</p>
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> <li>• MP.7 Look for and make use of structure.</li> </ul>	
<b>Days: 6</b> Lesson 24: 3/19 - 3/24 Lesson 25: 3/25 - 3/27	<b>Focus: Major Content</b>	<b>Benchmarked Standard: N</b> <b>Fluency Standard: N</b>
<b>Critical Knowledge &amp; Skills</b>		

<b>Objective:</b>	<p><b>We are learning to:</b></p> <p><i>*All sessions L24</i></p> <ul style="list-style-type: none"> <li>● Reason about unit fractions to compare two fractions using the sizes of the unit fractions shown by the denominators and the number of parts shown by the numerators.</li> <li>● Determine if fractions to be compared have the same denominators.</li> <li>● Use models or number lines to explain why one fraction is greater than or less than another.</li> </ul> <p><i>*All sessions L25</i></p> <ul style="list-style-type: none"> <li>● Use symbols to record the results of comparing fractions with the same numerator or the same denominator.</li> <li>● Read comparison statements fluently and accurately and use models and number lines to explain and justify fraction comparisons.</li> </ul>
<b>Essential Question(s):</b>	How are drawings useful in math?

Core Resources		
Core Whole Group Resources	Core Formative Assessment	
<p><a href="#">Ready Classroom Math Lessons</a></p> <p><b>Lesson 24</b> 3 Sessions *Lesson material per student: Activity Sheet: 1-inch Grid Paper</p> <p><b>Lesson 25</b> 3 Sessions *Lesson material per student: 12 counters, Activity Sheet: 1-centimeter grid paper</p>	<p>-RCM Lesson Quizzes -CFAs</p>	
Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources

<p>-Anchor Chart Links <a href="#">Comparing Fractions</a></p> <p>-Number Sense Lessons/Resources</p> <p>-Interactive Tools</p> <p><a href="#">-Online Manipulatives in Mathigon</a></p>	<p>-iReady Individual Path</p> <p>-iReady Teacher Assigned Lessons</p> <p>-RCM Interactive Practice: NAME</p> <p>-RCM Center Activities</p> <p>-RCM Enrichment Activities</p> <p><a href="#">-Inside Mathematics</a></p> <p>-Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a></p> <p>-Fact Practice for Flexibility: <a href="#">Splash Learn</a></p>	<p>-RCM Prerequisite Lessons</p> <p>-RCM Tools for Instruction</p> <p><a href="#">-Inside Mathematics</a></p>
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Vocabulary for Students	Mentor Text List
<p>Denominator    fraction    numerator    compare</p>	<p><i>Apple Fractions</i> by Jerry Pallotta (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Give Me Half!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Half You Heard of Fractions?</i> by Thomas Adamson (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</p> <p><i>Multiplying Menace</i> by Pam Calvert (<a href="#">YouTube Read Aloud</a>)</p> <p><i>My Half Day</i> by Doris Fisher and Dani Sneed (<a href="#">YouTube Read Aloud</a>)</p>

Topic: Measure Length and Plot Data on Line Plots		
<p><b>Student Learning Standard(s):</b></p>	<p><b>2.MD.D.9 (prerequisite)</b></p> <p>3.MD.B.4</p>	<p><b>-2.MD.D.9</b> Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.</p> <p><b>-3.MD.B.4</b> Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in</p>

		appropriate units— whole numbers, halves, or quarters.
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.5 Use appropriate tools strategically.</li> </ul>	<ul style="list-style-type: none"> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.6 Attend to precision.</li> </ul>
<b>Days:</b> 5 Optional Prerequisite: Gr 2 L27 S2 or 3: 3/27 Lesson 26: 3/28 - 4/6	<b>Focus:</b> Supporting Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N
<b>Critical Knowledge &amp; Skills</b>		
<b>Objective:</b>	<b>We are learning to:</b> <i>*All sessions Gr. 2 L27</i> <ul style="list-style-type: none"> <li>• Interpret marks on a line plot as data.</li> <li>• Understand that numbers on a ruler or number line can be used to represent a given length.</li> <li>• Represent data on a line plot.</li> </ul> <i>*All sessions Gr. 3 L26</i> <ul style="list-style-type: none"> <li>• Use a ruler to measure objects to the nearest <math>\frac{1}{2}</math>, and <math>\frac{1}{4}</math> inch.</li> <li>• Display measurement data in a line plot and answer questions about it.</li> </ul>	
<b>Essential Question(s):</b>	How does what you're measuring determine how you measure it?	

