4th Grade Pacing Module 1 *with Suggested Modifications* **Key**

Optional Lesson
Extension Lesson
Remedial Lesson

Standards		Topic and Objectives	Instructional Notes
4.NBT.1 **4.NBT.2** 4.OA.1	A	**Place Value of Multi-Digit Whole Numbers** Lesson 1: Interpret a multiplication equation as a comparison. Lesson 2: Recognize a digit represents 10 times the value of what it represents in the place to its right. Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units. Lesson 4: Read and write multi-digit numbers using base ten numerals, number names (word form), and expanded form. Day 5: Problem Solving Task: How do you Write a Check to Pay for Something?	**Days: 5**

By the end of Topic A, your students should be able to:

- 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.
- Read and write numbers in standard, word form, unit, and expanded form up to one million.

Snapshot Assessment Standard: 4.NBT.1 Problem 1-4
4.NBT.1 Part B 1-4

Example:

2. How is the value of the 5 digit in each of these numbers different?

(DOK 1)

354, 023 380, 452

Snapshot Assessment: 4.NBT.2 Problems 1-2
4.NBT.2 Part B 1-3

Example:

1. Write this number in expanded form:
(DOK 1)

324, 071

4.NBT.2	B	**Comparing Multi-Digit Whole Numbers** Lesson 5: Compare numbers based on meanings of the digits, using >,<, or = to record the comparison. **Lesson 6: Find 1, 10, and 100 thousand more and less than a given number.	**Days: 2** ****Lesson 6:** Complete application problems, but replace Lesson 6 concept development and problem set with Howard County NBT.2 Assessment Tasks

			numbers 2,3,4,5, and 6. You can carousel model, spending 7-8 minutes at each problem.

By the end of Topic B, your students should be able to:

- Use place value to compare whole numbers up to a million using symbols to show the comparison (<, >, =).

Snapshot Assessment: 4.NBT.2 Problems 3-4
Example:

4. Compare the values of the underlined digits. Using ">, <, or =".
(DOK 1)

841___ 475

1,689___ 5,972

4.NBT.3	C	**Rounding Multi-Digit Whole Numbers** Lesson 7: Round multi-digit numbers to the thousands place using the vertical number line. Lesson 8: Round multi-digit numbers to any place using the vertical number line. Lesson 9 - 10: Use place value understanding to round multi-digit numbers to any place value using real world applications. **Combine Lesson 9 & 10**	**Days: 3** Use the problem set from **Lesson 10** when combining **Lessons 9 and 10.**

By the end of Topic C, your students should be able to:

- Round numbers up to a million to any place.

Snapshot Assessment 4.NBT.3 Problems 1-4

Example:

3. Use the number line below to show which hundred 781 rounds to. (DOK 1)

700 800

Explain how you know.

3 Days for Remediation, Enrichment, Mid-Module Assessment

Suggested Tasks:

Relative Value of Places Task and Rubric : This tasks allows students to understand the value of each digit and the relationship between them. (60 minutes)- 1 Day

Revisit lesson 9 for rounding as a remediation or do Problem Solving Task Where's The Beef? -1 Day

Mid-Module Assessment Word Document: Spend one day using mid module assessment task. Modify problem 3 to fit your students' needs. -1 Day

4.OA.3 **4.NBT.4** 4.NBT.1 4.NBT.2	D	**Multi-Digit Whole Number Addition** Lesson 11: Use place value understanding to fluently add multi-digit whole numbers using the standard addition algorithm and apply the algorithm to solve word problems using tape diagrams. Lesson 12: Solve multi-step word problems using the standard addition algorithm modeled with tape diagrams and assess the reasonableness of answers using rounding.	**Days: 2**

By the end of Topic D, your students should be able to:

- Add three and four digits using the standard algorithm with minimal errors. (Working toward fluency within a million by March).
- Solve single step word problems using addition.

- Assess their work and the work of others for reasonableness using estimation, mental math, and rounding.

Snapshot Assessment 4.OA.3 Problem 1
Example:

1. On a vacation, your family travels 267 miles on the first day, 194 miles on the second day, and 34 miles on the third day. How many miles did they travel total?
(DOK 1)

Snapshot Assessment 4.NBT.4 Problems 1-4
Example:

4. Bethany and Carl both solved
9,718 + 3,856 = ?
Bethany's answer was 13,574
Carl's answer was 12,574.

Who is correct? How do you know?
(DOK 2)

4.OA.3 **4.NBT.4** 4.NBT.1 4.NBT.2	E	**Multi-Digit Whole Number Subtraction** Lesson 13: Use place value understanding to decompose to smaller units once using the standard subtraction algorithm, and apply the algorithm to solve word problems using tape diagrams. Lesson 14: Use place value understanding to decompose to smaller units up to 3 times using the standard subtraction algorithm, and apply the algorithm to solve word problems using tape diagrams. Lesson 15: Use place value understanding to fluently decompose to smaller units multiple times in any place using the standard subtraction algorithm, and apply the algorithm to solve word problems using tape diagrams. Lesson 16: Solve two-step word problems using the standard subtraction algorithm fluently modeled with tape diagrams and assess the reasonableness of answers using rounding.	**Days: 4** **Lesson 16**: The sprints in **Lesson 16** and **Lesson 19** are going to build foundational skills for the next unit, consider a short pre-teach for more success.

By the end of Topic E, your students should be able to:

- Subtract three and four digits using the standard algorithm with minimal errors. (Working toward fluency to subtract within a million by March).
- Solve two step word problems using subtraction.

Snapshot Assessment 4.OA.3 Problem 2
Example:
The ice cream shop sold 2,789 chocolate cones and 5,324 cookie dough cones. They then sold 3,606 more peanut butter cones than cookie dough. What was the total number of ice cream cones sold?

