



Washington Township School District



The mission of the Washington Township Public Schools is to provide a safe, positive, and progressive educational environment that provides opportunity for all students to attain the knowledge and skills specified in the NJ Learning Standards at all grade levels, so as to ensure their full participation in an ever-changing world as responsible, self-directed and civic-minded citizens.

Course Title:	Math					
Grade Level(s):	2 nd					
Duration:	Full Year:	X	Semester:		Marking Period:	
Course Description:	Eureka Math ² is designed to build enduring knowledge of mathematics through rigorous instruction that meets the unique needs of the learning community. The program focuses on accessibility, coherence, and conceptual understanding, with models, ideas, and strategies that connect across units and grade levels. Grade 2 tells the story of units of units. Students work with a new unit of one hundred, which is composed of 10 tens. As they work flexibly with units, students compose and decompose quantities in various ways to solve problems within 1,000.					
Grading Procedures:	The district utilizes standards-based grading.					
Primary Resources:	Eureka Math Squared by Great Minds					

Washington Township Principles for Effective Teaching and Learning

- Implementing a standards-based curriculum
- Facilitating a learner-centered environment
- Using academic target language and providing comprehensible instruction
- Adapting and using age-appropriate authentic materials
- Providing performance-based assessment experiences
- Infusing 21st Century skills for College and Career Readiness in a global society

Designed by:	Lauren Sisco
Under the Direction of:	Gretchen Gerber and Janine Ryan

Written: July 2021 by Lauren Sisco

Revised: July 2024 by Lauren Sisco

BOE Approval: _____

Unit Title: Module 1- Place Value Concepts Through Metric Measurement and Data – Place Value, Counting, and Comparing Within 1,000

Unit Description:

Students represent and interpret data, and they explore place value within the context of metric measurement. Students use various models- bundles, bills, and disks- to further develop place value understanding

Unit Duration: 38 lessons (#38 is optional) 4 assessment days; EQUIP 1, EQUIP 2/3, Module 1 Part 1 & Part 2 Assessments, 2 review days = **44 days**

Desired Results

Standard(s):

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

2.OA.B.2 With accuracy and efficiency, add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

2.M.A.3 Estimate lengths using units of inches, feet, centimeters, and meters.

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

2.DL.A.1 Understand that people collect data to answer questions. Understand that data can vary.

2.DL.B.4 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (This standard can be implemented during Eureka “Data Talks”.)

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

2.NBT.A.1.a 100 can be thought of as a bundle of ten tens — called a “hundred.”

2.NBT.A.1.b The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

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

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

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

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

2.M.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

2.M.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

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

Understandings:

- I can draw and label a picture graph using data.
- I can use information from graphs to answer questions.
- I can measure lengths and relate 100 cm, 10 cm and 1 cm.
- I can measure with various tools.
- I understand smaller unit means it takes more of them to measure something. A bigger unit means I need fewer of them.

Essential Questions:

- Why are graphs useful?
- How are bar graphs similar to picture graphs?
- How are bar graphs different from picture graphs?
- What do the numbers on a ruler tell us?
- How are 1 cm, 10 cm, and 100 cm related?
- When we record measurements, why is it important to include the number and the unit?
- How can we tell if an estimate makes sense?
- How do benchmarks help make better estimates?

<ul style="list-style-type: none"> ● I can use a benchmark to make an estimate that makes sense. ● I can draw a tape diagram to compare numbers and write a matching equation to find the difference ● I can use a measuring tape as a number line to subtract efficiently. ● I can bundle 10 tens to make a new unit, a hundred. ● I can count within 1,000 by using ones, tens, and hundreds. ● I can use counting strategies to solve word problems. ● I can organize, count, and record a collection of objects. ● I can count within 1,000, and I understand that a digit's place tells me what unit it represents. ● I can write three-digit numbers in unit form and show the value that each digit represents. ● I can read and write numbers in different forms. ● I can count and exchange \$1, \$10, and \$100 bills. ● I can exchange 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand. ● I can compare three-digit numbers by using $>$, $=$, and $<$. 	<ul style="list-style-type: none"> ● What is the relationship between measurement tools and units? ● How does a tape diagram help us compare? ● What does it mean to find the difference in height? ● How can benchmark numbers and the number line be used to subtract efficiently? ● How can number lines and tape diagrams be used to represent and solve comparison problems? ● How can the same problem be solved with different equations? ● Why can we use addition or subtraction to solve a <i>compare</i> problem? ● What do you notice repeating as we bundle units to make 1 ten, 1 hundred, and 1 thousand? ● How do place value units help us count efficiently? ● How does grouping help us count more efficiently? ● Why is a digit's place important? ● Does the order of units matter when a number is written in expanded form? ● How are dollar bills related to place value units? ● What tools can we use to count by place value units? ● How do we know when to make a new unit?
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Assessment Evidence

Assessments:

- Module 1 EQUIP (Pre Assessment)
- Topic Tickets; A, B, C, D, E, F, G, H, I
- Module 2/3 EQUIP
- Lesson Exit tickets (29)
- Module 1 Part 1 Assessment
- Module 1 Part 2 Assessment

Benchmarks:

- The iReady assessment is administered in the Fall and Winter.

Learning Plan

Lesson #: 1

Standard: 2.OA.B.2, 2.DL.A.1, 2.DL.B.4, 2.DL.A.1, 2.DL.A.2

Mathematical Practice: 6

Target: Draw and label a picture graph to represent data.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students find the total and say an addition equation to maintain addition fluency within 10 from grade 1. Students say a related addition equation to prepare for work with put together, take apart, and compare problems beginning in lesson 3.

Launch: Students generate data by voting on a personal favorite.

Learn: Students make picture graphs to represent data. Students interpret data presented in a picture graph to answer questions.

Land: Facilitate a discussion about picture graphs, how to represent data with them, and the information you can gain from them.

Daily Exit Ticket: Students with use data from a chart to create a picture graph.

Resources: No manipulatives needed.

Lesson #: 2

Standard: 2.OA.B.2, 2.DL.B.4, 2.DL.A.1, 2.DL.A.2

Mathematical Practice: 8

Target: Draw and label a bar graph to represent data.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students find the total and say an addition equation to maintain addition fluency within 10 from grade 1. Students say a related addition equation to prepare for work with *put together*, *take apart*, and *compare* problems beginning in lesson 3.

Launch: Students discover that the orientation and type of graph does not change the data.

Learn: Students generate data about themselves and represent it on a bar graph. Students interpret data presented in a bar graph to answer questions.

Land: Facilitate a discussion about the similarities and differences of picture and bar graphs.

Daily Exit Ticket: Students with use data from a chart to create a bar graph.

Resources: No manipulatives needed.

Lesson #: 3

Standard: 2.OA.B.2, 2.DL.B.4, 2.DL.A.1, 2.DL.A.2

Mathematical Practice: 2

Target: Use information presented in a bar graph to solve put together and take apart problems.

Learning Activities:

Fluency: Students take away from 6 and say a subtraction equation to maintain fluency with decompositions within 10 from grade 1. Students find an unknown total or part to prepare for work with *put together*, *take apart*, and *compare* problems.

Launch: Students organize a set to find the total number of objects in a collection.

Learn: Students create a bar graph and use the data to solve *put together* problems. Students use the data presented in a bar graph to solve *take apart* problems.

Land: Facilitate a discussion about how students used information from the graph to solve problem 2.

Daily Exit Ticket: Students with use data from a bar graph to answer put together problems.

Resources: Eureka Math Numeral Cards 1 set per group), same-size counters

Lesson #: 4

Standard: 2.OA.B.2, 2.DL.B.4, 2.DL.A.1, 2.DL.A.2

Mathematical Practice: 7

Target: Use information presented in a bar graph to solve compare problems.

Learning Activities:

Fluency: Students take away from 7 and say a subtraction equation to maintain fluency with decompositions within 10 from grade 1. Students find an unknown total or part to prepare for work with *put together*, *take apart*, and *compare* problems.

Launch: Partners compare cube sticks and make a statement about the difference.

Learn: Students use different strategies to compare data on a bar graph. Students use the bar graph to create and solve additional comparison problems.

Land: Facilitate a discussion about how tiles and bar graphs can be used to solve compare problems.

Daily Exit Ticket: Students with use data from a data table to create a bar graph and answer compare problems.

Resources: Eureka Math Numeral Cards, Color Tiles, Unifix Cube Sticks

Lesson #: 5

Standard: 2.M.A.3, 2.M.A.1

Mathematical Practice: 6

Target: Connect measurement to physical units by iterating a centimeter cube.

Learning Activities:

Fluency: Students take away from 8 and say a subtraction equation to maintain fluency with decompositions within 10 from grade 1. Students complete a number bond and write equations to build addition and subtraction fluency within 20.

Launch: Students measure the same object twice and reason about good measuring practices.

Learn: Students lay standard length units end to end to make a numberless ruler. Students iterate 1 physical unit by using the mark-and-move-forward technique.

Land: Facilitate a discussion about what they learned about rulers by making them.

Daily Exit Ticket: Students will identify and explain an error in a measurement problem.

Resources: centimeter cubes, 8" x 2" paper strips

Lesson #: 6

Standard: 2.M.A.1

Mathematical Practice: 2

Target: Make a 10 cm ruler and measure objects.

Learning Activities:

Fluency: Students complete a number bond and write equations to build addition and subtraction fluency within 20. Students take away from 9 and say a subtraction equation to maintain fluency with decompositions within 10 from grade 1.

Launch: Students reason about what makes a ruler an efficient measuring tool.

Learn: Students iterate a centimeter cube to make and label a 10 cm ruler. Students use their 10 cm rulers to measure objects shorter than 10 cm.

Land: Facilitate a discussion about how human error can affect measurements and why we need standard measurement tools to get accurate measurements.

Daily Exit Ticket: Students will identify a cm ruler and explain why three others are not accurate.

Resources: rekenrek, centimeter cubes, 10 cm card, and rulers

Lesson #: 7

Standard: 2.M.A.3, 2.M.A.1

Mathematical Practice: 7

Target: Measure lengths and relate 10 cm and 1 cm.

Learning Activities:

Fluency: Students count by tens in standard form and the Say Ten way to prepare for recognizing that ten of a smaller unit make a larger unit. Students take away from 10 and say a subtraction sentence to maintain fluency with decompositions within 10 from grade 1. Students compose or decompose a two-digit number to build place value understanding.

Launch: Students reason about how to measure objects that are longer than their given tool.

Learn: Students combine tools to measure an object that is longer than 10 cm. Students relate their 10 cm ruler to 1 cm.

Land: Facilitate a discussion about the relationship between 1cm and 10cm.

Daily Exit Ticket: Students will provide the measurements for items using 1cm cubes and a 10cm ruler.

Resources: rekenrek, 10cm rulers, centimeter cubes

Lesson #: 8

Standard: 2.M.A.3, 2.M.A.1

Mathematical Practice: 5

Target: Make a meter stick and measure with various tools.

Learning Activities:

Fluency: Students complete a number bond and write equations to build addition and subtraction fluency within 20.

Launch: Students reason about length units.

Learn: Students use 10 cm rulers to make a meter stick. Students discuss different ways to measure an object and reason about units.

Land: Facilitate a discussion about how the size and shape of an object help you to determine the appropriate measuring tool.

Daily Exit Ticket: Students will determine how many 10cm rulers are needed to create a meter stick.

Resources: double-sided meter stick, 10cm rulers, centimeter cubes, 10cm cards, tape, measuring tape

Lesson #: 9

Standard: 2.M.A.1

Mathematical Practice: 3

Target: Relate 1 cm, 10 cm, and 100 cm.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency with counting within 1,000. Students compose and decompose a two-digit number to build place value understanding. Students complete a number bond and write equations to build addition and subtraction fluency within 20.

Launch: Students engage in a discussion about the relationships between units.

Learn: Students reason about expressing length measurements in terms of different units. Students find ways to express the same measurement using different units.

Land: Facilitate a discussion about how 1cm, 10cm, and 100 cm are connected.

Daily Exit Ticket: Students will determine the length of an object using a 10cm ruler and determine the appropriate tool to measure given objects.

Resources: Measurement Matchup Cards

Lesson #: 10

Standard: 2.M.A.1, 2.M.A.2

Mathematical Practice: 8

Target: Reason about the relationship between the size of the unit and the number of units needed to measure.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students determine how many more centimeters are needed to make 100 cm to build an understanding of length units.

Launch: Students become familiar with ancient Egyptian measurement tools.

Learn: Students analyze various length units to understand the relationship among them. Students measure with two different units and compare.

Land: Facilitate a discussion about how the tool used to measure an object can affect the measurement itself, and the importance of using a unit when reporting a measurement.

Daily Exit Ticket: Students will determine the length of an object using cubits and palms and identify the differences.

Resources: measuring tape

Lesson #: 11

Standard: 2.M.A.3, 2.M.A.4

Mathematical Practice: 3

Target: Estimate and compare lengths.

Learning Activities:

Fluency: Students determine how many more centimeters are needed to make 100 cm to build an understanding of length units. Students find an unknown total or part to prepare for work with comparison problems.

Launch: Students watch a video and make sense of a situation that requires estimation.

Learn: Students analyze various length units to understand the relationship among them. Students compare estimates with an actual measurement and reason about which estimate is more accurate.

Land: Facilitate a discussion about how and why you would need to estimate.