<b>Core Resources</b>	
Core Whole Group Resources	Core Formative Assessment
<a href="#">Ready Classroom Math Lessons</a> <b>Prerequisite:</b> Grade 2 Lesson 27 Combine S1 & S2, Session 3 (2 days) *Lesson material per student: Centimeter ruler, 5 classroom objects, inch rulers, counters, Activity sheets: 1-inch grid paper, 1-centimeter grid paper, number lines, shell measurements <b>Lesson 26</b> (*Combine S1 & S2)	-RCM Lesson Quizzes -CFAs

4 Sessions *Lesson materials per student: Inch ruler, sheet of 8 ½ inch x 11-inch paper		
<b>Additional Levelled Resources</b>		
<b>Activities and Additional Resources for Whole Group</b>	<b>Differentiated Independent Activities/Center Ideas</b>	<b>Teacher Table Differentiated Resources</b>
<ul style="list-style-type: none"> <li>-Anchor Chart Links <a href="#">Line Plots</a></li> <li>-Number Sense Lessons/Resources</li> <li>-LearnZillion Resources <a href="#">3.MD.4</a></li> <li>-Interactive Tools</li> <li>-<a href="#">Ramp Racing by Math in Our World</a></li> <li>-<a href="#">Same and Different Hopping Hare by Math at Home</a></li> <li>-<a href="#">Online Manipulatives in Mathigon</a></li> </ul>	<ul style="list-style-type: none"> <li>-iReady Individual Path</li> <li>-iReady Teacher Assigned Lessons</li> <li>-RCM Interactive Practice: NAME</li> <li>-RCM Center Activities</li> <li>-RCM Enrichment Activities</li> <li>-<a href="#">Inside Mathematics</a></li> <li>-Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a></li> <li>-Fact Practice for Flexibility: <a href="#">Splash Learn</a></li> <li>-<a href="#">Ramp Racing by Math in Our World</a></li> <li>-<a href="#">Same and Different Hopping Hare by Math at Home</a></li> </ul>	<ul style="list-style-type: none"> <li>-RCM Prerequisite Lessons</li> <li>-RCM Tools for Instruction</li> <li>-<a href="#">Inside Mathematics</a></li> </ul>
<b>Vocabulary for Students</b>		<b>Mentor Text List</b>
Data    graph    length    line plot    measure		<ul style="list-style-type: none"> <li><i>Apple Fractions</i> by Jerry Pallotta (<a href="#">YouTube Read Aloud</a>)</li> <li><i>Give Me Half!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</li> <li><i>Half You Heard of Fractions?</i> by Thomas Adamson (<a href="#">YouTube Read Aloud</a>)</li> <li><i>Jump, Kangaroo, Jump!</i> by Stuart J. Murphy (<a href="#">YouTube Read Aloud</a>)</li> <li><i>Multiplying Menace</i> by Pam Calvert (<a href="#">YouTube Read Aloud</a>)</li> <li><i>My Half Day</i> by Doris Fisher and Dani Sneed (<a href="#">YouTube Read Aloud</a>)</li> </ul>

<b>Topic:</b> Unit Review and Unit Assessment	
<b>Days:</b> 2	<b>Review Date:</b> 4/3 <b>Unit Assessment Date:</b> 4/4
<b>Scoring Submission in LinkIt:</b>	<b>Data Review Date:</b>

*\*Math In Action Lessons can be completed if time allows within the unit. They may also be used for differentiation for G&T students.*