Snapshot Assessment 4.NBT.4 Part B Problems 1&4
Example:
Subtract 8,453-2,467 =

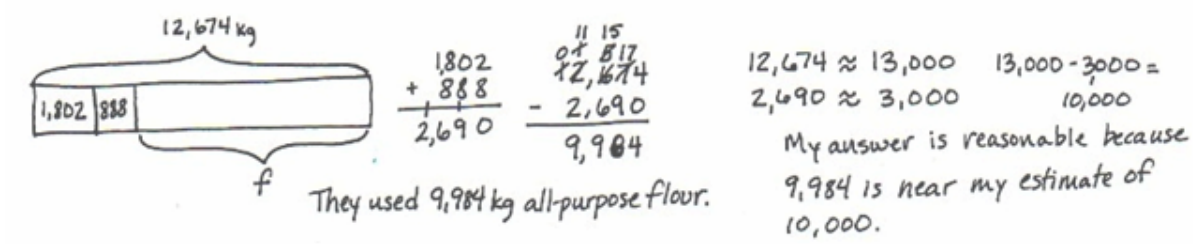
4.OA.3 4.NBT.1 4.NBT.2 4.NBT.4	F	**Addition and Subtraction Word Problems** Lesson 17: Solve additive compare word problems modeled with tape diagrams. Lesson 18: Solve multi-step word problems modeled with tape diagrams and assess the reasonableness of answers using rounding. Lesson 19: Create and solve multi-step word problems from given tape diagrams and equations.	**Days: 2** If pacing is a challenge, consider omitting **Lesson 17** since multi-step problems are taught in **Lesson 18.** Instead, embed problems from **Lesson 17** into Module 2 or 3 as extension. Since multi-step problems are taught in **Lesson 18, Lesson 19** could also be omitted.

By the end of Topic F, your students should be able to:

- Solve multistep word problems using addition and subtraction
- Skillfully use tape diagram or other models to represent word problems with addition and subtraction.

Sample Assessment 4.OA.3 (No adding and subtracting multistep Snapshot available on TFL).
Example:

A bakery used 12,674 kg of flour. Of that, 1,802 kg was whole wheat and 888 kg was rice flour. The rest was all-purpose flour. How much all-purpose flour did they use? Solve and check the reasonableness of your answer.



3 Days for Re-Assessment, Remediation and Enrichment

Suggested Tasks:
Carnival Tickets Problem Solving Task -1 Day

End of Module Assessment Problems 1-3. However, problem 3 can be a little confusing for students as it discusses population of various towns. Recommended to launch the assessment with a talk about these towns. You could also replace the towns' names with more familiar names (i.e. Tacoma, Federal Way, Seattle). -1 Day

End of Module Assessment Word Document

Return Tests and Remediate or extend lessons for further application-1 Day

Total Instructional Days: 24

Links Used:

Lesson 4: How do you Write a Check to Pay for Something? http://robertkaplinsky.com/work/write-a-check/

Lesson 6: Howard County NBT.2 Assessment Tasks
https://grade4commoncoremath.wikispaces.hcpss.org/assessing+4.NBT.2

End of Unit Problem Solving Task Carnival Tickets https://www.illustrativemathematics.org/content-standards/4/OA/A/3/tasks/1289

4th Grade Pacing Module 2 *with Suggested Modifications* **Key**

Optional Lesson
Extension Lesson
Remedial Lesson

Standards		Topic and Objectives	
4.MD.1 **4.MD.2**	A	**Metric Unit Conversions** Lesson 1: Express metric length measurements in terms of a smaller unit; model and solve addition and subtraction word problems involving metric length. Lesson 2: Express metric mass measurements in terms of a smaller unit; model and solve addition and subtraction word problems involving metric mass. Lesson 3: Express metric capacity measurements in terms of a smaller unit; model and solve addition and subtraction word problems involving metric capacity.	**Days: 3**

By the end of Topic A, your students should be able to:

- Convert within the metric system (mass, weight, volume, length).

Snapshot Assessment Standard 4.MD.1

Example:

1 km=_____m, 3m 56cm= _____cm

Standards		Topic and Objectives	
4.MD.1 **4.MD.2**	B	**Application of Metric Unit Conversions** Lesson 4: Know and relate metric units to place value units in order to express measurements in different units. Lesson 5: Use addition and subtraction to solve multi-step word problems involving length, mass, and capacity.	**Days: 1** **Optional Lesson 4**, it is a great review lesson, as well as the pattern sheet on 2.B.11

By the end of Topic B, your students should be able to:

- Solve two step addition and subtraction word problems involving measurement.

Snapshot Assessment Standard 4.MD.2

Example:

4. There are 3 kg of rice. If each bag can hold 500g, how many bags are needed? Jafar thinks 6 bags are needed. Jasmine thinks 3 bags are needed. Who is correct? Explain your thinking. (DOK 2)

2 Days for Re-Assessment, Remediation and Enrichment
End of Module Assessment Word Document: Problems 1-4a&b (4c is more than two steps, could be extra credit or challenge problem). -1 Day Return Tests and Remediate or extend lessons for further application. If this isn't needed, do Module 3, Lesson 1 Concept Development Problem 1 as is a great front load for the following unit on area and perimeter. -1 Day
Total Instructional Days: 6

4th Grade Pacing Module 3 *with Suggested Modifications* **Key**

Optional Lesson
Extension Lesson
Remedial Lesson

Standards		Topic and Objectives	Instructional Notes
4.OA.1 **4.OA.2** **4.MD.3** 4.OA.3	A	**Multiplicative Comparison Word Problems** Lesson 1: Investigate and use the formulas for area and perimeter of rectangles. Lesson 2: Solve multiplicative comparison word problems by applying the area and perimeter formulas. Lesson 3: Demonstrate understanding of area and perimeter formulas by solving multi-step real world problems.	**Days: 3** ****Lesson 1-** If pacing is a challenge, omit problems 1 and 4 in in concept development.

By the end of Topic A, your students should be able to:

- Use formulas to solve problems with area and perimeter
- Find the measurement of an unknown lengths and widths
- Solve word problems by solving for a missing number

Snapshot Assessment: 4.OA.2 Problem 1

Example:

1. Write the problem using a variable to represent the unknown number and solve. (DOK 1)

A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?

Snapshot Assessment: 4.MD.3 Problems 1&3

Example

1. Use the rectangle to solve the problem.

The area of the rectangle is 420 cm^2.
What is the perimeter of the rectangle?
(DOK 1)

4.NBT.5 4.OA.1 4.OA.2 4.NBT.1	B	**Multiplication by 10, 100, and 1,000** Lesson 4-5: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically. **Combine Lessons 4 and 5** Lesson 6: Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.	**Days: 2** **Lessons 4 &5**: Combine concept development of Lesson 4-5. Use page 2 of both Problem Sets.

By the end of Topic B, your students should be able to:

- Multiply a whole number by multiples of 10.