Daily Exit Ticket: Students will determine the appropriate estimate of length for common objects.

Resources: measuring tape, Eureka Math Numeral Cards, centimeter cubes, rulers

Lesson #: 12

Standard: 2.M.A.3, 2.M.A.4

Mathematical Practice: 3

Target: Model and reason about the difference in length.

Learning Activities:

Fluency: Students count on by tens to maintain understanding of the base ten structure of numbers from grade 1. Students find an unknown total or part to prepare for work with comparison problems.

Launch: Students model an estimate to compare with an actual measurement.

Learn: Students represent the difference in length between their estimate and the measurement by using a tape diagram. Students find the difference in length by adding to make both tape diagrams the same. Students find the difference in length by subtracting to make both tapes the same.

Land: Facilitate a discussion about how subtraction helps to determine the difference between lengths.

Daily Exit Ticket: Students will measure an object and determine and show the difference between the given estimate and an actual measurement of the object.

Resources: double-sided meter stick, Eureka Math Numeral Cards, centimeter cubes, 10 cm rulers

Lesson #: 13

Standard: 2.M.A.1, 2.M.A.3

Mathematical Practice: 5

Target: Estimate and measure height to model metric relationships.

Learning Activities:

Fluency: Students say an addition equation by using the commutative property to maintain the use of the property as a strategy for addition from grade 1. Students say a partner to 10 and an addition equation to maintain fluency with partners to 10 from grade 1. Students add 10 cm to a measurement to build an understanding of length units.

Launch: Students say an addition equation by using the commutative property to maintain the use of the property as a strategy for addition from grade 1.

Learn: Partners estimate and measure each other's height. Students represent and express measurements in terms of meters and centimeters.

Land: Facilitate a discussion about how we can express a measurement in more than one way, discuss the relationship between cm and m.

Daily Exit Ticket: Students will express a measurement using meter sticks, 10 cm rulers, and centimeter cubes.

Resources: double-sided meter stick, measuring tape, centimeter cubes, 10 cm rulers

Lesson #: 14

Standard: 2.M.A.4, 2.M.B.5

Mathematical Practice: 2

Target: Represent and compare students' heights.

Learning Activities:

Fluency: Students say an addition equation by using the commutative property to maintain the use of the property as a strategy for addition from grade 1. Students say a partner to 10 and an addition equation to maintain fluency with partners to 10 from grade 1. Students subtract 10 cm from a measurement to build an understanding of length units.

Launch: Students organize themselves in height order as a context for comparison.

Learn: Students represent and compare heights by using a tape diagram. Students use drawings and measurement tools to find the difference in height.

Land: Facilitate a discussion about the meaning of difference in height and how it can be found using a tape diagram.

Daily Exit Ticket: Students will measure two objects and determine the difference between them.

Resources: measuring tape, centimeter cubes, 10 cm rulers

Lesson #: 15

Standard: 2.M.B.5, 2.M.B.6

Mathematical Practice: 7

Target: Use a measuring tape as a number line to add efficiently.

Learning Activities:

Fluency: Students count by tens and relate the count to metric units to prepare for recognizing benchmark numbers and using a measuring tape as a number line. Students identify the next ten, and how many more to make the next ten, to prepare to work on the number line.

Launch: Students share strategies for determining height.

Learn: Students use the measuring tape as a number line to add efficiently. Students use benchmark numbers to add efficiently on a number line.

Land: Facilitate a discussion about how benchmark numbers and the number line help them to add efficiently.

Daily Exit Ticket: Students will measure two objects and determine the difference between them.

Resources: measuring tape, centimeter cubes, 10 cm rulers

Lesson #: 16

Standard: 2.M.B.6

Mathematical Practice: 7

Target: Use a measuring tape as a number line to subtract efficiently.

Learning Activities:

Fluency: Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students count by tens and relate the count to metric units to develop familiarity with benchmark numbers and using the measuring tape as a number line. Students identify the next ten, and how many more to make the next ten, to prepare to work on the number line.

Launch: Students reason about subtraction strategies and establish a need for an efficient subtraction strategy, such as getting to a benchmark number.

Learn: Students use benchmark numbers to subtract efficiently. Students reason about subtracting by using benchmark numbers on the number line.

Land: Facilitate a discussion about how benchmark numbers and the number line help them to subtract efficiently.

Daily Exit Ticket: Students will use a number line to solve a subtraction problem.

Resources: measuring tape, double-sided meter stick

Lesson #: 17

Standard: 2.M.A.4, 2.M.B.5, 2.M.B.6

Mathematical Practice: 5

Target: Represent and solve comparison problems by using measurement contexts.

Learning Activities:

Fluency: Students count on by tens to maintain understanding of the base-ten structure of numbers from grade 1. Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students identify the next ten and how many more to make the next ten to prepare to work on the number line.

Launch: Students watch and discuss a comparison situation.

Learn: Students reason about how to represent and solve a comparison problem. Students share solution strategies and reason about their connections.

Land: Facilitate a discussion about ways to represent and solve comparison problems.

Daily Exit Ticket: Students will identify and describe an error in a given solution to a *compare with difference unknown* problem with a length context.

Resources: rekenrek

Lesson #: 18

Standard: 2.M.B.5, 2.M.B.6

Mathematical Practice: 5, 2

Target: Solve compare with difference unknown word problems by using measurement contexts.

Learning Activities:

Fluency: Students answer questions about a bar graph to build proficiency with interpreting data from topic A.

Launch: Students reason about a *compare with difference unknown* problem.

Learn: Students represent and solve a *compare with difference unknown* problem with a length context. Students share and compare solution strategies and make connections between them.

Land: Facilitate a discussion about models and strategies to use for *compare with difference unknown* problem with a length context.

Daily Exit Ticket: Students will solve a *compare with difference unknown* problem with a length context.

Resources: rekenrek, ruler, measuring tape, measuring tools

Lesson #: 19

Standard: 2.M.B.5, 2.M.B.6

Mathematical Practice: 1

Target: Solve compare with difference unknown word problems in various contexts.

Learning Activities:

Fluency: Students answer questions about a bar graph to build proficiency with interpreting data from topic A. Students count on by tens to maintain understanding of the base-ten structure of numbers from grade 1. Students solve related addition and subtraction facts on the ruler to develop fluency by using either operation when solving *compare with difference unknown* measurement problems.

Launch: Students reason about a *compare with difference unknown* problem.

Learn: Students use important information to represent and solve a *compare with difference unknown* problem. **Students share and compare solution strategies and make connections between them.**

Land: Facilitate a discussion about models and strategies to use for *compare with difference unknown* problem in various contexts.

Daily Exit Ticket: Students will use a number line to solve a subtraction problem.

Resources: rekenrek, ruler, measuring tape, measuring tools

Lesson #: 20

Standard: 2.NBT.A.1, 2.NBT.A.2, 2.NBT.A.3

Mathematical Practice: 8

Target: Count and bundle ones, tens, and hundreds to 1,000.

Learning Activities:

Fluency: Students add 10 more to a measurement and say the addition equation to maintain place value understanding and addition fluency from grade 1. Students construct a number line with their fingers while counting aloud to maintain strategies for addition and subtraction from grade 1. Students say how many more ones make 1 ten or how many more tens make 1 hundred to develop place value understanding within 1,000.

Launch: Students reason about efficient ways to count a large quantity in preparation for counting beyond 1,000

Learn: Students count and bundle 10 ones as 1 ten to develop place value understanding. Students count and bundle 10 tens as 1 hundred to develop place value understanding. Students count and bundle 10 hundreds as 1 thousand to develop place value understanding.

Land: Facilitate a discussion about the process of counting and bundling to 1,000.

Daily Exit Ticket: Students will express numbers using place value units.

Resources: measuring tape, craft sticks, rubber bands

Lesson #: 21

Standard: 2.NBT.A.2, 2.NBT.A.3

Mathematical Practice: 4

Target: Count efficiently within 1,000 by using ones, tens, and hundreds.

Learning Activities:

Fluency: Students subtract 10 from a measurement and say the subtraction equation to maintain place value understanding and subtraction fluency from grade 1. Students say how many more ones make a given number of tens to develop place value understanding within 1,000. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and develop place value understanding.

Launch: Students compare two ways of counting and reason about efficiency.

Learn: Students use ones, tens, and hundreds to count from 37 to 100 and then from 75 to 120. Students draw ones, tens, and hundreds to represent a count from 48 to 300.

Land: Facilitate a discussion about how place values can help us to count efficiently.

Daily Exit Ticket: Students will use place value units to demonstrate counting.

Resources: measuring tape, craft stick bundles

Lesson #: 22

Standard: 2.NBT.A.2, 2.NBT.B.8, 2.OA.A.1

Mathematical Practice: 1

Target: Use counting strategies to solve add to with change unknown word problems.

Learning Activities:

Fluency: Students construct a number line with their fingers while counting aloud to maintain strategies for addition and subtraction from grade 1. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and develop place value understanding.

Launch: Students chorally count by tens and notice patterns.

Learn: Students use place value units to count efficiently within 1,000. Students apply place value understanding to solve an *add to with change unknown* word problem.

Land: Facilitate a discussion about strategies use to solve problem 1 from the problem set.

Daily Exit Ticket: Students will use place value units to demonstrate counting.

Resources: craft stick bundles

Lesson #: 23

Standard: 2.OA.A.1, 2.OA.A.2, 2.OA.A.3

Mathematical Practice: 1

Target: Organize, count, and represent a collection of objects.

Learning Activities:

Fluency: None

Launch: Students count chorally by tens beyond 100 and explore place value patterns.

Learn: Students discuss and compare strategies for organizing, recording, and counting. Students discuss and compare strategies for organizing, recording, and counting.

Land: Facilitate a discussion about how grouping can help students to count more efficiently.

Daily Exit Ticket: None

Resources: counting collection, organizing tools, recording sheet

Lesson #: 24

Standard: 2.OA.A.1, 2.OA.A.2, 2.NBT.B.8

Mathematical Practice: 7

Target: Count up to 1,000 by using place value units.

Learning Activities:

Fluency: Students identify number bonds with the same total to maintain addition within 100 from grade 1. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and develop place value understanding.

Launch: Students use place value understanding to notice and analyze patterns.

Learn: Students count from 0 to 124 by using the units ones, tens, and hundreds. Students record the count from 476 to 600 represented as bundles on a place value chart.

Land: Facilitate a discussion about how grouping can help students to count more efficiently.

Daily Exit Ticket: Students demonstrate counting from 668 to 900.

Resources: Within 50 cards, personal student recording sheets

Lesson #: 25

Standard: 2.NBT.A.1, 2.NBT.A.3

Mathematical Practice: 7

Target: Write three-digit numbers in unit form and show the value that each digit represents.

Learning Activities:

Fluency: Students construct a number line with their fingers while counting aloud to maintain strategies for adding and subtracting from grade 1. Students model related subtraction equations with their fingers to maintain the take from the ones strategy from grade 1 and prepare for similar work in module 2. Students decompose a two-digit number into tens and ones to prepare for similar work within 1,000.

Launch: Students reason about how the unit affects the value of a number.

Learn: Students express numbers in unit form and show the value that each digit represents. Students use a number bond to show the value that the hundreds, tens, and ones digits represent.

Land: Facilitate a discussion about the values of digits in a number.

Daily Exit Ticket: Students will express the value of digits in three digit numbers.

Resources: craft stick bundles, boxes, whole number place value cards, Tens and Ones removeable

Lesson #: 26

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.B.8

Mathematical Practice: 7

Target: Write base-ten numbers in expanded form.

Learning Activities:

Fluency: Students model subtraction equations with their fingers to maintain the take from the ones and take from the tens strategies from grade 1 and prepare for similar work in module 2. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and develop place value understanding. Students decompose a three-digit number into hundreds, tens, and ones to develop place value understanding within 1,000.

Launch: Students use place value understanding and mental math strategies to find the total.

Learn: Students read and write numbers in expanded form in unit order. Students read and write numbers in expanded form when units are not in order from greatest to least.

Land: Facilitate a discussion about how to put numbers in expanded form.

Daily Exit Ticket: Students will write numbers in expanded and standard form.

Resources: craft stick bundles, boxes, whole number place value cards, Hundreds, Tens and Ones removeable

Lesson #: 27

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.B.8

Mathematical Practice: 3

Target: Read, write, and relate base-ten numbers in all forms.

Learning Activities:

Fluency: Students count by ones, tens, or hundreds to build fluency counting within 1,000 and develop place value understanding.

Launch: Students use place value understanding to reason about numbers in various forms.

Learn: Students read and write numbers in word form. Students relate numbers in different forms and determine that they have the same value.

Land: Facilitate a discussion about how numbers can be represented in different forms..

Daily Exit Ticket: Students will express numbers in expanded, word, unit, and standard form.