<b>Topic:</b> Applying Our Knowledge		
<b>Student Learning Standard(s):</b>	3.NF.A.3	<p>3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p> <p>b. Recognize and generate simple equivalent fractions, e.g., <math>1/2 = 2/4</math>, <math>4/6 = 2/3</math>. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form <math>3 = 3/1</math>; recognize that <math>6/1 = 6</math>; locate <math>4/4</math> and 1 at the same point of a number line diagram.</i></p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual fraction model.</p>
<b>Math Practices:</b>	<ul style="list-style-type: none"> <li>• MP.1 Make sense of the problem and persevere in solving them.</li> <li>• MP.2 Reason abstractly and quantitatively.</li> <li>• MP.3 Construct viable arguments and critique the reasoning of others.</li> <li>• MP.4 Model with Mathematics.</li> <li>• MP.5 Use appropriate tools strategically.</li> <li>• MP.6 Attend to precision.</li> <li>• MP.7 Look for and make use of structure.</li> <li>• MP.8 Look for and express regularity in repeated reasoning.</li> </ul>	
<b>Days:</b> 0	<b>Focus:</b> Major Content	<b>Benchmarked Standard:</b> N <b>Fluency Standard:</b> N



Critical Knowledge & Skills	
<b>Objective:</b>	<b>We are learning to:</b> determine the real world distance of each fraction on a freeway sign and compare them
<b>Essential Question(s):</b>	How are drawings useful in math?

Core Resources	
Core Whole Group Resources	Core Formative Assessment
<p>Select one or more:</p> <p><b>*How Far Apart are the Freeway Exits PBL by Robert Kaplinsky</b>  <a href="https://robertkaplinsky.com/work/freeway-exits/">https://robertkaplinsky.com/work/freeway-exits/</a> (this one is based on the slo above)</p> <p><b>Where is the Freeway Sign Located PBL by Robert Kaplinsky</b>  <a href="https://robertkaplinsky.com/work/where-is-the-freeway-sign-located/">https://robertkaplinsky.com/work/where-is-the-freeway-sign-located/</a></p> <p><b>How much is One Third of a Cup of Butter PBL by Robert Kaplinsky</b>  <a href="https://robertkaplinsky.com/work/how-much-is-one-third-of-a-cup-of-butter/">https://robertkaplinsky.com/work/how-much-is-one-third-of-a-cup-of-butter/</a></p>	<p>-RCM Lesson Quizzes</p> <p>-CFAs</p>

Additional Levelled Resources		
Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
<p>-Anchor Chart Links</p> <p>-Number Sense Lessons/Resources</p> <p>-Interactive Tools</p> <p>-<a href="#">Ready Classroom Math Lessons</a></p> <p><b>Math In Action</b></p>	<p>-iReady Individual Path</p> <p>-iReady Teacher Assigned Lessons</p> <p>-RCM Interactive Practice: NAME</p> <p>-RCM Center Activities</p> <p>-RCM Enrichment Activities</p>	<p>-RCM Prerequisite Lessons</p> <p>-RCM Tools for Instruction</p> <p>-<a href="#">Inside Mathematics</a></p>

<a href="#">-Online Manipulatives in Mathigon</a>	<a href="#">-Inside Mathematics</a> -Fact Practice for Speed and Accuracy: <a href="#">Xtra Math</a> -Fact Practice for Flexibility: <a href="#">Splash Learn</a>	
<b>Vocabulary for Students</b>		<b>Mentor Text List</b>
Denominator    fraction    numerator    compare		

<b>Computer Science (8.1) and Design Thinking (8.2)</b>	
<p>8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.</p> <p>8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods</p> <p>8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information.</p> <p>8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.</p> <p>8.1.5.IC.2: Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.</p> <p>8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.</p> <p>8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.</p>	<p>8.2.5.ITH.1: Explain how societal needs and wants influence the development and function of a product and a system.</p> <p>8.2.5.ITH.2: Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.</p> <p>8.2.5.ITH.4: Describe a technology/tool that has made the way people live easier or has led to a new business or career.</p> <p>8.2.5.NT.1: Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.</p> <p>8.2.5.NT.2: Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies.</p> <p>8.2.5.ETW.1: Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems.</p> <p>8.2.5.ETW.2: Describe ways that various technologies are used to reduce improper use of resources.</p> <p>8.2.5.ETW.3: Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.</p> <p>8.2.5.EC.1: Analyze how technology has contributed to or reduced inequities in local and global communities and determine its short- and long-term effects.</p>