Snapshot Assessment: 4.NBT.1

Example:

30 X 10= 23 X 10= 4 X 4,000=

4.NBT.5 4.OA.2 4.NBT.1	C	**Multiplication of up to Four Digits by Single-Digit Numbers** Lesson 7-8: Use place value disks to represent up to four-digit by one-digit multiplication. Lessons 9–10: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm. Lesson 11: Connect the area model and the partial products method to the standard algorithm.	**Days: 3** **Lessons 7&8:** Combine concept development of these lessons. **In **Lesson 8,** omit the drawing of models in problem 2 and 4 in the concept development. Instead, have students think about and visualize what they would draw. Also omit the drawing with discs in problem 2 in the problem set. ****Lesson 9:** This skill is where students should be when looking at the January benchmark. ****Lesson 10:** This skill is the benchmark level for March.

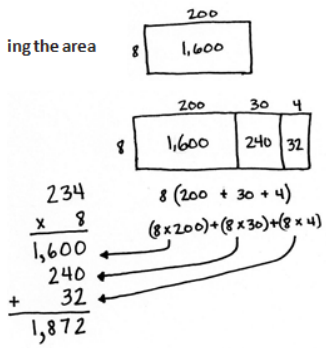
By the end of Topic C, your students should be able to:

- Multiply 3 digits by a single digit using partial products, standard algorithm, and/or an area model. (Working toward multiplying 4 digits by 1 digit and 2 digits by 2 digits by March).

Snapshot Assessment: 4.NBT.5
Example:

3. Draw and label an area model to solve:

263 x 4 = _____



4.OA.1 **4.OA.2** **4.OA.3** **4.NBT.5**	D	**Multiplication Word Problems** Lesson 12-13: Use multiplication, addition, or subtraction to solve multi-step word problems, including multiplicative comparisons. **Combine Lesson 12 & 13** **1 Day Math Task:** Comparing Money Raised In this task, it builds meaning for multiplication strategies through word problems. It also shows how multiplication equations model a situation. This is 2 by 1-digit; you could change the number to be a 3 by 1 or a 4 by 1 depending on your students' needs.	**Days: 2** Use concept development from Lesson 12. With pacing in mind, consider using problems 1 and 4 from Lesson 12 and problems 2 and 3 from Lesson 13.

By the end of Topic D, your students should be able to:

- Solve two step word problems using multiplication.
- Solve word problems solving multiplicative comparisons.

Snapshot Assessment: 4.NBT.5 Problem 1
Example:

1. Sue walks 2 miles to school every day except on Tuesdays. How many miles does Sue walk to school in 3 weeks? (DOK 1)

Snapshot Assessment: 4.OA.1
Example:

Jonathan has 4 pieces of gum. Alondra has 2 times as many. How many pieces of gum does Alondra have?

2 Days for Remediation, Enrichment, Mid-Module Assessment

Suggested Tasks: Krispy Kreme Me : In this task, students make estimates using multiplication and area to figure out how many doughnuts are in a giant Krispy Kreme box.

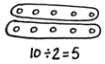
Mid Module Assessment Word Document Problems 1-5. All problems are relevant to content taught. (1 Day)

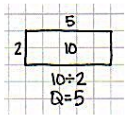
4.NBT.6 4.OA.3	E	**Division of Tens and Ones with Successive Remainders** Lesson 14: Solve division word problems with remainders. Lesson 15: Understand and solve division problems with a remainder using the array and area models. Lesson 16: Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks. Lesson 17: Represent and solve division problems requiring decomposing a remainder in the tens. Lesson 18: Find whole number quotients and remainders. *See instructional notes. Lesson 19: Explain remainders by using place value understanding and models. Lessons 20-21: Solve division problems with and without remainders using the area model. *See instructional notes.	**Days: 4** ****Lessons 14 & 15**: focus on area and array model **Lesson 16 and 17**: Omit, continue focus on area & array models ****Lesson 18:** Solve division problems using standard algorithm, not using place value disk models. The place value disk model for division was confusing for students. **Lesson 19:** Omit; imbed discussion of interpreting remainders into other division lessons.

By the end of Topic E, your students should be able to:

- Interpret a remainder within division word problems.
- Find whole number quotients with 2 digit dividends and 1 digit divisors using array and area models.

Snapshot Assessment: 4.NBT.6
Example:





Snapshot Assessment: 4.OA.3 Problem 2
Example:

2. Frank has 234 baseball cards that he equally divided into 3 bags. He then took one of these bags and equally split up the baseball cards from the bag into 3 more bags. How many baseball cards were in each of these bags? (DOK 2)

4.OA.4	F	**Reasoning with Divisibility** Lesson 22: Find factor pairs for numbers to 100 and use understanding of factors to define prime and composite. Lesson 23: Use division and the associative property to test for factors and observe patterns. Lesson 24: Determine whether a whole number is a multiple of another number. Lesson 25: Explore properties of prime and composite numbers to 100 by using multiples.	**Days: 3** Consider doing a lesson on rules of divisibility to assist students with finding factor pairs.

By the end of Topic F, your students should be able to:

- Identify multiple factor pairs within 100
- Identify if a whole number is prime or composite
-

Snapshot Assessment: 4.OA.4 Problem 1-4

2. Look at these numbers. Circle the composite numbers and put an X on the prime numbers. (DOK 1)

12 7 13 21 43 36

56 72 17 14 27 11

4.OA.3 **4.NBT.6** 4.NBT.1	G	**Division of Thousands, Hundreds, Tens, and Ones** Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers.*See instructional notes. Lesson 27: Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place. Lesson 28: Represent and solve three-digit dividend division with divisors of 2, 3, 4, and 5 numerically. *See instructional notes. Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times. Lesson 30: Solve division problems with a zero in the dividend or with a zero in the quotient. Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*. Lesson 32: Interpret and find whole number quotients and remainders to solve one-step division word problems with larger divisors of 6, 7, 8, and 9.	**Days: 6** ****Lessons 26 and 28**: teach concepts without place value disks model. **Optional Lesson 27** **Lesson 32** fluency practice is in anticipation of Module 4

		Lesson 33: Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends.	geometry concepts.

By the end of Topic G, your students should be able to:

- Find whole number quotients with 3 digit dividends and 1 digit divisors using array and area models, working towards standard algorithm and using 4 digit dividends in March.
- When solving word problems, students will know the difference between problems where either number of groups is unknown.