Resources: Number Form cards, "Count By Ones, Tens, and Hundreds Sprint," Numbers in Word Form

Lesson #: 28**Standard:** 2.NBT.A.1, 2.NBT.A.2, 2.NBT.A.3, 2.NBT.B.8**Mathematical Practice:** 6**Target:** Use place value understanding to count and exchange \$1, \$10, and \$100 bills.**Learning Activities:****Fluency:** Students sort number cards by value to build fluency with forms of numbers from topic F. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and build place value understanding.**Launch:** Students analyze and reason about related place value representations.**Learn:** Students use place value understanding to count and exchange bills up to \$124. Students represent the same total value more than one way.**Land:** Facilitate a discussion about how bills can be used to represent place value units.**Daily Exit Ticket:** Students will express \$103 using bills, two ways.**Resources:** Number Form cards, envelopes, craft stick bundles, plastic bags, Number Form Cards, Unlabeled Chart, Money Tool Kit**Lesson #: 29****Standard:** 2.NBT.A.2, 2.NBT.B.8**Mathematical Practice:** 8**Target:** Count by \$1, \$10, and \$100.**Learning Activities:****Fluency:** Students model addition on a number line by using benchmark numbers to build fluency with the skill from topic D. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and build place value understanding. Students write a three-digit number in expanded form to build fluency with the skill from topic F.**Launch:** Students choral count by ones from 776 to 800 and notice patterns.**Learn:** Students count from \$776 to \$900 by using dollar bills. Students skip-count by ones, tens, and hundreds on the open number line.**Land:** Facilitate a discussion about strategies for counting on an open number line.**Daily Exit Ticket:** Students will demonstrate counting on an open number line.**Resources:** craft stick bundles, Number Line, Unlabeled Chart, Money Tool Kit**Lesson #: 30****Standard:** 2.NBT.A.1, 2.NBT.A.1.a, 2.NBT.A.1.b, 2.NBT.A.2, 2.NBT.A.3, 2.NBT.B.8**Mathematical Practice:** 1**Target:** Determine how many \$10 bills are equal to \$1,000.**Learning Activities:****Fluency:** Students model subtraction on a number line using benchmark numbers to build fluency with the skill from topic D. Students visualize a number line while counting aloud to build fluency counting within 1,000. Students write a three-digit number in standard form to build fluency with the skill from topic F.**Launch:** Students watch, discuss, and model a place value problem.

Learn: Students select appropriate models and strategies to determine how many tens are in a thousand. Students select appropriate models and strategies to determine how many tens are in a thousand.

Land: Facilitate a discussion about smaller units can be used to create larger units.

Daily Exit Ticket: Students will draw bills for a given dollar amount and demonstrate counting on an open number line.

Resources: Number Line

Lesson #: 31

Standard: 2.NBT.A.1, 2.NBT.A.3

Mathematical Practice: 6

Target: Count the total value of ones, tens, and hundreds with place value disks.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students recognize a group of dots to build fluency with subitizing quantities shown with vertical 5-groups and prepare for similar work with place value disks. Students draw to represent bills to model a three-digit amount, say the amount in unit form, and write the amount in expanded form to build fluency with forms of numbers from topic F.

Launch: Students share different ways of representing a three-digit number.

Learn: Students build numbers with place value disks and relate the representations to bundles and bills. Students complete an open-ended task to recognize the relationship between value and place.

Land: Facilitate a discussion about the ways we have learned to represent numbers.

Daily Exit Ticket: Students will represent a given drawing in expanded and standard form.

Resources: Unlabeled Chart, Place value disks set, Craft stick bundles, Money tool kit, Sticky notes

Lesson #: 32

Standard: 2.NBT.A.1, 2.NBT.A.2, 2.NBT.A.3, 2.NBT.B.8

Mathematical Practice: 7

Target: Exchange 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand.

Learning Activities:

Fluency: Students identify a number modeled with place value disks and determine 10 and 100 more to build place value understanding. Students count by ones, tens, or hundreds to build fluency counting within 1,000 and build place value understanding. Students recognize a group of place value disks to build fluency with subitizing quantities shown with vertical 5-groups.

Launch: Students analyze related place value expressions and representations.

Learn: Students recognize the efficiency of exchanging 10 of a smaller value unit for 1 of the next larger value unit. Students recognize the structure of the base-ten system while counting place value disks on an unlabeled chart. Students apply place value understanding to represent and solve a word problem.

Land: Facilitate a discussion about student strategies for solving the cookie problem solved during "Learn".

Daily Exit Ticket: Students will determine the unknown in a place value problem.

Resources: Unlabeled Chart, Place value disks set, Craft stick bundles, Sticky notes

Lesson #: 33

Standard: 2.NBT.A.1, 2.NBT.A.2, 2.NBT.A.3

Mathematical Practice: 5,7

Target: Model numbers with more than 9 ones or 9 tens.

Learning Activities:

Fluency: Students identify a number modeled with place value disks and determine 10 and 100 less to build place value understanding. Students use place value disks to model a three-digit number and write the value in standard and expanded form to build fluency with forms of numbers from topic F.

Launch: Students reason about place value patterns and determine if they apply to other units.

Learn: Students model numbers with different units and count to verify an equal value. Students draw equivalent values by exchanging 1 larger value unit with 10 smaller value units and 10 smaller value units for 1 larger value unit.

Land: Facilitate a discussion about place value drawings.

Daily Exit Ticket: Students will draw a given number using only tens and ones.

Resources: Place Value Chart, Place value disks set, Unlabeled Chart

Lesson #: 34

Standard: 2.NBT.A.1

Mathematical Practice: 3

Target: Problem solve in situations with more than 9 ones or 9 tens.

Learning Activities:

Fluency: Students write a number given in expanded form in standard form to build fluency with forms of numbers from topic F.

Launch: Students study place value representations to determine their equivalence.

Learn: Students determine whether unit forms are equivalent in situations involving more than 9 ones. Students determine whether unit forms are equivalent in situations involving more than 9 ones.

Land: Facilitate a discussion about what to do when there are more than 9 in a place value unit.

Daily Exit Ticket: Students will determine if a given place value conversion is correct and demonstrate how they know with a drawing.

Resources: Expanded Form to Standard Form Sprint, Place Value Chart

Lesson #: 35

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.A.4

Mathematical Practice: 6

Target: Compare three-digit numbers by using $>$, $=$, and $<$.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students recognize a 5-group and say the value to develop fluency with subitizing quantities shown with 5-groups and comparing three-digit numbers. Students compare numbers less than 100 by using symbols to prepare for similar work with three-digit numbers beginning in lesson 36.

Launch: Students analyze a set of numbers and engage in a discussion about place value.

Learn: Students compare three-digit numbers by using drawings on a place value chart. Students compare three-digit numbers by using place value drawings and the $>$, $=$, and $<$ symbols.

Land: Facilitate a discussion about comparing numbers.

Daily Exit Ticket: Students will compare two numbers using drawings and symbols.

Resources: Place Value Chart

Lesson #: 36

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.A.4

Mathematical Practice: 8

Target: Apply place value understanding to compare by using $>$, $=$, and $<$.

Learning Activities:

Fluency: Students count by ones, tens, or hundreds to build fluency counting within 1,000 and build place value understanding. Students recognize a 5-group and say the value to develop fluency with subitizing quantities shown with 5-groups and comparing three-digit numbers. Students identify three-digit numbers shown with place value drawings, then use a symbol to compare the numbers to develop fluency with comparing three-digit numbers.

Launch: Students choose from two options and justify their reasoning.

Learn: Students use place value understanding to compare numbers that have the same digits. Students use place value drawings to compare numbers with more than 9 hundreds, 9 tens, or 9 ones. Students list all possible numbers by using the same three digits and observe how the total value changes.

Land: Facilitate a discussion about the value of a digit is used when making comparison statements.

Daily Exit Ticket: Students will compare two numbers using drawings and symbols.

Resources: Place Value Chart, Craft Stick Bundles, Sticky Notes

Lesson #: 37

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.A.4

Mathematical Practice: 1

Target: Organize, count, represent, and compare a collection of objects.

Learning Activities:

Fluency: None

Launch: Students compare two collections and prepare to count and compare one of their own.

Learn: Partners organize and count a collection and record their process. Partners organize and count a collection and record their process. Students discuss strategies for organizing and counting and use place value understanding to compare totals.

Land: Facilitate a discussion about *Ponte della Paglia* and how what we've learned so far in this module can help us to count objects in the painting.

Daily Exit Ticket: Students will compare two numbers using drawings and symbols.

Resources: Counting Collection, Organizing Tools, Recording Sheet

Lesson #: 38 (Optional)

Standard: 2.NBT.A.1, 2.NBT.A.3, 2.NBT.A.4

Mathematical Practice: 7

Target: Compare numbers in different forms.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students sort number cards by value to build fluency with forms of numbers from topic F.

Launch: Students will compare sets of crayons in different forms.

Learn: Use place value drawings to compare and order numbers in different forms. Write numbers in standard form, unit form, word form, and expanded form. Then compare and order.

Land: Facilitate a discussion about comparing numbers in different forms.

Daily Exit Ticket: Students will compare two numbers using drawings and symbols.

Resources: Number Form Cards, envelopes

Unit Modifications for Special Population Students

Advanced Learners

Lesson 13 - Problem 2 asks students to generate different ways to show 118 cm by using different measurement tools. Provide a challenge by asking the following questions:

- Can you measure Ling's height if you only have nine 10 cm rulers? What if you only have 8?
- If you have nine 10 cm rulers, how many centimeter cubes do you need? What if you have eight 10 cm rulers?
- What patterns do you notice?

Lesson 20 - If extra bundles of ten total more than 10 tens, consider asking questions to support students in thinking about the meaning of, for example, 12 tens.

- Is there a hundred inside these 12 tens? How do you know?
- How can you use what you know about centimeters and meters to figure out the value of 12 tens?

Lesson 36 - If students can compare numbers with ease, add variety by providing the numbers in different forms: expanded form, unit form, word form. For example, compare 27 tens 3 ones and $200 + 3$.

Struggling Learners

Lesson 16 - To help solidify the concept of getting to a benchmark number, provide an entry point to the problem. For example, have students find $35 - 5$ before finding $35 - 7$.

	<p>Lesson 22 - Alter counting sequences for students who need support changing units when counting. Consider starting with a familiar, consistent number, such as 100, and using fewer units to count.</p> <ul style="list-style-type: none"> Count from 100 to 180 by tens Count from 100 to 250 by hundreds and tens Count from 100 to 237 by hundreds, tens, and ones <p>Increase complexity by altering the order of units counted as students are ready.</p> <ul style="list-style-type: none"> Count from 90 to 240 by hundreds and tens Count from 90 to 217 by hundreds, tens, and ones Count from 88 to 243 by hundreds, tens, and ones <p>Lesson 34 - Consider offering materials such as craft stick bundles and dollar bills to students who may benefit from a more concrete experience. Encourage students to use their models to explain their thinking.</p>
English Language Learners	<p>Lesson 2 - Consider supporting the multiple meanings of the term <i>scale</i> by facilitating a class discussion with visuals or pictures. Ask students what other meanings of the word <i>scale</i> they are familiar with, besides the definition presented in this lesson. When students mention scales on a lizard, show a picture of a lizard and label its scales. Contrast this with an image of a graph with its scale labeled. Highlight for students that this lesson will focus on the mathematical meaning of the term <i>scale</i>.</p> <p>Lesson 3 - Support students as they practice by posting exemplars in the classroom. As students share their thinking, highlight efficient strategies that can advance thinking and help students develop the habit of looking for efficient ways to add or subtract. Regularly refer to and add to exemplars, recalling why each is efficient.</p> <p>Lesson 35 - Support students in sharing thoughts and ideas with precise place value language by revoicing vague statements. For example, if a student says, “All the numbers have 8,” revoice by saying, “All the numbers have the digit 8.”</p>
Special Needs Learners	<p>Lesson 4 - Consider having students use crayons the same colors as the tiles (red, blue, yellow, green) to emphasize the relationship between the concrete tiles and a pictorial bar graph.</p> <p>Lesson 11 - Consider any of the following variations to the sets of cards to adjust the level of complexity, building up to the goal of addition and subtraction within 20:</p> <ul style="list-style-type: none"> Cards 0–5 provide practice with number bonds to 10. Cards 0–5 and 10 provide practice with number bonds to 10 and 10+ facts. <p>Lesson 32 - Engage students in a kinesthetic activity. As students exchange 10 ones for 1 ten, have them wiggle their fingers for ones and clasp them together to show a new unit of 1 ten. Likewise, when students exchange 10 tens for 1 hundred, have them give each finger a value of ten, and clasp them together to show a new unit of 1 hundred.</p>
Learners with a 504	<p>Refer to page four in the Parent and Educator Resource Guide to Section 504 to assist in the development of appropriate plans.</p>

Standards:

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

This standard is addressed during the “Launch” section of every lesson. Students are introduced to the priority math standards addressed for the day in a variety of ways, they then unpack and use this information during the “Learn” section in small group, partner, and whole group setting, and use the same information to complete the “Problem Set” individually.

For example, in Lesson 11 students will watch a video about measuring a dog bed. They will then ask and answer questions about the video to demonstrate understanding of how to measure efficiently and accurately.

SL.PE.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.

This standard is addressed during the “Fluency”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 15 teachers gather students with their Problem Set and facilitate a discussion about how benchmark numbers and the number line help them to add efficiently. Students will explain how they completed their problem set and how they can connect their work with benchmark numbers can help to create new equations. Students will speak in pairs to “turn and talk,” they will also raise their hands to speak in whole group.

SL.ES.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

This standard is addressed during the “Fluency”, “Launch”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 26 teachers will display a series of word problems and possible solutions to the problems. Students will then ask and answer questions to demonstrate that they understand the concept of place value comparisons.