**Preparation for College, Careers, and Beyond**

<b>Career Ready Practices</b>	<b>Personal Financial Literacy (9.1), Career Awareness, Exploration, and Preparation (9.2), Life Literacies and Key Skills (9.4)</b>																								
<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP9. Model integrity, ethical leadership and effective management.</p> <p>CRP10. Plan education and career paths aligned to personal goals.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>	<p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions</p> <p>9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity.</p> <p>9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process</p> <table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Personal Financial Literacy (Standard 9.1)</b></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>Strand A</b></td> <td><b>Income and Careers</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand B</b></td> <td><b>Money Management</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand C</b></td> <td><b>Credit and Debt Management</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand D</b></td> <td><b>Planning, Saving, and Investing</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand E</b></td> <td><b>Becoming a Critical Consumer</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand F</b></td> <td><b>Civic and Financial Responsibility</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand G</b></td> <td><b>Insuring and Protecting</b></td> </tr> <tr> <th colspan="2" style="text-align: center;"><b>Career Awareness, Exploration, and Preparation (Standard 9.2)</b></th> </tr> <tr> <td style="text-align: center;"><b>Strand A</b></td> <td><b>Career Awareness (by end of Grade 4)</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand B</b></td> <td><b>Career Exploration (by end of Grade 8)</b></td> </tr> <tr> <td style="text-align: center;"><b>Strand C</b></td> <td><b>Career Preparation (by end of Grade 12)</b></td> </tr> </tbody> </table>	<b>Personal Financial Literacy (Standard 9.1)</b>		<b>Strand A</b>	<b>Income and Careers</b>	<b>Strand B</b>	<b>Money Management</b>	<b>Strand C</b>	<b>Credit and Debt Management</b>	<b>Strand D</b>	<b>Planning, Saving, and Investing</b>	<b>Strand E</b>	<b>Becoming a Critical Consumer</b>	<b>Strand F</b>	<b>Civic and Financial Responsibility</b>	<b>Strand G</b>	<b>Insuring and Protecting</b>	<b>Career Awareness, Exploration, and Preparation (Standard 9.2)</b>		<b>Strand A</b>	<b>Career Awareness (by end of Grade 4)</b>	<b>Strand B</b>	<b>Career Exploration (by end of Grade 8)</b>	<b>Strand C</b>	<b>Career Preparation (by end of Grade 12)</b>
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**Cross-Curricular Connections**

<b>Interdisciplinary Connections</b>	<b>Technology Integration and Literacy</b>
<ul style="list-style-type: none"> <li>● Literature connections (math mentor texts identified in “Resources and Activities”)</li> <li>● Math journals</li> <li>● Math word wall</li> <li>● Literacy Connections &amp; Activities Ready Classroom Math</li> </ul>	<p>Online links and possible resources for the integration of technology into lessons are embedded within the “Possible Resources and Activities” column for each Topic area.</p>