Snapshot Assessment: 4.NBT.6 Problem 2
Example:

2. Solve 444 ÷ 7 = _____
Show your thinking. (DOK 1)

Snapshot Assessment: 4.OA.3 Problem 4
Example:

4. Mr. Torres sold a total of 30 boxes of sports cards at his store. Each box contained 25 sports cards. He wants to display his cards on 5 shelves. How many cards will be on each shelf?

4.NBT.5 4.OA.3 4.MD.3	H	**Multiplication of Two-Digit by Two-Digit Numbers** Lesson 34-35: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart and an area model. **Combine Lessons 34 & 35** Lesson 36: Multiply two-digit by two-digit numbers using four partial products. Lessons 37–38: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.	**Days: 4** **Lessons 34-35**: Combine concept development of Lessons 34-35 or choose one. These have the same objective. Consider spending 3 days on Lessons and 1 day on practice.

By the end of Topic H, your students should be able to:

- Multiple 2 digits by 2 digits by using area model and partial products, working towards mastery of standard algorithm by March.

Snapshot Assessment: 4.NBT.5 Problem 4
Example:

4. Draw **and label** an area model to solve:

23 x 18 = _____

3 Days for Re-Assessment, Remediation and Enrichment

Suggested Tasks:

Howard County NBT.5 Assessment Tasks: These tasks give good practice for multiplying up to 4 digits. From here, you can pick the level of difficulty to meet your students' needs. Consider doing a carousel model.

Problem Solving Tasks: The Baker: In this task, students will demonstrate their understanding and make sense of the relationship between multiplication and division skills. *There is an error on the student work page, white out one of the "bagel" boxes

Public Schools of North Carolina provides additional multiplication and division rich tasks students could work on

Mental Division Strategy allows students a chance to analyze strategies.

End of Module Assessment Word Document Problems 1-3, 5, 6a-c *Consider omitting number 4 because of number disks.

Total Instructional Days: 32

Links Used:

Mid Module Remediation Problem Solving Task: Krispy Kreme Me http://gfletchy.com/krispy-kreme-me/

Mid Module Remediation Problem Solving Task: Comparing Money Raised http://achievethecore.org/page/615/comparing-money-raised-task

End of Module Remediation Howard County NBT.5 Assessment Tasks https://grade4commoncoremath.wikispaces.hcpss.org/assessing+4.NBT.5

End of Module Remediation The Baker http://www.insidemathematics.org/assets/common-core-math-tasks/the%20baker.pdf

End of Module Remediation Public Schools of North Carolina http://3-5cctask.ncdpi.wikispaces.net/4.NBT.4-4.NBT.6

End of Module Remediation Mental Division Strategy https://www.illustrativemathematics.org/content-standards/4/NBT/B/6/tasks/1774

Optional Lesson
Extension Lesson
Remedial Lesson

4th Grade Pacing Module 4 *with Suggested Modifications* **Key**

Standards		Topic and Objectives	Instructional Notes
4.G.1	A	**Lines and Angles** Lesson 1: Identify and draw points, lines, line segments, rays, and angles and recognize them in various contexts and familiar figures. Lesson 2: Use right angles to determine whether angles are equal to, greater than, or less than right angles. Draw right, obtuse, and acute angles. Lesson 3-4: Identify, define, and draw perpendicular and parallel lines. **Combine Lessons 3 and 4**	**Days: 3** **In **Lesson 2** The picture in problem set number 2 is optional, as the graphic makes it challenging to identify the angles. ***Keep right angle templates for Lesson 15.*** Combine the concept development in Lesson 3 and 4. The problem set includes page 1 of each lesson. Please check online resources for practice with interactive geometry tools.

By the end of Topic A, your students should be able to:

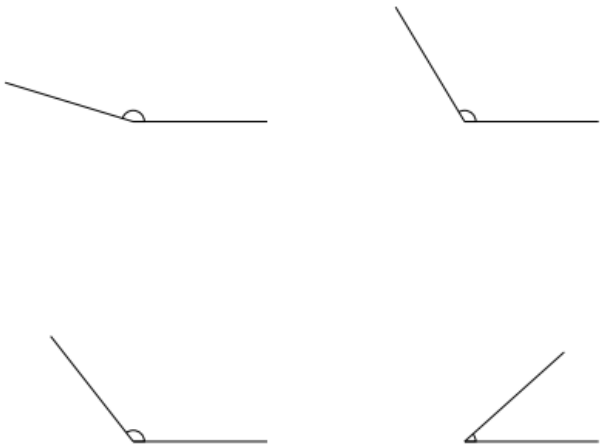
- Identify and draw points, lines, line segments, rays, and angles.

SBAC Released Items:

Example Stem: Click in the box that matches each figure with its description. Each figure may be matched to more than one description.

	Has at least one right angle	Has at least one pair of perpendicular sides	Has at least one pair of parallel sides
 Rectangle			
 Rhombus			
 Parallelogram			

Name each angle as acute, right or obtuse.



Snapshot Assessment 4.G.1

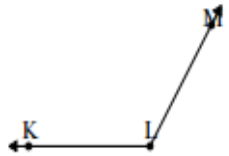
4.MD.5 **4.MD.6**	B	**Angle Measurement** Lesson 5: Use a circular protractor to understand a 1-degree angle as 1/360 of a turn. Explore benchmark angles using the protractor. Lesson 6: Use varied protractors to distinguish angle measure from length measurement. Lesson 7: Measure and draw angles. Sketch given angle measures and verify with a protractor. Lesson 8: Identify and measure angles as turns and recognize them in various contexts.	**Days: 3** **Instead of Lesson 5,** consider using Which Wedge is Right? ****Lesson 6** concepts developed in Lesson 5

By the end of Topic B, your students should be able to:

- Know that a circle is 360°, a straight line is 180°, and two rays can meet to form other angle measures
- Use a protractor to measure angles.
- Draw angles when given a specific angle measure.

Sample Assessment 4.MD.5

1)



Which choice best represents ?KLM?