Integration of 21st Century Skills

Standards:

9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

This standard is addressed in Lessons 20, 21, 22, 23, 28, 29, & 30 as students apply what they learned about place value to study money and how 1-, 10-, and 100-dollar bills can also be used to show place value.

For example, in Lesson 28 students are given \$1, \$10, and \$20 bills. Students use a place value chart to count and exchange bills up to \$124.

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives

This standard is addressed during the “Land” section of every lesson. Students are engaged in math discourse about the different strategies peers used to solve the assigned problems for the day.

For example, in Lesson 3 during “Land” students refer to problem 2 and think–pair–share about their solution and strategies used. The teacher listens as pairs discuss and selects a few students who solved it differently to share their thinking.

Unit Title: Module 2- Addition and Subtraction Within 200	
Unit Description: Students use the properties of operations, the relationships between numbers, and place value understanding to add and subtract within 200. Students apply these operations to representing and solving various word problems.	
Unit Duration: 27 lessons, 1 assessment day; Module 2 Assessment , 1 review day = 29 days	
Desired Results	
Standard(s): 2.NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a “hundred.” b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). 2.NBT.B.5. With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. 2.NBT.B.6 Add up to four two-digit numbers using strategies based on place value and properties of operations. 2.NBT.B.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. 2.NBT.B.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900. 2.NBT.B.9 9. Explain why addition and subtraction strategies work, using place value and the properties of operations. (Clarification: Explanations should be supported by drawings or objects.) 2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 2.OA.B.2 With accuracy and efficiency, add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. 2.DL.B.4 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.	
Understandings: <ul style="list-style-type: none"> ● I can break apart numbers into place value units. ● I can add like units to make a simpler problem. ● I can use an open number line to add. ● I can make a ten to solve an addition problem. ● I can solve word problems with simplifying strategies. ● I can exchange 10 ones disks for 1 tens disk. 	Essential Questions: <ul style="list-style-type: none"> ● What helps you decide the order in which you add? ● How does place value understanding help in adding two- and three-digit numbers? ● How can different forms, such as unit form or expanded form, help in adding like units?

<ul style="list-style-type: none"> • I can use place value drawings to compose a ten. • I can use math drawings to compose a hundred and relate to written recordings. • I can use compensation to subtract. • I can use addition and subtraction strategies to find an unknown part. • I understand when to unbundle a ten to subtract. • I can use models to decompose a ten. • I can use place value drawings to decompose a ten or hundred. • I can draw a tape diagram to represent the problem. • I can solve two-step word problems. 	<ul style="list-style-type: none"> • How do benchmark numbers help us add? • Why is compensation a useful strategy for addition? • When is it helpful to make a ten to add? • How do simplifying strategies help us solve word problems? • How do place value drawings help us add? • When do we compose a new unit? • How can we use addition to solve a <i>take from</i> problem? • How does the number line help us use benchmark numbers to subtract? • When does it make sense to decompose the total of a subtraction problem? • How are the take from a ten and take from a hundred strategies related? • How do simplifying strategies help us solve problems? • When do we need to unbundle a ten to subtract? • Does the total change when we exchange or rename units? • How can we unbundle a hundred to help us subtract? • How do we solve a word problem with more than one step?
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Assessment Evidence

Assessments:

- Topic Tickets A, B, C, & D
- Lesson Exit tickets (23)
- Module 2 Assessment

Benchmarks:

- The iReady assessment is administered in the Fall, Winter, and Spring.

Learning Plan

Lesson #: 1

Mathematical Practice: 3

Standard: 2.OA.A.1, 2.NBT.B.6, 2.NBT.B.8, 2.NBT.B.9

Target: Reason about addition with four addends.

Learning Activities:

Fluency: Students count by tens starting and ending at different numbers to prepare for adding within 100 on an open number line in lesson 3. Students add two-digit numbers, with a focus on multiples of 10, to prepare for using strategies to make an easier problem. Students make ten and then add the third addend to prepare for reasoning about addition with four addends.

Launch: Students share reasoning for grouping two addends to make an easier problem.

Learn: Students add four addends by using self-selected strategies. Students share strategies and reason about ways to combine addends to make an easier problem.

Land: Facilitate a discussion about strategies for adding problems with four addends.

Daily Exit Ticket: Students will solve an addition problem with 4 addends.

Resources: No manipulatives needed.

Lesson #: 2

Mathematical Practice: 7

Standard: 2.NBT.B.1, 2.NBT.B.5, 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9, 2.DL.B.4

Target: Break apart and add like units.

Learning Activities:

Fluency: Students write a two- or three-digit number in unit and expanded form to prepare for using strategies to add like units. Students count on by tens beginning and ending at different numbers to prepare for adding within 100 on an open number line in lesson 3. Students add two-digit numbers without composing a new unit to prepare for breaking apart numbers to add like units.

Launch: Students use data from a bar graph to add like units.

Learn: Students add like place value units by decomposing two-digit addends in standard and unit form. Students add like place value units by decomposing two- and three-digit numbers and adding like units.

Land: Facilitate a discussion about how simplifying a problem can help to easily solve the problem.

Daily Exit Ticket: Students will solve two addition problems by simplifying the addends.

Resources: Place Value Chart

Lesson #: 3

Mathematical Practice: 2

Standard: 2.OA.A.1, 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9

Target: Use compensation to add within 100.

Learning Activities:

Fluency: Students use a number bond to decompose a one- or two-digit number into 1 and another part to prepare for using compensation to add.

Launch: Students use a number bond to decompose a one- or two-digit number into 1 and another part to prepare for using compensation to add.

Learn: Students use a number line to reason about why compensation works. Students self-select representations to apply benchmark thinking to solve a word problem involving measurement.

Land: Facilitate a discussion about using benchmark numbers and models such as the open number line and arrow way to add.

Daily Exit Ticket: Students will use a number line to solve two addition problems.

Resources: measuring tape

Lesson #: 4

Mathematical Practice: 5

Standard: 2.NBT.B.7, 2.NBT.B.8

Target: Use compensation to add within 200.

Learning Activities:

Fluency: Students count on by tens, beginning and ending at different numbers, to prepare for adding within 200 on an open number line. Students use a number bond to decompose a two- or three-digit number into 1 and another part to prepare for using compensation to add within 200. Students choose a strategy to add two-digit numbers to build addition fluency within 100.

Launch: Students compare related expressions in preparation for using benchmark numbers to add within 200.

Learn: Students reason about the compensation strategy by analyzing how it is used to find the answer to two related problems.

Land: Facilitate a discussion about why compensation can be a useful strategy to solve addition problems.

Daily Exit Ticket: Students will solve an addition problem using compensation.

Resources: open number line

Lesson #: 5

Mathematical Practice: 8

Standard: 2.OA.B.2, 2.NBT.B.5, 2.NBT.B.8

Target: Make a ten to add within 100.

Learning Activities:

Fluency: Students write a two- or three-digit number in word form to build fluency with the skill from module 1. Students make ten and then add a third addend to prepare for making a ten to add within 100.

Launch: Students notice and wonder about three-addend expressions when two of the addends make a ten.

Learn: Students simplify addition by decomposing one addend to make a ten when the other addend ends in 9. Students simplify addition by decomposing one addend to make a ten when the other addend ends in 8.

Land: Facilitate a discussion about the last problem in the Problem Set.

Daily Exit Ticket: Students will solve an addition problem using compensation.

Resources: Place Value Chart

Lesson #: 6

Mathematical Practice: 7

Standard: 2.OA.B.2, 2.NBT.B.5, 2.NBT.B.8

Target: Make a ten to add within 200.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students use a number bond to decompose a one- or two-digit number into 2 and another part to prepare for making a ten to add within 200. Students choose a strategy to add two- or three-digit numbers to build addition fluency within 200.

Launch: Students engage in a Math Chat to share solution strategies for addition when crossing the hundred.

Learn: Students simplify addition by decomposing one addend when the other addend ends in 9 to make a ten within 200. Students simplify addition by decomposing one addend when the other addend ends in 8 to make a ten within 200.

Land: Facilitate a discussion about the make a ten strategy within 200.

Daily Exit Ticket: Students will find an error in a given solution and correct it.

Resources: Open Number Line

Lesson #: 7

Mathematical Practice: 5

Standard: 2.OA.B.1, 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9

Target: Solve word problems by using simplifying strategies for addition.

Learning Activities:

Fluency: Students add one- and two-digit numbers to build addition fluency within 100.

Launch: Students make sense of a word problem to help them choose a solution strategy.

Learn: Students explain their reasoning for selecting a particular solution strategy.

Land: Facilitate a discussion about strategies used to complete the Problem Set.

Daily Exit Ticket: Students will solve two addition problems using multiple strategies.

Resources: Add Within 100 Sprint

Lesson #: 8

Mathematical Practice: 8

Standard: 2.OA.B.1, 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.5

Target: Use concrete models to compose a ten.

Learning Activities:

Fluency: Students add ones or tens in unit form to build place value understanding. Students identify the next ten and how many more to make the next ten, and then say an equation to prepare for modeling addition and composition of a ten. Students use place value disks to model a one- or two-digit number and say the number in unit form to prepare for modeling addition and composition of a ten.

Launch: Students reason about a familiar context to relate to the concept of completing a unit of ten.

Learn: Students reason about the composition of a ten. Students use place value disks to add and compose a ten.

Land: Facilitate a discussion about when to compose a new unit.

Daily Exit Ticket: Students will solve two addition problems using Place Value Disks.

Resources: Place Value Disk Sets

Lesson #: 9**Mathematical Practice:** 6**Standard:** 2.OA.A.1, 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.5, 2.NBT.B.7, 2.NBT.B.9**Target:** Use place value drawings to compose a ten and relate to written recordings.**Learning Activities:****Fluency:** Students use place value drawings to model two- or three-digit numbers, say the number in unit form, and write the number in expanded form to prepare for relating place value drawings to written recordings for addition.**Launch:** Students use place value disks to model an addition problem and relate their model to a place value drawing.**Learn:** Students make place value drawings to represent and solve addition problems. Students make connections between place value drawings and written methods.**Land:** Facilitate a discussion about using place value drawings to add.**Daily Exit Ticket:** Students will solve two addition problems using Place Value Chart and correct an error on a given solution.**Resources:** Place Value Disk Sets, Place Value Chart**Lesson #: 10****Mathematical Practice:** 4**Standard:** 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.7, 2.NBT.B.9**Target:** Use concrete models to compose a hundred.**Learning Activities:****Fluency:** Students compare numbers within 1,000 in standard form by using symbols to build fluency with comparing numbers from module 1. Students count by tens in unit and standard form to prepare for composing a hundred. Students add tens in unit form and say an equation in standard form to prepare for composing a hundred.**Launch:** Students use a context to reason about how to complete a unit of a hundred.**Learn:** Students reason about the composition of a hundred. Students use place value disks to add and compose a hundred.**Land:** Facilitate a discussion about how the place value disks and the written recording are related.**Daily Exit Ticket:** Students will solve two addition problems using Place Disks.**Resources:** Place Value Disk Sets**Lesson #: 11****Mathematical Practice:** 6**Standard:** 2.OA.A.1, 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.7**Target:** Use math drawings to compose a hundred and relate to written recordings.**Learning Activities:****Fluency:** Students compare numbers within 1,000 in different forms by using symbols to build fluency with comparing numbers from module 1. Students count by tens in unit and standard forms to develop fluency with

composing a hundred. Students add tens in unit form and say an equation in standard form to prepare for composing a hundred.

Launch: Students use place value disks to model an addition problem and relate their models to a place value drawing.

Learn: Students relate concrete models to pictorial place value drawings. Students make place value drawings to represent and solve addition problems.

Land: Facilitate a discussion about how place value drawings helped to solve the Problem Set problems.

Daily Exit Ticket: Students will solve an addition problem using place value drawings.

Resources: Place Value Disk Sets

Lesson #: 12

Mathematical Practice: 4

Standard: 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.7

Target: Use place value drawings to compose a ten and a hundred with two- and three-digit addends. Relate to written recordings.

Learning Activities:

Fluency: Students identify the next ten and how many more to make the next ten to prepare for modeling addition and composition of a ten. Students add ones or tens in unit form to build place value understanding. Students use place value drawings to model two- or three-digit numbers, say the number in unit form, and write the number in expanded form to prepare for relating place value drawings to written recordings for addition.

Launch: Students reason about the similarities and differences between various recordings.

Learn: Students use place value drawings to add and relate the compositions to written recordings. Students compare written recordings and reason about finding the sum of two-digit numbers.

Land: Facilitate a discussion about strategies used to solve number 4 in the Problem Set.

Daily Exit Ticket: Students will solve an addition problem using place value charts.

Resources: Place Value Chart

Lesson #: 13

Mathematical Practice: 3

Standard: 2.OA.A.1, 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9

Target: Represent and solve take from word problems.

Learning Activities:

Fluency: Students complete a number sequence to build fluency with mentally adding or subtracting 100, which was introduced in module 1. Students complete a number bond and write equations to prepare for solving *take from with change unknown* problems. Students rename tens to build fluency with strategies that require decomposing larger units.

Launch: Students make sense of a *take from with change unknown* situation and discuss different representations.

Learn: Students represent and solve a *take from with change unknown* word problem. Students share strategies and reason about ways to combine addends to make an easier problem.