**Possible Modifications and Accommodations**

Special Education/504 Plans	At-Risk	Gifted	English Language Learners
<p><i>*All teachers of students with special needs must review each student's IEP. Teachers must then select the appropriate modifications and/or accommodations necessary to enable the student to appropriately progress in the general curriculum.</i></p> <p><b>Possible Modifications/Accommodations</b></p> <ul style="list-style-type: none"> <li>● Number line on desk</li> <li>● Extra time on timed calculation assessments</li> <li>● Use of a calculator or chart of basic facts for computation</li> <li>● Use of a graphic organizer to plan ways to solve math problems</li> <li>● Use of concrete materials and objects (manipulatives)</li> <li>● Opportunities for cooperative partner work</li> <li>● Assign fewer problems at one time (e.g., assign only odds or evens)</li> <li>● Basic computation – use counters</li> <li>● Differentiated center-based small group instruction</li> <li>● Fractions – use fraction blocks</li> <li>● Provide a copy of mathematical equations, class notes, and examples for math notebooks</li> <li>● Highlight or underline key words in word problems</li> <li>● If a manipulative is used during instruction, allow its use on a test</li> <li>● Place value – use place value blocks</li> <li>● Provide graph paper for arrays</li> <li>● Provide reteach pages if necessary</li> </ul>	<p>The possible list of modifications/accommodations identified for Special Education students can be utilized for At-Risk students. Teachers should utilize ongoing methods to provide instruction, assess student needs, and utilize modifications specific to the needs of individual students.</p> <p><i>*Refer to the individual student Math Plan for <b>specific interventions.</b></i></p>	<p><i>*Teachers should select the appropriate modifications and/or accommodations for Gifted and Talented according to the following suggestions.</i></p> <p>Differentiating instruction based on:</p> <ul style="list-style-type: none"> <li>● <b>Content:</b> <i>What</i> is taught or the material used</li> <li>● <b>Process:</b> <i>How</i> it is taught or support given or student grouping or environment</li> <li>● <b>Product:</b> What students produce</li> </ul> <p>To differentiate <b>content</b> consider:</p> <ul style="list-style-type: none"> <li>● Using different resources that have less explicit information (e.g., tiering assignments - consider what would make the content more complex to digest for gifted students) <ul style="list-style-type: none"> <li>○ <b>For Example:</b> tiering problem solving scenarios making a gifted learner's scenario more complex</li> <li>○ <b>For Example:</b> gifted students could work on deriving the procedure for an abstract concept</li> </ul> </li> <li>● Organizing ideas through graphic organizers</li> <li>● Using a learning contract (learning contracts are <i>individualized</i> and allow students to participate in designing their own learning which is motivating for gifted students)</li> <li>● Using jigsaws</li> <li>● Using orbital studies (differ from independent investigations and is meant as an extension of the topics covered in class into specific fields of study e.g., manufacturing)</li> </ul> <p>To differentiate the <b>process</b> consider:</p> <ul style="list-style-type: none"> <li>● How students are grouped</li> <li>● Tiering materials used (e.g., graphic organizers varying in complexity, types of questions asked - DOK level) <ul style="list-style-type: none"> <li>○ <b>For Example:</b>  <i>Below-Grade-Level Question:</i> ●●●●●● + ? =  ●●●●●●●●●●</li> <li><i>On-Grade-Level Question (Grade 1):</i> 6 + ? = 10</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Continue practicing vocabulary</li> <li>● Demonstrate that vocabulary can have multiple meanings</li> <li>● Encourage bilingual supports among students</li> <li>● Provide visual cues, graphic representations, gestures, and pictures</li> <li>● Rephrase math problems when appropriate</li> <li>● Build knowledge from real-world examples</li> <li>● Provide manipulatives and symbols</li> <li>● Have students estimate each other's heights</li> <li>● Have students measure themselves and one another</li> <li>● Have students relate an object they know with a unit of measure</li> <li>● Encourage peer discussions regarding how students are thinking about math</li> <li>● RCM Unit Connect Language Development to Mathematics</li> </ul>

<ul style="list-style-type: none"> <li>• Provide several ways to solve a problem if possible</li> <li>• Offer small and large graph paper options</li> <li>• Provide visual aids and anchor charts</li> <li>• Tiered lessons and assignments</li> </ul>		<p><i>Above-Grade-Level Question:</i> Jon has 6 puppies. He wants to have 10 puppies. How many more puppies does he need to buy?</p> <p>To differentiate the <b>product</b> consider:</p> <ul style="list-style-type: none"> <li>• Using a choice board (the difficulty of the activity should be noted for each choice and should be at least 3 levels)</li> <li>• Using a menu of options (each item is assigned a point value and students select the route to take)</li> <li>• Using open ended tasks (have more than one correct answer and/or more than one way to get to/explain an answer) <ul style="list-style-type: none"> <li>o <b>For Example:</b> (Grade 2) Use the digits 0 to 9, at most one time each, to make a true statement.  <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> = <input type="text"/> <input type="text"/> + <input type="text"/> <input type="text"/> (<a href="#">Open Middle Link</a>)</li> <li>o <b>For Example:</b> (Grade 3) Using the digits 1 to 9 exactly one time each, place a digit in each box to make the sum as close to 1000 as possible. <input type="text"/> <input type="text"/> <input type="text"/> + <input type="text"/> <input type="text"/> <input type="text"/> + <input type="text"/> <input type="text"/> <input type="text"/> (<a href="#">GeoGebra Link</a>)</li> </ul> </li> </ul>	
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**Individualized Learning Opportunities**

Possible independent study and online learning opportunities are embedded within the “Possible Resources and Activities” column for each Topic area. iReady