A. 50°

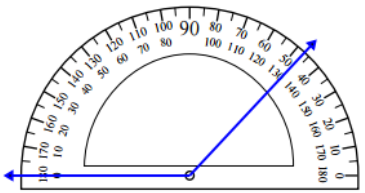
B. 22°

C. 150°

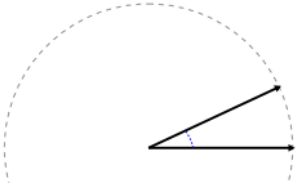
D. 120°

Sample Assessment 4.MD.6

1) *What angle is shown below?*



2) *Use a protractor to find the angle shown.*



2 Days for Remediation, Enrichment, Mid-Module Assessment

Suggested Tasks:

Consider using Lesson 6 to further develop concepts learned in Lesson 5 OR additional assessments from Howard County. -1 Day

Mid Module Assessment Word Document Problems 1-5. -1 Day

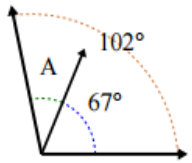
4.MD.7	C	**Problem Solving with the Addition of Angle Measures** Lesson 9: Decompose angles using pattern blocks. Lessons 10: Use the addition of adjacent angle measures to solve problems using a symbol for the unknown angle measure. **Topic C Day 2: Problem Solving Task** Angle Tangle Lesson 11: Use the addition of adjacent angle measures to solve problems using a symbol for the unknown angle measure.	**Days: 3** For pacing, **consider omitting Lesson 9** as it is not necessary for concept development.

By the end of Topic C, your students should be able to:

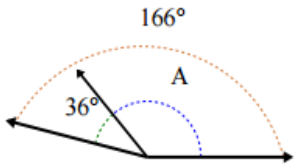
- Know that on a straight line, two angles add up to 180°.
- Solve for unknown angle measures using addition or subtraction.

SBAC Released Items 4.MD.7

1) *Find the value of 'A'.*

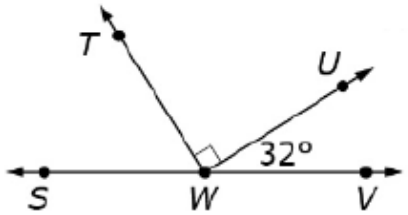


2) *Find the value of 'A'.*



Example Stem 1: Use the figure to answer the question.

- The measure of ∠*UWV* = 32°.
- ∠*TWU* is a right angle.
- The measure of ∠*SWV* = 180°.



Enter the measure, in degrees, of ∠*SWT*.

4.G.1 **4.G.2** **4.G.3**	D	**Two-Dimensional Figures and Symmetry** Lesson 12: Recognize lines of symmetry for given two-dimensional figures; identify line-symmetric figures and draw lines of symmetry. Lesson 13: Analyze and classify triangles based on side length, angle measure, or both. Lesson 14: Define and construct triangles from given criteria. Explore symmetry in triangles.	**Days: 5** Have student and teacher materials prepared prior to **Lesson 12 and 13.**

		Lesson 15: Lesson 16:	Classify quadrilaterals based on parallel and perpendicular lines and the presence or absence of angles of a specified size. Reason about attributes to construct quadrilaterals on square or triangular grid paper.	**Lesson 15** requires grid paper, a ruler, and right angle templates from Lesson 2. For **Lesson 16**, use link provided in Concept Development for triangular grid paper.

By the end of Topic D, your students should be able to:

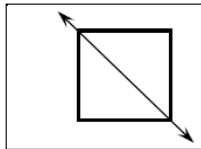
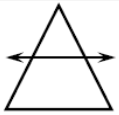
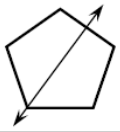
- Recognize and draw lines of symmetry in 2-D figures.
- Identify and classify triangles based on side length, angle measure, or both.
- Construct triangles.
- Classify quadrilaterals based on their sides and angles.
- Construct quadrilaterals on grid paper based on their attributes.

SBAC Released Items

Example Stem: Click in the box that matches each figure with its description. Each figure may be matched to more than one description.

	Has at least one right angle	Has at least one pair of perpendicular sides	Has at least one pair of parallel sides
 Rectangle			
 Rhombus			
 Parallelogram			

Example Stem: Decide whether the line appears to be a line of symmetry for the shape. Select Yes or No for each shape.

	Yes	No
		
		
		

2 Days for Re-Assessment, Remediation and Enrichment

Suggested Tasks: Consider using Problem Solving Task The Shape of Things to design logos with rotational symmetry for a fictional company OR a fun 2D/3D Circle Folding Activity OR Quilt Making where students demonstrate their understanding of concepts of 2 dimensional shapes and their properties.

End of Module Assessment Word Document Problems 1-4. Consider cutting out some of the problems as they can be repetitive.

Total Instructional Days: 18

Links Used:

Lesson 1-3 Interactive Geometry Tools http://www.internet4classrooms.com/skill_builders/geometry_math_fourth_4th_grade.htm

Lesson 5 Which Wedge is Right? http://cloud.rpsar.net/edocs/Math/4thGrade/CIResources/Q4/Which_Wedge_is_Right.pdf

Lesson 7 Angle Tangle http://cloud.rpsar.net/edocs/Math/4thGrade/CIResources/Q4/Angle_Tangle.pdf

Mid Module Remediation https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.MD.5

End of Module The Shape of Things http://www.insidemathematics.org/assets/problems-of-the-month/the%20shape%20of%20things.pdf

End of Module 2D/3D Circle Folding Activity http://flesolcobbcentral.typepad.com/cobb_math_esol/files/vocab_with_paper.pdf

End of Module Quilt Making http://www.insidemathematics.org/assets/common-core-math-tasks/quilt%20making.pdf

4th Grade Pacing Module 5 *with Suggested Modifications* **Key**

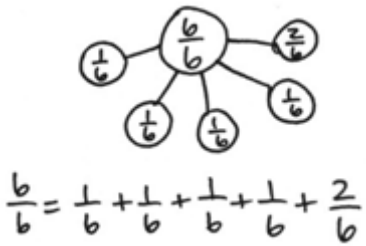
Optional Lesson
Extension Lesson
Remedial Lesson

Standards		Topic and Objectives	
4.NF.3b **4.NF.4a** 4.NF.3a	A	**Decomposition and Fraction Equivalence** Lesson 1–2: Decompose fractions as a sum of unit fractions using tape diagrams. Lesson 3: Decompose non-unit fractions and represent them as a whole number times a unit fraction using tape diagrams. Lesson 4: Decompose fractions into sums of smaller unit fractions using tape diagrams. Lesson 5: Decompose unit fractions using area models to show equivalence. Lesson 6: Decompose fractions using area models to show equivalence.	**Days: 4** **Lessons 1-2:** Combine the concept development of lesson 1 and lesson 2. Use the problem set from lesson 2. ***Teacher Prep*:** Have student and teacher materials prepared prior to lesson. **Optional Lesson 4:** Concepts developed in lessons 1-3.