Land: Facilitate a discussion about problem-solving strategies for the problem set.

Daily Exit Ticket: Students will solve a word problem using drawings and writing a number sentence.

Resources: Math Tools

Lesson #: 14

Mathematical Practice: 7

Standard: 2.OA.A.1, 2.OA.B.2, 2.NBT.B.5, 2.NBT.B.7, 2.NBT.B.8

Target: Use addition and subtraction strategies to find an unknown part.

Learning Activities:

Fluency: Students complete a number sequence to build fluency with mentally adding or subtracting 10, which was introduced in module 1. Students write the total to build addition fluency within 20.

Launch: Students make sense of a *take from with result unknown* word problem.

Learn: Students analyze work samples to see the relationship between addition and subtraction strategies to find the unknown. Students analyze work samples to see the relationship between addition and subtraction strategies to find the unknown.

Land: Facilitate a discussion about strategies students use to solve 87-38.

Daily Exit Ticket: Students will solve subtraction problems.

Resources: Add Within 20 Sprint

Lesson #: 15

Mathematical Practice: 2

Standard: 2.OA.B.2, 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9, 2.DL.B.4

Target: Use compensation to subtract within 100.

Learning Activities:

Fluency: Students complete a number bond and write equations to build addition and subtraction fluency within 20. Students subtract a multiple of 10 from a two-digit number to prepare for using compensation to subtract within 100.

Launch: Students use data from a bar graph as context for a subtraction problem.

Learn: Students use a number line to reason about why the compensation strategy works. Students apply compensation reasoning to the subtraction of two-digit numbers.

Land: Facilitate a discussion about how compensation is used as a subtraction strategy.

Daily Exit Ticket: Students will solve subtraction problems using compensation.

Resources: measuring tape

Lesson #: 16

Mathematical Practice: 8**Standard:** 2.OA.A.1, 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9**Target:** Use compensation to subtract within 200.**Learning Activities:**

Fluency: Students complete a number sequence to build fluency with mentally adding or subtracting 100, which was introduced in module 1. Students rename tens to build fluency with strategies that require decomposing larger units. Students subtract a multiple of 10 from a two-digit number to prepare for using compensation to subtract within 100.

Launch: Students reason about connections between problems to extend compensation understanding to larger numbers.

Learn: Students reason about the compensation strategy by analyzing how it is used to solve two analogous problems. Students use a number line to model compensation within 200.

Land: Facilitate a discussion about using compensation as a strategy to subtract.

Daily Exit Ticket: Students will draw and write a solution to a word problem.

Resources: measuring tape

Lesson #: 17**Mathematical Practice: 6****Standard:** 2.OA.A.1, 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9**Target:** Take from a ten to subtract within 200.**Learning Activities:**

Fluency: Students subtract a multiple of 10 from a two-digit number, then hop forward 1 to develop fluency with using compensation to subtract within 100. Students subtract a multiple of 10 from a two- or three-digit number to prepare for taking from a ten or hundred to subtract within 200.

Launch: Students reason about an efficient strategy for solving a subtraction problem with regrouping.

Learn: Students decompose the total to subtract from a benchmark number.

Land: Facilitate a discussion about using efficient strategies for subtraction.

Daily Exit Ticket: Students will solve subtraction problems.

Resources: none

Lesson #: 18**Mathematical Practice: 7****Standard:** 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9**Target:** Take from a hundred to subtract within 200.**Learning Activities:**

Fluency: Students complete a number bond and write equations to build addition and subtraction fluency within 20. Students subtract a multiple of 10 from a three-digit number to prepare for taking from a hundred to subtract within 200.

Launch: Students relate pictorial representations to equations.

Learn: Students simplify subtraction problems by decomposing the total into 100 and another part. Students look for similarities and differences between the take from a ten and take from a hundred strategies.

Land: Facilitate a discussion about the take from a ten and take from a hundred strategies.

Daily Exit Ticket: Students will solve subtraction problems.

Resources: craft stick bundles

Lesson #: 19

Mathematical Practice: 3

Standard: 2.OA.A.1, 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9

Target: Solve word problems with simplifying strategies for subtraction.

Learning Activities:

Fluency: Students complete a number sequence to build fluency with mentally adding or subtracting 10, which was introduced in module 1. Students subtract a multiple of 10 from a two- or three-digit number, then hop forward 1 to develop fluency with using compensation to subtract within 200. Students subtract a multiple of 10 from a two- or three-digit number to prepare for using simplifying strategies for subtraction to solve word problems.

Launch: Students share and discuss subtraction solution strategies.

Learn: Students self-select a strategy to solve a word problem. Students explain their reasoning for selecting a particular solution strategy.

Land: Facilitate a discussion focused on strategy choice and use.

Daily Exit Ticket: Students will solve subtraction problems using numerous strategies.

Resources: Subtraction Strategy Signs

Lesson #: 20

Mathematical Practice: 7

Standard: 2.OA.A.1, 2.OA.B.2 2.NBT.B.5, 2.NBT.B.8, 2.NBT.B.9

Target: Reason about when to unbundle a ten to subtract.

Learning Activities:

Fluency: Students model subtraction equations with their fingers to prepare for reasoning about subtraction and when to unbundle a ten. Students rename tens to build fluency with strategies that require decomposing larger units.

Launch: Students self-select a strategy to subtract a one-digit number from a two-digit number.

Learn: Students reason about when they need to unbundle a ten to subtract. Students unbundle a ten and rename the total to subtract.

Land: Facilitate a discussion about the use of unbundling in the Problem Set.

Daily Exit Ticket: Students will solve subtraction problems using numerous strategies.

Resources: box of pencils, single pencils, craft stick bundles, Rename Place Value Units Sprint

Lesson #: 21**Mathematical Practice: 8****Standard:** 2.OA.A.1, 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.5, 2.NBT.B.9**Target:** Use concrete models to decompose a ten with two-digit totals.**Learning Activities:**

Fluency: Students model subtraction equations with their fingers to prepare for reasoning about subtraction and when to unbundle a ten. Students subtract ones in unit form and say an equation in standard form to prepare for decomposing a ten with two-digit numbers that represent totals. Students use place value disks to model a two-digit number and say the number in unit form to prepare for modeling subtraction and decomposition of a ten.

Launch: Students reason about a *take from* situation when they need to unbundle a unit of ten.

Learn: Students decompose a ten to subtract two-digit numbers by using place value disks. Students decompose a ten to subtract and relate concrete and pictorial models.

Land: Facilitate a discussion about why and how to decompose a ten.

Daily Exit Ticket: Students will solve subtraction problems using Place Value Disks.

Resources: Place Value Disk Sets, Classroom Money Set

Lesson #: 22**Mathematical Practice: 7****Standard:** 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.5, 2.NBT.B.7**Target:** Use place value drawings to decompose a ten and relate them to written recordings.**Learning Activities:**

Fluency: Students subtract tens in unit form and say an equation in standard form to prepare for decomposing a ten with two-digit numbers that represent totals. Students rename tens to build fluency with strategies that require unbundling larger units.

Launch: Students reason about a *take from* situation when they need to unbundle a unit of ten.

Learn: Students rename a ten as ones to subtract by using place value drawings.

Land: Facilitate a discussion that emphasizes the usefulness of place value drawings.

Daily Exit Ticket: Students will solve subtraction problems using Place Value Charts.

Resources: none

Lesson #: 23**Mathematical Practice: 2****Standard:** 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.5, 2.NBT.B.7**Target:** Use concrete models and drawings to decompose a hundred.**Learning Activities:**

Fluency: Students count by tens in unit and standard form to prepare for renaming three-digit numbers that represent totals as tens and ones in unit form. Students rename hundreds to build fluency with strategies that require unbundling larger units. Students use place value drawings to model a two- or three-digit number, say the number in unit form, and write the number in expanded form to prepare for relating place value drawings to a written recording for subtraction.

Launch: Students reason about a *take from* situation that necessitates unbundling a hundred.

Learn: Students decompose a hundred to subtract by using place value disks and relate models. Students rename three-digit totals as tens and ones in unit form and subtract like units.

Land: Facilitate a discussion about how to decompose a hundred to subtract.

Daily Exit Ticket: Students will solve subtraction problems using Place Value Disks.

Resources: Place Value Disks, Classroom Money Kit

Lesson #: 24

Mathematical Practice: 8

Standard: 2.OA.A.1, 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.7

Target: Use place value drawings to decompose a hundred and relate them to written recordings.

Learning Activities:

Fluency: Students model subtraction equations with their fingers to develop fluency with reasoning about subtraction and when to unbundle a ten. Students count by tens in unit and standard form to develop fluency with renaming three-digit numbers that represent totals as tens and ones in unit form. Students rename hundreds to build fluency with strategies that require unbundling larger units.

Launch: Students apply place value concepts to rename a three-digit number in unit form in multiple ways by unbundling hundreds or tens. Students rename a hundred as tens to subtract by using place value drawings.

Learn: Students rename a hundred as tens to subtract by using place value drawings. Students rename a hundred to subtract and relate place value drawings to a recorded method.

Land: Facilitate a discussion that emphasizes the usefulness of place value drawings.

Daily Exit Ticket: Students will draw and write the solution to a subtraction word problem.

Resources: No manipulatives needed.

Lesson #: 25

Mathematical Practice: 1

Standard: 2.OA.B.2, 2.NBT.A.1, 2.NBT.B.7

Target: Use place value drawings to subtract with two decompositions.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students model subtraction equations with their fingers to develop fluency with reasoning about subtraction and when to unbundle a ten. Students subtract ones or tens in unit form to build fluency with strategies that require decomposing larger units.

Launch: Students work collaboratively to rename a three-digit number.

Learn: Students subtract from a three-digit total requiring the decomposition of a ten and a hundred by using place value drawings. Students relate place value drawings to written recordings for subtraction problems that require two decompositions.

Land: Facilitate a discussion about how place value drawings and renaming help to solve subtraction problems.

Daily Exit Ticket: Students will solve a subtraction problem using place value charts.

Resources: Chart paper, markers, sticky notes

Lesson #: 26

Mathematical Practice: 4

Standard: 2.OA.A.1, 2.OA.B.2, 2.NBT.B.5

Target: Solve add to and take from with start unknown word problems.

Learning Activities:

Fluency: Students visualize a number line while counting aloud to build fluency counting within 1,000. Students subtract ones or tens in unit form to build fluency with strategies that require decomposing larger units. Students write and complete an addition equation to represent a tape diagram to prepare for solving *add to* and *take from with start unknown* problems.

Launch: Students reason about how to find the unknown in an equation when the start is the unknown.

Learn: Students use part-total relationships to represent and solve *take from with start unknown* word problems. Students use part-total relationships to represent and solve *add to with start unknown* word problems.

Land: Facilitate a discussion about strategies for solving problems with unknowns.

Daily Exit Ticket: Students will draw and write a solution to a problem with an unknown.

Resources: No manipulatives needed

Lesson #: 27

Mathematical Practice: 2

Standard: 2.OA.A.1, 2.OA.B.2, 2.NBT.B.5

Target: Solve two-step word problems within 100.

Learning Activities:

Fluency: Students count by tens in unit and standard form to develop fluency with renaming three-digit numbers that represent totals as tens and ones in unit form. Students rename hundreds to build fluency with strategies that require decomposing larger units. Students write and complete an equation to represent a tape diagram to prepare for adding and subtracting to solve word problems.

Launch: Students reason about a two-step problem.

Learn: Students represent and solve a two-step word problem.

Land: Facilitate a discussion about solving two-step word problems.

Daily Exit Ticket: Students will draw and write a solution to a two-step word problem.

Resources: No manipulatives needed

Unit Modifications for Special Population Students

Advanced Learners

Lesson 6 - Consider using the following suggestions to provide greater complexity:

	<ul style="list-style-type: none"> • Write a new problem where it is helpful to make a ten when one addend ends in an 8. • Write a new problem where it is not helpful to make a ten when one addend ends in an 8. • Tell what is different about these two problems. <p>Lesson 8 - To encourage students to generalize their understanding of the composition of a new unit, consider asking the following questions:</p> <ul style="list-style-type: none"> • Is it possible to compose other units? What units? How are they composed? • Can you make a statement about how to know when to compose a new unit? • Do you think this reasoning works with other place value units? <p>Lesson 27 - Consider asking students the following additional questions:</p> <ul style="list-style-type: none"> • What coins did Imani throw in the fountain? • What amount is not possible for Imani to throw in the fountain?
Struggling Learners	<p>Lesson 10 - Unit form is intentionally used in Launch to reinforce conceptual understanding of place value. Guide students to say the expression in both standard and unit form by using the following questions:</p> <ul style="list-style-type: none"> • What is 2 tens + 8 tens? • What is 2 tens + 8 tens in standard form? • What is 10 tens in standard form? <p>Lesson 13 - If students need more support with this type of word problem, consider the following suggestions:</p> <ul style="list-style-type: none"> • Direct students to model the situation with cubes or bundles of tens and ones. • Ask questions to help students write a situation equation: How many tacos were there at first? Then what happened? How many tacos were there at the end? <p>Lesson 22 - For students who need more concrete support, have materials such as bundles and place value disks readily available. Encourage students to use tools until they are comfortable with the subtraction process.</p>
English Language Learners	<p>Lesson 14 - Since <i>left</i> is a word with more than one meaning, support students in differentiating the mathematical meaning (amount remaining) from the directional meaning (left and right) by asking the following questions:</p> <ul style="list-style-type: none"> • Do we want to find out how many are by my left hand? (<i>Gesture to left hand.</i>) • Do we want to know how many cups of ice cream there are after Mrs. King gives some away? This is the part she still has. <p>Lesson 21 - The terms <i>exchange</i>, <i>unbundle</i>, and <i>rename</i> are used flexibly and often interchangeably.</p> <ul style="list-style-type: none"> • <i>Exchange</i> tends to be used when students use concrete place value disks and physically exchange 1 of a larger unit for 10 of a smaller unit or vice versa. The term exchange is also used as an auditory cue to remind students to remove and replace the units. • <i>Unbundle</i> tends to be used when students think about what happens when a larger unit is exchanged for a smaller unit. • <i>Rename</i> tends to be used to indicate that a number is described with different units.