By the end of Topic A, your students should be able to:

- Decompose a fraction into a sum of fractions with the same denominator
- Decompose fractions using the area model to show equivalent fractions

Sample Assessment Standard 4.NF.3b



Sample Assessment Standard 4.NF.4a

Example Stem: Enter the unknown number that makes the equation true.

$$\frac{4}{12} = \square \times \frac{1}{12}$$

4.NF.1 4.NF.3b	B	**Fraction Equivalence Using Multiplication and Division** Lessons 7: Use the area model and multiplication to show the equivalence of two fractions. Lessons 8: Use the area model and multiplication to show the equivalence of two fractions. Lessons 9: Use the area model and division to show the equivalence of two fractions. Lessons 10: Use the area model and division to show the equivalence of two fractions. Lesson 11: Explain fraction equivalence using a tape diagram and the number line, and relate that to the use of multiplication and division.	**Days: 5**

By the end of Topic B, your students should be able to:

- Use area, multiplication and division, number line, or models to show and explain the equivalence of two fractions

SBAC Released Item 4.NF.1:

Example Stem: Figure A has $\frac{2}{3}$ of its whole shaded gray.

Figure A

Decide whether each fraction is equal to $\frac{2}{3}$. Select Yes or No for each fraction.

	Yes	No
$\frac{4}{6}$		
$\frac{1}{2}$		
$\frac{8}{12}$		

4.NF.2	C	**Fraction Comparison** Lessons 12: Reason using benchmarks to compare two fractions on the number line. Lessons 13: Reason using benchmarks to compare two fractions on the number line. Lessons 14: Find common units or number of units to compare two fractions. Lessons 15: Find common units or number of units to compare two fractions.	**Days: 4** **Lessons 12 & 13 *Teacher Prep*:** Have student and teacher materials prepared prior to lesson (number lines). **Hands on Activity:** Picking Fractions

By the end of Topic C, your students should be able to:

- Understand that in order to compare fractions, the 2 fractions refer to the same whole
- Compare 2 fractions using benchmarks
- Compare fractions through finding common denominators

Sample Assessment 4.NF.2

Example Stem: Select True if the comparison is true. Select False if the comparison is **not** true.

	True	False
$\frac{1}{4} < \frac{2}{12}$		
$\frac{2}{10} > \frac{3}{5}$		
$\frac{4}{6} > \frac{5}{12}$		

4.NF.3a	D	**Fraction Addition and Subtraction**	**Days: 5**

4.NF.3d 4.NF.1 4.MD.2		Lesson 16: Use visual models to add and subtract two fractions with the same units Lesson 17: Use visual models to add and subtract two fractions with the same units, including subtracting from one whole. Lesson 18: Add and subtract more than two fractions. Lesson 19: Solve word problems involving addition and subtraction of fractions. Lessons 20-21: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12. **Combine Lessons 20 and 21** **1 Day Math Task: Chocolate Bar Fractions**	**Lessons 20-21:** Combine the concept development of Lesson 20 and Lesson 21. Use the problem set page 1 from both Lesson 20 and 21 and the sprint from Lesson 21.

By the end of Topic D, your students should be able to:

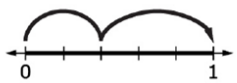
- Use visual models to add and subtract fractions
- Use visual models to subtract a fraction from one whole
- Add and subtract fractions where one denominator is a multiple or factor of the other (denominators: 2, 3, 4, 5, 6, 8,12, 10, 100)

Sample Assessment 4.NF.3a

Example Stem: Select the model that matches this equation.

$\frac{5}{8} = \frac{2}{8} + \frac{3}{8}$

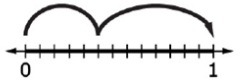
A.



B.

C.

D.



Sample Assessment 4.NF.3d

Example Stem 1: Enter the unknown number that makes the equation true.

$\frac{7}{5} - \square = \frac{4}{5}$

Example Stem 2: Enter the unknown number that makes the equation true.

$\frac{4}{5} = \square + \frac{2}{5}$

2 Days for Remediation, Enrichment, Mid-Module Assessment

Mid-Module Assessment Word Document

Suggested Tasks:

- Got Your Number, Level C This task (and the ones at the end of the unit) covers a variety of standards from this module. Any of these tasks could be used at any point in the module, depending on the needs of your students.

4.NF.1 **4.NF.2** **4.NF.3** 4.NBT.6 4.NF.4a 4.MD.4	E	**Extending Fraction Equivalence to Fractions Greater than 1** Lesson 22: Add a fraction less than 1 to, or subtract a fraction less than 1 from, a whole number using decomposition and visual models. Lesson 23: Add and multiply unit fractions to build fractions greater than 1 using visual models. Lessons 24: Decompose and compose fractions greater than 1 to express them in various forms. Lessons 25: Decompose and compose fractions greater than 1 to express them in various forms. Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions. Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators. Lesson 28: Solve word problems with line plots.	**Days: 7**
4.NF.3c **4.NF.3d** 4.MD.2	F	**Addition and Subtraction of Fractions by Decomposition** Lesson 29: Estimate sums and differences using benchmark numbers. Lesson 30: Add a mixed number and a fraction. Lesson 31: Add mixed numbers. Lesson 32: Subtract a fraction from a mixed number Lesson 33: Subtract a mixed number from a mixed number. Lesson 34: Subtract mixed numbers.	**Days: 5** **Lesson 29:** Estimation is not assessed through the standard in this module

By the end of Topic F, your students should be able to:

- Choose from a variety of strategies to add and subtract mixed numbers

Snapshot Assessment 4.NF.3a & b Problems 3 and 4

Examples:

3. Emily, Kim, and McKenzie made a pan of brownies. Emily ate $\frac{3}{12}$ and Kim and McKenzie each ate $\frac{2}{12}$ of the pan of the treats. Draw a visual model to show each

4. Kara and Olivia are making a strawberry shortcake. They need $2\frac{2}{8}$ pounds of strawberries. Kara picked $1\frac{3}{8}$ pounds of

4.NF.4 **4.MD.4** 4.OA.2 4.MD.2	G	**Repeated Addition of Fractions as Multiplication** Lessons 35: Represent the multiplication of n times a/b as $(n \times a)/b$ using the associative property and visual models. Lessons 36: Represent the multiplication of n times a/b as $(n \times a)/b$ using the associative property and visual models. Lessons 37: Find the product of a whole number and a mixed number using the distributive property. Lessons 38: Find the product of a whole number and a mixed number using the distributive property. Lesson 39: Solve multiplicative comparison word problems involving fractions. Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.	**Days: 6**

By the end of Topic G, your students should be able to:

- Use the associative property to multiply a fraction by a whole number
- Use the distributive property to multiply a whole number by a mixed number
- Solve word problems involving multiplicative comparisons and multiplication of a whole number and a fraction

SBAC Released Items 4.NF.4 :

Example Stem: A bottle holds $\frac{3}{5}$ liter of water. Sam needs 8 bottles of water to fill his fish tank. How many liters of water does Sam need to fill the fish tank? Enter the number of liters.

Select **all** the numbers that make this inequality true.

$\frac{3}{\square} \times 10 < 10$

A. 2
B. 3
C. 7
D. 9

4.OA.5	H	**Exploration** Lesson 41: Find and use a pattern to calculate the sum of all fractional parts between 0 and 1. Share and critique peer strategies.	**Days: 0** **Lesson 41:** This standard is assessed in other modules.

2 Days for Re-Assessment, Remediation and Enrichment

Suggested Tasks:

- Sugar in Six Cans of Soda
- Button Diameters
- What's the Story (use pg. 25)

End of Module Assessment Word Document

End of Module Assessment Notes: For pacing needs, items 5 and 6 may be omitted.

Total Instructional Days: 41

Links Used:

Chocolate Bar Fractions: http://schools.nyc.gov/NR/rdonlyres/0C0422CA-DBAF-4476-928F-71102DB2F703/140801/NYCDOE_G4_ChocolateBarFractions_FINAL.pdf

Picking Fractions: http://www.insidemathematics.org/assets/common-core-math-tasks/picking%20fractions.pdf

Got Your Number, Level C: http://insidemathematics.org/problems-of-the-month/pom-gotyournumber.pdf

Sugar in Six Cans of Soda: https://www.illustrativemathematics.org/content-standards/4/NF/B/4/tasks/857

What's the Story: https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th_Math-Unit-7.pdf

4th Grade Pacing Module 6 *with Suggested Modifications* **Key**

Optional Lesson
Extension Lesson
Remedial Lesson

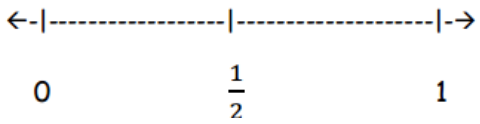
Standards		Topic and Objectives	Instructional Notes
4.NF.6 4.NBT.1 4.MD.1	A	**Exploration of Tenths** Lesson 1: Use metric measurement to model the decomposition of one whole into tenths. Lesson 2: Use metric measurement and area models to represent tenths as fractions greater than 1 and decimal numbers. Lesson 3: Represent mixed numbers with units of tens, ones, and tenths with number disks, on the number line, and in expanded form.	**Days: 3** ***Lesson 2 & 3 Teacher Prep:*** Copy teacher and student materials prior to lesson

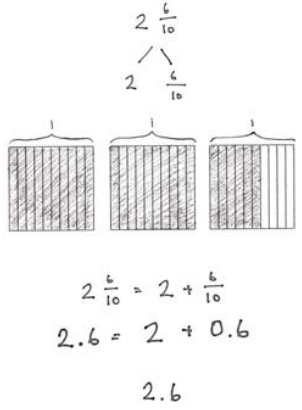
By the end of Topic A, your students should be able to:

- Use decimal notation to represent fractions with a denominator of 10

Sample Assessment Item 4.NF.6

3. Locate 0.8 on the number line.
(DOK 1)





4.NF.5 **4.NF.6** 4.NBT.1 4.NF.1 4.NF.7 4.MD.1	B	**Tenths and Hundredths** Lesson 4: Use meters to model the decomposition of one whole into hundredths. Represent and count hundredths. Lesson 5: Model the equivalence of tenths and hundredths using the area model and number disks. Lesson 6: Use the area model and number line to represent mixed numbers with units of ones, tenths, and hundredths in fraction and decimal forms. Lesson 7: Model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths in expanded form and on the place value chart. Lesson 8: Use understanding of fraction equivalence to investigate decimal numbers on the place value chart expressed in different units.	**Days: 4** **Optional Lesson 4:** Incorporates measurement conversion into tenths and hundredths ***Lesson 5, 6 & 8 Teacher Prep:*** Copy teacher and student materials prior to lessons

By the end of Topic B, your students should be able to:

- Use decimal notation to represent fractions with denominators of 10 and 100
- Use a model to represent the equivalence between tenths and hundredths

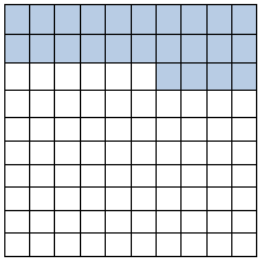
SBAC Released Item:

Example Stem: Determine if each equation is true or false. Select True or False for each equation.

	True	False
$\frac{4}{10} = \frac{40}{100}$		
$\frac{5}{10} = \frac{50}{10}$		
$\frac{11}{10} = \frac{110}{100}$		

Sample Assessment:

1. Write the following as a decimal and a fraction: (DOK 1)



2 Days for Remediation, Enrichment, Mid-Module Assessment

Mid-Module Assessment Word Document

Suggested Task:

Dismissal Duty Dilemma (pg. 49)

4.NF.7 4.MD.1 4.MD.2	C	**Decimal Comparison** Lesson 9: Use the place value chart and metric measurement to compare decimals and answer-comparison questions. Lesson 10: Use area models and the number line to compare decimal numbers, and record comparisons using <, >, and =. Lesson 11: Compare and order mixed numbers in various forms.	**Days: 2** **Extension Lesson 9,** use if time permits ***Lesson 10 &11 Teacher Prep*:** Copy teacher and student materials prior to lesson.