	<p>Consider supporting the terms <i>exchange</i>, <i>unbundle</i>, and <i>rename</i> by labeling examples of each term as they come up in the lesson.</p> <p>Lesson 25 - This is the first use of the term <i>regroup</i>. Write the term <i>regroup</i> next to the place value drawing that shows the exchange of 1 ten-disk for 10 one-disks. Also consider making a connection to a common classroom situation when regrouping is necessary. For example, “I needed to regroup groups for the field trip because one of the adults cannot come and every group needs an adult.”</p>
Special Needs Learners	<p>Lesson 12 - Anticipate the common student error of recording the hundred in the tens column when writing 108. Support students in monitoring their work with the following questions:</p> <ul style="list-style-type: none"> • How many tens are in the tens place in 108? • How many hundreds are in 108? • Can you point to the hundred on the place value chart? <p>Lesson 17 - Consider modeling with simpler totals, such as $50 - 9$ and then $50 - 19$, before finding $56 - 19$. Students may benefit from decomposing multiples of ten before decomposing a total with tens and ones.</p> <p>Lesson 27 - Consider changing the questions to focus on the quantity of coins rather than focusing on the value. This lowers the cognitive load for students who may have difficulty with mental computations with benchmark numbers, as it allows them to do single-digit computations to solve the problem.</p>

Interdisciplinary Connections

Standards:

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

This standard is addressed during the “Launch” section of every lesson. Students are introduced to the priority math standards addressed for the day in a variety of ways, they then unpack and use this information during the “Learn” section in small group, partner, and whole group setting, and use the same information to complete the “Problem Set” individually.

For example, in Lesson 10 students watch a video about seating for a field trip in a theater. They then discuss what they saw.

Invite students to think–pair–share about what the problem is and how it is different from the problem in the Student Assembly video.

The class in yellow can’t sit together. It is different from the assembly problem because all the rows with students are filled.

There aren’t enough seats together for the class in yellow to sit together. It is different because all the classes are sitting in rows of ten, and there are some full rows and some empty rows.

Each row is composed, or made up, of 10 students.

SL.PE.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others’ talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.

This standard is addressed during the “Fluency”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 2 Teachers initiate a class discussion and encourage students to restate their classmates’ responses in their own words.

“What did we do today to help simplify math problems, or make them easier to solve?”

We used number bonds to break apart numbers in different forms and then added like units.

“How can standard form, expanded form, and unit form help add like units?”

The different forms help us see the place value units, so we know which units to add together.

“Look at problem 8. Are we able to break apart and add like units? How do you know?”

Yes. I know 1 hundred and 0 hundreds is 1 hundred, 2 tens and 1 ten is 3 tens, and 5 ones and 6 ones is 11 ones.

That makes another ten, so now I have 4 tens. So my answer is 1 hundred, 4 tens, and 1 one, or 141.

Yes. But when you add the ones to the ones, you get 11. You have to add another ten to the 3 tens you got when you added the tens to the tens. You will have 4 tens and 1 one. The answer is 141.

SL.ES.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

This standard is addressed during the “Fluency”, “Launch”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 23 Teachers facilitate a discussion about how to decompose a hundred to subtract. They will think-aloud to find $146 - 55$ with place value disks using the following suggested script.

“Watch as I set up this problem for subtraction.

I have 1 hundred 4 tens 6 ones. I know I can subtract the ones because there are enough ones.

Next, I look at the tens. I can’t take away 5 tens because there are only 4 tens. I can add 10 tens disks to get more tens. (Add 10 tens disks.)

Now I have 14 tens. I think I am ready to subtract.”

Invite students to think–pair–share about the mistake they notice.

You added 10 tens, but you forgot to remove the hundreds disk.

You didn’t exchange 1 hundred for 10 tens.

The total is too big now. There is 1 hundred 14 tens and 6 ones. That’s not 146.

Invite students to turn and talk about how they can fix the mistake. Then ask the following question.

“How can we rename a hundred to help us subtract?”

If the total doesn’t have enough tens in the tens place, we can decompose 1 hundred into 10 tens.

When we use disks, we can exchange 1 hundred for 10 tens.

“How can we use unit form to help us subtract like units in $146 - 55$?”

We can think of 14 tens 6 ones – 5 tens 5 ones.

14 tens – 5 tens = 9 tens, and 6 ones – 5 ones = 1 one. So the answer is 91.

“We don’t have to worry about unbundling a hundred because we already thought about the number as tens and ones.”

Standards:**8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences**

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

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

This standard is addressed during the "Launch", "Learn", and "Land" sections of every lesson. Students work collaboratively in partners, small groups, an/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 16 Students think-pair-share about what they notice about a group of expressions. After students converse for a while, teachers will introduce the following question, and allow students more time to brainstorm and discuss:

"How can the first two problems help you find the answer to the other problems?"

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

This standard is addressed during the "Launch", "Learn", and "Land" sections of every lesson. Students work collaboratively in partners, small groups, an/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 27 Participate in a discussion about solving two-step word problems, using the following questions as a guide.

"How is a two-step problem different from a one-step problem?"

How do you solve a problem with more than one step?

How does a tape diagram help you make sense of a word problem?"

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

This standard is addressed during the "Land" section of every lesson. Students are asked to reflect, analyze, and discuss the work that was done concerning the priority math standards addressed for the day during the entire lesson.

For example, in Lesson 18 students participate in a discussion about subtraction strategies they used in the Problem Set, using the following guiding questions.

"What is the same about the take from a ten and take from a hundred strategies?"

What is different about the two strategies?

How are the two strategies, take from a ten and take from a hundred, related?"

Unit Title: Module 3 - Shapes and Time With Fraction Concepts**Unit Description:**

Students reason about the attributes of geometric shapes. As they work with composite shapes and partition circles and rectangles into equal shares, students build fractional understanding, which they apply to telling time.

Unit Duration: 19 lessons (#19 is optional) 2 assessment days; EQUIP 4/5 & Module 3 Assessment, 1 review day = **22 days**

Desired Results

Standard(s):

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

2.M.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

2.G.A.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (Clarification: sizes are compared directly or visually, not compared by measuring)

2.G.A.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. For example, students partition a rectangle (i.e., the whole) into three equal shares, identify each of the shares as a 'third' and describe the rectangle as three 'thirds'.

Understandings:

- I can use attributes to identify, build, and describe two-dimensional shapes.
- I can identify, build, and describe right angles and parallel lines.
- I can use attributes to identify, classify, and compose different quadrilaterals.
- I can use attributes to describe a cube.
- I can recognize that a whole polygon can be decomposed into smaller parts and the parts can be composed to make a whole.
- I can create composite shapes by using equal parts and name them as halves, thirds, and fourths.
- I can partition circles and rectangles into equal parts, and describe those parts as halves, thirds, or fourths.
- I can describe a whole by the number of equal parts in halves, thirds, and fourths.
- I can distinguish between a.m. and p.m.
- I can tell what fraction of the hour has passed by thinking of the clock split into 2 or 4 equal parts.
- I know that the minute hand points to the number that tells how many 5-minute intervals have gone by.

Essential Questions:

- What is a polygon?
- How are polygons named?
- What are parallel lines and right angles?
- How are quadrilaterals the same or different?
- What are the attributes of a cube?
- How are polygons composed or decomposed?
- How do composite shapes show a part-total relationship?
- What are halves, thirds, and fourths?
- How do the number of parts a whole is partitioned into relate to the size of the parts?
- Why can halves of the same whole look different?
- Can equal parts from the same whole be different shapes? Why?
- What is the difference between a.m. and p.m.?
- How do fractions relate to telling time?
- How is a clock similar to a number line?

Assessment Evidence

Formative/Summative Assessments:

- Module 4/5 EQUIP
- Topic Tickets; A, B, C, D
- Lesson Exit tickets (14)
- Module 3 Assessment

Benchmarks:

- The iReady assessment is administered in the Fall and Winter.

Learning Plan

Lesson #: 1**Mathematical Practice:** 6**Standard:** 2.G.A.1**Target:** Determine the defining attributes of a polygon.**Learning Activities:**

Fluency: Students construct a number line with their fingers while counting aloud and model compositions to build an understanding of place value. Students use body movements to show geometric attributes to prepare for extending their knowledge of two-dimensional shapes from grade 1. Students identify the number of sides and name of a flat shape to prepare for extending their knowledge of two-dimensional shapes from grade 1.

Launch: Students refine the definition of a shape.

Learn: Students make closed shapes from angles. Students reason about the similarities of closed shapes to generate attributes of a polygon.

Land: Facilitate a discussion about the attributes of polygons.

Daily Exit Ticket: Students will determine the number of sides and angles in given shapes.

Resources: bag of spaghetti pieces

Lesson #: 2**Mathematical Practice:** 7**Standard:** 2.G.A.1**Target:** Use attributes to identify, build, and describe two-dimensional shapes.**Learning Activities:**

Fluency: Students construct a number line with their fingers while counting aloud and model compositions to build an understanding of place value. Students subtract a one-digit number from a two-digit number to build subtraction fluency within 20.

Launch: Students determine which one of four shapes does not belong to help identify and describe the attributes of a polygon.

Learn: Students build and classify triangles, quadrilaterals, pentagons, and hexagons based on their attributes. Students classify polygons based on attributes, and draw a variant polygon, to reinforce the understanding that not all similarly classified polygons look the same.

Let's play a game called What Am I?

Land: Facilitate a discussion about naming polygons.

Daily Exit Ticket: Students will determine the name of, number of sides, and number of angles in given shapes.

Resources: bag of spaghetti pieces, Subtract Within 20 Sprint

Lesson #: 3**Mathematical Practice:** 6**Standard:** 2.G.A.1**Target:** Identify, build, and describe right angles and parallel lines.**Learning Activities:**

Fluency: Students determine which tool is best to measure the length of an object, and then estimate the length to build fluency with metric lengths and measurement tools from module 1. Students use body movements to show geometric attributes to prepare for determining the defining attributes of a polygon. Students identify the number of sides, angles, and name of a two-dimensional shape to develop fluency with using attributes to describe and name polygons.

Launch: Students identify shapes that do not belong based on attributes to reveal differences in length of sides and in angle measures.

Learn: Students identify and locate right angles. Students identify and make parallel lines.

Land: Facilitate a discussion about right angles and parallel lines.

Daily Exit Ticket: Students will draw and name a polygon with given attributes.

Resources: bag of spaghetti pieces, sticky notes, grid paper

Lesson #: 4

Mathematical Practice: 3

Standard: 2.G.A.1

Target: Use attributes to identify, classify, and compose different quadrilaterals.

Learning Activities:

Fluency: Students determine which tool is best to measure the length of an object, and then estimate the length to build fluency with metric lengths and measurement tools from module 1. Students construct a number line with their fingers while counting aloud and model compositions to build an understanding of place value. Students add four numbers by using place value strategies to build fluency with adding four two-digit numbers from module 2.

Launch: Students classify shapes based on common attributes to discover the different types of quadrilaterals.

Learn: Students build and draw a variety of quadrilaterals and create a reference page. Students discuss whether a square meets the definition of a variety of quadrilateral types.

Land: Facilitate a discussion about quadrilaterals.

Daily Exit Ticket: Students will name given polygons.

Resources: Shape Names Signs, Shape Cards, bags of spaghetti pieces

Lesson #: 5

Mathematical Practice: 7

Standard: 2.G.A.1

Target: Relate the square to the cube and use attributes to describe a cube.

Learning Activities:

Fluency: Students add four numbers by using place value strategies to build fluency with adding four two-digit numbers from module 2. Students use the number and shape of the faces to identify a solid shape to prepare for extending their knowledge of three-dimensional shapes from grade 1.

Launch: Students compare quadrilaterals to a cube to initiate a discussion about the attributes of a cube.

Learn: Students use a square to compose a cube and determine its attributes. Students draw a cube to reinforce the understanding that squares compose a cube.

Land: Facilitate a discussion about the attributes of cubes.

Daily Exit Ticket: Students will name given polygons.

Resources: Cube Net, glue stick, quadrilateral drawings, ruler, sticky notes, rounded toothpicks, mini marshmallows

Lesson #: 6

Mathematical Practice: 7

Standard: 2.G.A.3

Target: Recognize that a whole polygon can be decomposed into smaller parts and the parts can be composed to make a whole.

Learning Activities:

Fluency: Students add up to four numbers by using place value strategies to build fluency with adding four two-digit numbers from module 2. Students name the polygons used to compose a larger polygon, and then name the composed polygon to prepare for decomposing and composing polygons.