By the end of Topic C, your students should be able to:

- Compare decimals to the hundredths place by reasoning about their size when relating to the same whole

Snapshot Assessment 4.NF.7 :

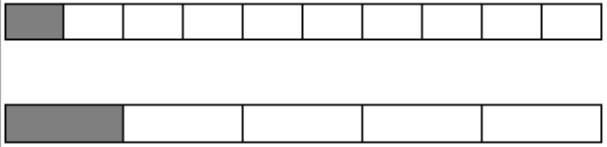
2. Use <, =, > to make the number sentence below correct. (DOK 1)

4.56 ◯ 4.57

3.2 ◯ 3.09

0.9 ◯ 1

4. Hector's teacher was meeting with him to discuss his mistake on a recent decimals test. (DOK 3)



Hector answered, "There is one piece shaded in each grid, so they must be equal."

Imagine you are Hector's teacher. Using decimals, how would you help correct his thinking?

4.NF.5 **4.NF.6** 4.NF.3c 4.MD.1	D	**Addition with Tenths and Hundredths** Lesson 12: Apply understanding of fraction equivalence to add tenths and hundredths. Lesson 13: Add decimal numbers by converting to fraction form. Lesson 14: Solve word problems involving the addition of measurements in decimal form.	**Days: 2** ***Lesson 12 Teacher Prep*:** Copy teacher and student materials prior to lesson. **Lesson 14:** Extension, use if time permits

By the end of Topic D, your students should be able to:

- Convert fractions with denominators of 10 or 100 to equivalent fractions as necessary to add tenths and hundredths

SBAC Released Item:

Example Stem: Determine if each equation is true or false.
Select True or False for each equation.

	True	False
$\frac{5}{10}+\frac{18}{100}=\frac{68}{100}$		
$\frac{11}{10}+\frac{13}{100}=\frac{24}{100}$		
$\frac{10}{10}+\frac{45}{100}=\frac{145}{100}$		

4.MD.2 4.NF.5 4.NF.6	E	**Money Amounts as Decimal Numbers** Lesson 15: Express money amounts given in various forms as decimal numbers. Lesson 16: Solve word problems involving money.	**Days: 0** **Lessons 15 & 16:** These lessons are review and connect money to place value. Pieces of these lessons could be used at the beginning of the module to connect place value conversions to something the students already know. Money is revisited in Module 7.

2 Days for Re-Assessment, Remediation and Enrichment

Sample Task:

Ticket Task: click on Quarter 3, Performance Task 1

End of Module Assessment Word Document

Notes: Correct the error on #1. The fraction should say $\frac{8}{10}$.

Because lessons on measurement and money were optional, #4 and parts of #6 may be omitted.

Total Instructional Days: 15

Links Used:

Module Assessments: https://www.engageny.org/resource/grade-4-mathematics-module-6

Dismissal Duty Dilemma: https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-5.pdf

Ticket Task: https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.NF.6

4th Grade Pacing Module 7 *with Suggested Modifications* **Key**

Optional Lesson
Extension Lesson
Remedial Lesson

Standards		Topic and Objectives	Instructional Notes
4.OA.1 **4.OA.2** **4.MD.1** 4.NBT.5 4.MD.2	A	**Measurement Conversion Tables** Lessons 1: Create conversion tables for length, weight, and capacity units using measurement tools, and use the tables to solve problems. Lesson 2: Create conversion tables for length, weight, and capacity units using measurement tools, and use the tables to solve problems. Lesson 3: Create conversion tables for units of time, and use the tables to solve problems. Lesson 4-5: Solve multiplicative comparison word problems using measurement conversion tables and share/critique peer strategies. **Combine Lesson 4 & 5** **1 Day Math Task: How Many Movies Can You See in One Day?**	**Days: 5** **Lesson 1** sprint is prep for money which they will be using in a later lesson in this unit. **Lesson 2** has core fluency practice sets that review skills learned throughout the year. Consider doing Lesson 1 and 2 as stations with materials to allow time to explore unit conversions. **Lesson 3** needs a timer or an online stopwatch. **Lesson 4 and 5:** Choose one concept development. Use Lesson 4 problem set with Lesson 5 Peer Share and Critique Form.

By the end of Topic A, your students should be able to:

- Use multiplication to do measurement conversions within a single system.
- Know the relative size of units within a measurement system.
- Make and use conversion tables to compare sizes.
- Share their problem solving strategies and critique peer strategies

Sample Assessment

Charlie and 10 friends are planning for a pizza party. They purchased 3 quarts of milk. If each glass holds 1 cup will everyone get at least one glass of milk?

4.OA.2 **4.OA.3** **4.MD.1** **4.MD.2**	B	**Problem Solving with Measurement** Lesson 6: Solve problems involving mixed units of capacity. Lesson 7: Solve problems involving mixed units of length.	**Days: 5**

4.NBT.5 4.NBT.6		Lesson 8: Solve problems involving mixed units of weight. Lesson 9: Solve problem involving mixed units of time. Lessons 10–11: Solve multi-step measurement word problems. **Combine 10 & 11**	**Combine Lesson 10 and 11** and consider using the carousel model.
By the end of Topic B, your students should be able to: • Add and subtract mixed units of capacity, length, weight, and time. • Solve multistep word problems involving measurement and conversions. **Snapshot Assessment 4.MD.2- Use Questions 1 and 2**			
4.OA.3 **4.MD.1** **4.MD.2** 4.NBT.5 4.NBT.6	C	**Investigation of Measurements Expressed as Mixed Numbers** Lessons 12–13: Use measurement tools to convert mixed number measurements to smaller units. Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit.	**Days: 0** **Extension Lessons 12-14.** Conversion of mixed number measurements is not necessary to meet the standard in 4th grade.
3 Days for Re-Assessment, Remediation and Enrichment- End of Module Assessment Mid-Module Assessment Word Document ***Suggested Tasks:*** • Do The Dew, where students need to find out how much sugar is in a case of Mountain Dew • The Apple, where students first estimate and then find out the weight of an apple.			
	D	**Year in Review** Lessons 15–16: Create and determine the area of composite figures. Lesson 17: Practice and solidify Grade 4 fluency. Lesson 18: Practice and solidify Grade 4 vocabulary.	**Days: 0** Include as review as needed. Students make a folder of math practice for summer break.
			Total Instructional Days: 13

Links Used:

Module Assessments: https://www.engageny.org/resource/grade-4-mathematics-module-6

"How Many Movies Can You See in One Day?" Task: http://robertkaplinsky.com/work/movies/

"Do the Dew" Task: http://gfletchy.com/do-the-dew/

"The Apple" Task: http://gfletchy.com/the-apple/