Launch: Students reason about shapes in a piece of artwork.

Learn: Students discover that many polygons can compose a hexagon.

Land: Facilitate a discussion about decomposing polygons.

Daily Exit Ticket: Students will decompose a given polygon in multiple ways.

Resources: Two, Three, or Four Addends Sprint, Crayons, Polygons Recording Sheet

Lesson #: 7

Mathematical Practice: 7

Standard: 2.G.A.3

Target: Combine shapes to create a composite shape and create a new shape from composite shapes.

Learning Activities:

Fluency: Students add up to four numbers by using place value strategies to build fluency with adding four two-digit numbers from module 2. Students name the polygons used to compose a larger polygon, and then name the composed polygon to prepare for decomposing and composing polygons.

Launch: Students reason about shapes in a piece of artwork.

Learn: Students discover that many polygons can compose a hexagon.

Land: Facilitate a discussion about decomposing polygons.

Daily Exit Ticket: Students will decompose a given polygon in multiple ways.

Resources: plastic pattern blocks, scissors, Tangram

Lesson #: 8

Mathematical Practice: 5

Standard: 2.G.A.3

Target: Create composite shapes by using equal parts and name them as halves, thirds, and fourths.

Learning Activities:

Fluency: Students count by fives from a given number to build fluency counting within 1,000. Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students determine if a polygon or object is partitioned into equal shares and the number of equal shares to prepare for interpreting equal shares in composite shapes.

Launch: Students reason about decomposing a square into smaller shapes.

Learn: Students compose two polygons to show halves. Students compose four polygons to show fourths. Students compose three polygons to show thirds.

Land: Facilitate a discussion about fractional units: halves, thirds, and fourths.

Daily Exit Ticket: Students will identify fractional names for given polygons.

Resources: Tangram pieces, plastic pattern blocks

Lesson #: 9

Mathematical Practice: 3

Standard: 2.G.A.3

Target: Interpret equal shares in composite shapes as halves, thirds, and fourths.

Learning Activities:

Fluency: Students count by fives from a given number to build fluency counting within 1,000. Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students determine if a polygon or object is partitioned into equal shares, how many equal shares, and if the equal shares are halves, thirds, fourths, or neither to prepare for interpreting equal shares in composite shapes.

Launch: Students apply their understanding of halves to prepare for decomposing polygons into equal shares.

Learn: Students cover 1 half of a polygon by using different combinations of smaller polygons. Students cover 1 third of a polygon by using different combinations of smaller polygons. Students reason about a polygon that represents fourths by using different combinations of smaller polygons.

Land: Facilitate a discussion about equal shares in composite shapes as halves, thirds, and fourths.

Daily Exit Ticket: Students will name, label, and shade fractional units.

Resources: plastic pattern blocks

Lesson #: 10

Mathematical Practice: 7

Standard: 2.G.A.3

Target: Partition circles and rectangles into equal parts and describe those parts as halves.

Learning Activities:

Fluency: Students count by fives from a given number to build fluency counting within 1,000. Students identify the next ten and how many more to make the next ten to prepare for modeling addition and composition of a ten.

Launch: Students prepare for working with halves by splitting 1 whole into 2 parts to solve a sharing problem.

Learn: Students partition a rectangle in multiple ways and reason that halves of the same whole need not be the same shape. Students partition a circle in half and determine that halves of a circle do not change when rotated. Students partition shapes in half and reason about why some halves can be different shapes.

Land: Facilitate a discussion about how shapes can be partitioned into halves.

Daily Exit Ticket: Students will partition and shade shapes into halves.

Resources: White paper, 8 ½" x 11", crayons, scissors, Circle pattern

Lesson #: 11

Mathematical Practice: 6

Standard: 2.G.A.3

Target: Partition circles and rectangles into equal parts, and describe those parts as halves, thirds, or fourths.

Learning Activities:

Fluency: Students count by fives from a given number to build fluency counting within 1,000. Students write the unknown number in a sequence to build fluency counting by fives within 1,000. Students identify the number of equal shares in a partitioned shape and describe those shares as halves, thirds, or fourths to prepare for partitioning circles and rectangles into equal parts.

Launch: Students reason about partitioning a whole into thirds to solve a sharing problem.

Learn: Students fold same-size rectangles to reason about how the number of equal parts relates to the size of each part. Students partition same-size circles into halves, thirds, and fourths to compare the size of the parts.

Land: Facilitate a discussion about partitioning shapes.

Daily Exit Ticket: Students will solve a word problem with partitioning.

Resources: Count by Fives Sprint, Rectangles, scissors

Lesson #: 12

Mathematical Practice: 3

Standard: 2.G.A.3

Target: Describe a whole by the number of equal parts in halves, thirds, and fourths.

Learning Activities:

Fluency: Students add 10 and 20 to a two-digit number to prepare for adding multiples of 10 within 1,000 in module 4. Students write and complete an equation to represent a situation to build fluency with addition and subtraction involving lengths from module 1. Students identify the next ten and how many more to make the next ten to prepare for modeling addition and composition of a ten.

Launch: Students reason about equal parts as they identify an error in partitioning.

Learn: Students identify parts needed to make 1 whole by using halves, thirds, and fourths. Students draw to complete a whole and confirm that 2 halves, 3 thirds, and 4 fourths make 1 whole.

Land: Facilitate a discussion about how many fractional units make up a whole.

Daily Exit Ticket: Students will identify the fraction needed to create a whole.

Resources: 100-bead rekenrek, Halves, Thirds, and Fourths, Fraction Parts Game Pieces, scissors, glue

Lesson #: 13

Mathematical Practice: 4

Standard: 2.G.A.3

Target: Recognize that equal parts of an identical rectangle can be different shapes.

Learning Activities:

Fluency: Students add a multiple of 10 to a two-digit number to prepare for adding multiples of 10 within 1,000 in module 4. Students write and complete an equation to represent a situation to build fluency with addition and subtraction involving lengths from module 1. Students identify the number of equal parts in a partitioned shape; describe those parts as halves, thirds, or fourths; and determine how many make 1 whole to develop reasoning with shapes and their attributes.

Launch: Students decompose a whole to solve an equal-sharing problem to recognize that fourths of the same-size whole can be different shapes.

Learn: Students cut apart and compare halves of the same whole to determine that equal parts can have different shapes. Students cut apart and compare 1 half and 2 fourths to determine that equal parts can be different shapes.

Land: Facilitate a discussion about how equal parts of an identical rectangle can have different shapes.

Daily Exit Ticket: Students will identify and partition a rectangle into thirds.

Resources: 100-bead rekenrek, construction paper, paper squares, scissors

Lesson #: 14

Mathematical Practice: 6

Standard: 2.M.C.7

Target: Distinguish between a.m. and p.m.

Learning Activities:

Fluency: Students compare numbers within 1,000 in standard form by using symbols to build fluency with comparing numbers from module 1. Students count by hours or half hours to prepare for distinguishing between a.m. and p.m. Students tell time on an analog clock to the nearest half hour to prepare for distinguishing between a.m. and p.m.

Launch: Students analyze the similarities and differences among clocks.

Learn: Students plot daily events on a timeline to distinguish between a.m. and p.m. Students determine whether daily events take place in the a.m. or p.m. and place them in order.

Land: Facilitate a discussion about the difference between a.m. and p.m.

Daily Exit Ticket: Students will identify whether activities occur in the a.m. or p.m..

Resources: Demonstration clock, Daily Events, scissors

Lesson #: 15

Mathematical Practice: 7

Standard: 2.M.C.7

Target: Recognize time as measurement units.

Learning Activities:

Fluency: Students compare numbers within 1,000 in different forms by using symbols to build fluency with comparing numbers from module 1. Students count by half hours by using the term *half past* to prepare for telling time to the half hour or quarter hour in lesson 16. Students tell time on an analog clock to the nearest half hour by using picture clues to distinguish between a.m. and p.m. to develop fluency with telling time.

Launch: Students participate in a task for a specified time period to recognize that 60 seconds compose 1 minute.

Learn: Students relate time units to the hands of a clock and recognize that 60 minutes compose 1 hour. Students estimate and measure times to develop benchmarks for 1 second and 1 minute.

Land: Facilitate a discussion about time as a measurement unit.

Daily Exit Ticket: Students will identify the appropriate unit of time for given activities.

Resources: Demonstration clock, analog clock

Lesson #: 16

Mathematical Practice: 3

Standard: 2.M.C.7

Target: Use a clock to tell time to the half hour or quarter hour.

Learning Activities:

Fluency: Students add a two-digit number and a multiple of 10 in unit form and write the equation in standard form to prepare for adding multiples of 10 within 1,000 in module 4. Students count by fives in unit and standard form to prepare for telling time by using clocks and the number line in lesson 17. Students tell time on an analog clock to the nearest half hour by using picture clues to distinguish between a.m. and p.m. to develop fluency with telling time.

Launch: Students relate the fractional unit of halves to tell time on a clock.

Learn: Students partition a clock into halves and then into fourths to relate fractions to time. Students move the hands of a clock to show different fractional parts of an hour.

Land: Facilitate a discussion about how fractions relate to telling time.

Daily Exit Ticket: Students will draw the missing hand on clocks to show given times.

Resources: paper clock, scissors, Brad fastener

Lesson #: 17

Mathematical Practice: 2

Standard: 2.NBT.A.2, 2.M.C.7

Target: Relate the clock to a number line to count by fives.

Learning Activities:

Fluency: Students add a two-digit number and a multiple of 10 in unit form and write an equation in standard form to prepare for adding multiples of 10 within 1,000 in module 4. Students count by fives in unit and standard form to prepare for telling time by using clocks and the number line. Students tell time on an analog clock to the nearest quarter hour, by using picture clues to distinguish between a.m. and p.m. to develop fluency with telling time.

Launch: Students reason about a given time by using what they know about fractions.

Learn: Students count by groups of 5 minutes to establish the meaning of the numbers on a clock. Students count the minutes on a clock and relate the clock to a number line.

Land: Facilitate a discussion about how a clock can be used like a number line to count by fives.

Daily Exit Ticket: Students will read the time on a clock and plot it in a number line.

Resources: Clock Signs, chart paper, clothespins, demonstration clock, sticky notes, Unifix® Cubes, yarn, paper clock

Lesson #: 18

Mathematical Practice: 6

Standard: 2.NBT.A.2, 2.M.C.7

Target: Tell time to the nearest 5 minutes.

Learning Activities:

Fluency: Students complete equations with a two-digit number and a multiple of 10 to prepare for adding multiples of 10 within 1,000 in module 4.

Launch: Students reason about the position of the hour hand to prepare to tell time to the nearest 5 minutes.

Learn: Students count by fives and write time to the nearest 5 minutes. Students repeatedly show a specified time on their clocks.

Land: Facilitate a discussion about how to tell time to the nearest 5 minutes.

Daily Exit Ticket: Students will draw and identify given times on an analog clock.

Resources: demonstration clock, paper clock, Add Two-Digit Numbers and a Multiple of 10 Sprint

Lesson #: 19 (Optional)

Mathematical Practice: 8

Standard: 2.M.C.7

Target: Solve elapsed time problems.

Learning Activities:

Fluency: Students count by 5 minutes to prepare for solving elapsed time problems. Students match a picture with a time shown on an analog clock and write the time by using a.m. or p.m. to develop fluency with telling time.

Launch: Students reason about elapsed time by using fractions, skip-counting, and their knowledge of the clock.

Learn: Students read clocks and reason about how to find the elapsed time. Students choose how to solve an elapsed time word problem and evaluate their classmates' solutions.

Land: Facilitate a discussion about the elapsed time between 8:00 a.m. and p.m.

Daily Exit Ticket: Students will draw, graph, and write the solution to an elapsed time word problem.

Resources: demonstration clock, envelopes, scissors, Elapsed Time Word Problems, chart paper, Match: Time Cards, paper clock, sticky notes

Unit Modifications for Special Population Students

Advanced Learners	<p>Lesson 2 - You may choose to give students more pieces of spaghetti so they can experiment with creating polygons not addressed in this lesson (e.g., heptagon, octagon).</p> <p>Lesson 5 - Present students with multiple two-dimensional and three-dimensional shapes and have them match the two-dimensional faces to the solid shape they compose (e.g., the triangle composes a pyramid).</p> <p>Lesson 12 - Extend student thinking by asking them to apply the pattern they notice with how many halves, thirds, and fourths make 1 whole to find how many fifths, sixths, and eighths make 1 whole. Provide parts that extend beyond the grade level standard, such as 1 sixth or 1 eighth, for students to complete by drawing the remaining parts.</p>
Struggling Learners	<p>Lesson 4 - If students don't organically notice the differences in quadrilaterals, consider having students with cards for all other polygon types (e.g., triangles, pentagons, hexagons) and non-polygon shapes sit down. Then ask those with quadrilateral cards to find like groups again.</p> <p>Lesson 11 - For students who do not yet recognize equal parts, use a ruler to measure each half or fourth and highlight that the measurement of each part is the same and, therefore, the parts are equal.</p> <p>Lesson 17 - To assist students with fluently skip-counting by fives, consider providing them access to the demonstration clock, which has the hour and minute hands color-coded to match the corresponding times on the clock.</p>
English Language Learners	<p>Lesson 1 - Help students understand and relate to the meaning of the word <i>attribute</i> by discussing facial attributes. People have common facial attributes (eyes, nose, mouth, etc.) even though they look different from person to person. Shapes also have attributes (number of sides, angles, etc.), despite looking different from shape to shape.</p> <p>Lesson 16 - Extend student thinking by asking them to apply the pattern they notice with how many halves, thirds, and fourths make 1 whole to find how many fifths, sixths, and eighths make 1 whole. Provide parts that extend beyond the grade level standard, such as 1 sixth or 1 eighth, for students to complete by drawing the remaining parts.</p> <p>Lesson 18 - Students may need support with times such as "seven oh five" as "O" is the name of a letter. Highlight that saying "oh" in this instance is another way of saying "zero."</p>
Special Needs Learners	<p>Lesson 6 - Prompt students to use a pencil to trace the outline of the smaller polygons and then retrace them with the designated color.</p> <p>Lesson 8 - Consider creating an anchor chart for the terms <i>half</i>, <i>halves</i>, <i>third</i>, <i>fourth</i>, and <i>quarter</i>. Include the polygons from the lesson as pictorial examples. Consider adding to the chart in later lessons, shading 1 part of each polygon and including the labels <i>1 half of the whole</i>, <i>1 third of the whole</i>, and <i>1 fourth of the whole</i>.</p> <p>Lesson 18 - Assist students who confuse the hours and minutes when writing the digital time by having them use a blue crayon and a red crayon to match the hands on the demonstration clock.</p>
Learners with a 504	<p>Refer to page four in the Parent and Educator Resource Guide to Section 504 to assist in the development of appropriate plans.</p>

Interdisciplinary Connections

Standards:

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

This standard is addressed during the "Learn" and "Land" section of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day.

For example, in Lesson 17 students participate in a discussion about how a clock relates to a number line when counting by fives. Students will be encouraged to restate their classmates' responses in their own words and use the following guiding questions.

"How is a clock similar to a number line?"

"When would it make sense to use a clock and when would it make sense to use a number line?"

SL.PE.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.

This standard is addressed during the "Fluency", "Learn", and "Land" sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 3 students will engage in a discussion about the most appropriate measurement tools and units to use on various objects. Students will take turns giving their opinion and defending their choice.

SL.AS.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

This standard is addressed during the "Learn", and "Land" sections of every lesson. Students are asked to answer questions about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 18 students are given 4 minutes to solve the problem independently and write an explanation or justification for their claim for or against a solution path in a complete sentence. These sentences are shared with partners, revised, and shared with the whole group.

Integration of 21st Century Skills

Standards:

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

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

This standard is addressed during the "Launch", "Learn", and "Land" sections of every lesson. Students work collaboratively in partners, small groups, an/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 19 students watch a video about sharing brownies. They then brainstorm with a partner about how to represent the video in a mathematical statement.

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

This standard is addressed during the "Launch", "Learn", and "Land" sections of every lesson. Students work collaboratively in partners, small groups, an/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 4 students classify shapes based on common attributes to discover the different types of quadrilaterals. Teachers will follow the guidelines below to facilitate the discovery;

"Let's classify shapes based on their attributes."

Before distributing to students, show a few Shape Cards. Invite students to think-pair-share about what they notice and wonder.

Distribute one Shape Card to each student. Invite students to circulate and find other shapes that share a common attribute.

Consider limiting the group size to three or four to allow for multiple attributes to be highlighted. Accept all reasonable classifications: All the shapes have right angles, all the shapes are quadrilaterals, all the shapes are quadrilaterals but without right angles, and all the shapes are not polygons.

Facilitate a class discussion about how students chose to classify the polygons. Highlight student responses that note how quadrilaterals can look different. For example, students may notice that some quadrilaterals have 2 pairs of parallel sides, but other quadrilaterals only have 1 pair of parallel sides.

"Not all polygons look the same. Similarly, not all quadrilaterals look the same."

Polygons can share the same attributes but look different."

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

This standard is addressed during the "Land" section of every lesson. Students are asked to reflect, analyze, and discuss the work that was done concerning the priority math standards addressed for the day during the entire lesson.

For example, in Lesson 7 Students compose multiple polygons to make a composite shape. Teachers begin this study of composite shapes by displaying the outline of a duck and using the following questions to guide the exploration.

"What does this look like?"

Use all your pattern blocks to create a duck that matches the picture.

Invite students to think-pair-share about what they did to create the shape.

Today, we will compose and decompose polygons to make other polygons."

Unit Title: Module 4 - Addition and Subtraction within 1,000

Unit Description:

Students deepen their understanding of addition and subtraction as they work within 1,000. Students reason about place value, properties of operations, and the relationship between numbers as they choose efficient solution strategies to solve problems.

Unit Duration: 24 lessons, 1 assessment day; **Module 4 Assessment**, & 1 review day = **26 days**

Desired Results

Standard(s):

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

2.OA.B.2 With accuracy and efficiency, add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

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

2.NBT.B.5 With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

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

2.NBT.B.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds

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

2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. (Clarification: Explanations should be supported by drawings or objects.)

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

2.DL.A.1 Understand that people collect data to answer questions. Understand that data can vary. (This standard can be implemented during Eureka “Data Talks”.)

2.DL.A.2 Identify what could count as data (e.g., visuals, sounds, numbers). (This standard can be implemented during Eureka “Data Talks”.)

2.DL.B.4 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Understandings:

- I can group in ways that make it easier for me to count a large collection of objects.
- I can use the facts I know within 10 to help me add and subtract mentally.
- I can show my thinking by using the arrow way.
- I can use place value drawings to represent addition.
- I can choose and defend efficient solution strategies for addition.
- I can use compensation to keep a constant difference by subtracting the same amount from both numbers.

Essential Questions:

- How can we use place value units to help us count and organize?
- How can we add and subtract tens and hundreds mentally?
- How do tape diagrams help me write equations to solve problems?
- How can knowing partners to ten help you simplify addition problems that are harder to add in your head?
- How is making a benchmark number a useful simplifying strategy for some addition problems?
- How do you decide when to use compensation?

<ul style="list-style-type: none"> • I can use compensation to keep a constant difference by adding the same amount to both numbers. • I can set up for subtraction by unbundling a ten and a hundred. • I can think about subtraction as an unknown addend problem. • I can make a number bond to show the total and one of the parts. • Solve two-step addition and subtraction word problems. 	<ul style="list-style-type: none"> • How can I show a new unit with models and written recordings? • How does vertical form help you add like units efficiently? • How does place value understanding help you add up to four two-digit numbers? • Why can I use addition to check my subtraction strategy? • How does compensation help make it easier to subtract? • When is this compensation strategy useful? • Why is it important to rename the total before you subtract? • How do I know whether I should add or subtract to find the answer?
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Assessment Evidence

Assessments:

- Topic Tickets; A, B, C, D, E
- Lesson Exit tickets (17)
- Module 4 Assessment

Benchmarks:

- The iReady assessment is administered in the Fall and Winter.

Learning Plan

Lesson #: 1

Mathematical Practice: 3

Standard: 2.NBT.A.2, 2.NBT.B.8

Target: Organize, count, and represent a collection of objects.

Learning Activities:

Fluency: None

Launch: Students count back chorally by tens within 1,000 to reveal place value patterns. Students work with a partner to organize and count a collection and record their process.

Learn: Students mentally add and subtract 10 and 100 with numbers within 900. Students reason about and compare the efficiency of strategies for organizing and counting.

Land: Facilitate a discussion about how to efficiently count collections.

Daily Exit Ticket: None

Resources: Counting collection, Organizing tools, Recording sheet

Lesson #: 2

Mathematical Practice: 7

Standard: 2.NBT.B.7, 2.NBT.B.8

Target: Mentally add and subtract multiples of 10 and 100 with unknowns in various positions.

Learning Activities:

Fluency: Students complete a result unknown equation by using the arrow way to prepare for equations with unknowns in various positions. Students write and complete an equation to represent a number bond to prepare for equations with unknowns in various positions.

Launch: Students use the structure of hundreds, tens, and ones to find the total efficiently.

Learn: Students add and subtract tens and hundreds to find the unknowns in various positions. Students add and subtract tens and hundreds to find the unknown to make equal expressions.

Land: Facilitate a discussion about how multiples of 10 and 100 help to efficiently solve number 6 in the Problem Set.

Daily Exit Ticket: Students will complete equivalent equations.

Resources: Equal Expressions Cards

Lesson #: 3

Mathematical Practice: 2

Standard: 2.OA.A.1, 2.NBT.B.8

Target: Solve multi-step word problems and reason about equal expressions.

Learning Activities:

Fluency: Students determine which collection has fewer and how many fewer to prepare for representing and solving *compare*, *bigger unknown* word problems in lesson 4. Students complete a number sequence to build fluency with mentally adding or subtracting 10, which was introduced in module 1. Students complete a result unknown equation by using the arrow way to develop subtraction fluency within 200.

Launch: Students use place value understanding to find the unknown and reason about part–total relationships.

Learn: Students draw a model and write equations to represent and solve a multi-step word problem. Students work in groups to solve a two-step word problem and create equal expressions.

Land: Facilitate a discussion about finding the unknown in two-step word problems and equal expressions.

Daily Exit Ticket: Students will draw and write the solution to a two-step word problem.

Resources: chart paper, Recording Sheet

Lesson #: 4

Mathematical Practice: 5

Standard: 2.OA.A.1, 2.NBT.B.8

Target: Represent and solve compare with bigger unknown word problems.

Learning Activities:

Fluency: Students complete a number sequence to build fluency with mentally adding or subtracting 100, which was introduced in module 1. Students write and complete an equation to represent a number bond to prepare for equations with unknowns in various positions. Students determine which tape diagram represents fewer and how many fewer to prepare for representing and solving *compare with bigger unknown* word problems.

Launch: Students compare two pictures and reason about the relationship between *more* and *fewer*.

Learn: Students draw tape diagrams to reason about the relationships between numbers in *compare with bigger unknown* word problems. Students draw a tape diagram to represent a *compare with bigger unknown* word problem.

Land: Facilitate a discussion about how to solve compare problems.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: none

Lesson #: 5

Mathematical Practice: 3

Standard: 2.NBT.B.7, 2.NBT.B.9

Target: Use the associative property to make a benchmark number to add within 1,000.

Learning Activities:

Fluency: Students add a multiple of 10 to a 2-digit number, then hop back 1 or 2 to prepare for using compensation to add within 1,000 in lesson 6. Students use a number bond to make the next ten to prepare for adding within 1,000.

Launch: Students reason about efficient strategies to add.

Learn: Students decompose an addend to make the next ten or next hundred to add. Students use the make a ten or make a hundred strategy and analyze a partner's work.

Land: Facilitate a discussion about using the associative property to make a benchmark number to add within 1,000.

Daily Exit Ticket: Students will solve addition problems.

Resources: none

Lesson #: 6

Mathematical Practice: 1

Standard: 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9

Target: Use compensation to add within 1,000.

Learning Activities:

Fluency: Students use a number bond to make the next ten to prepare for adding within 1,000. Students add a multiple of 10 to a three-digit number, then hop back 1 or 2 to prepare for using compensation to add within 1,000.

Launch: Students reason about the relationship between two expressions to activate prior knowledge of the compensation strategy.

Learn: Students reason about how the arrow way and open number line recordings show the same thinking. Students add by using the compensation strategy with multiples of 100.

Land: Facilitate a discussion about when compensation is a useful strategy.

Daily Exit Ticket: Students will solve addition problems.

Resources: none

Lesson #: 7

Mathematical Practice: 6

Standard: 2.OA.B.2, 2.NBT.B.7

Target: Use concrete models to add and relate them to written recordings.

Learning Activities:

Fluency: Students use place value disks to model addition expressions and say the total to prepare for relating concrete models to written recordings for addition within 1,000.

Launch: Students make connections between concrete models and addition expressions.

Learn: Students use place value disks to represent addition. Students relate a place value model to vertical form.

Land: Facilitate a discussion about how concrete models relate to written models.

Daily Exit Ticket: Students will solve addition problems using the vertical method.

Resources: Place Value Disks Set

Lesson #: 8

Mathematical Practice: 7

Standard: 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Use place value drawings to represent addition and relate them to written recordings, part 1.

Learning Activities:

Fluency: Students add ones, tens, or hundreds in unit form and say the equation in standard form to build place value understanding. Students model addition expressions and say the total to prepare for relating place value drawings to written recordings for addition within 1,000.

Launch: Students reason about similarities and differences between different representations of addition.

Learn: Students add with place value drawings and relate to new groups below. Students add by using place value drawings and record the additions in vertical form.

Land: Facilitate a discussion about the connection between place value drawings and vertical form.

Daily Exit Ticket: Students will solve addition problems using the vertical method and place value drawings.

Resources: No manipulatives needed.

Lesson #: 9

Mathematical Practice: 6

Standard: 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Use place value drawings to represent addition and relate them to written recordings, part 2.

Learning Activities:

Fluency: Students write a number given in word form in standard form to build fluency with forms of numbers from module 1. Students count by tens in unit and standard form to build fluency with composing a hundred. Students add tens in unit form and say the equation in standard form to build fluency with composing a hundred.

Launch: Students reason about the need to record new units accurately.

Learn: Students add with place value drawings and relate to new groups below. Students identify and correct an error in an addition recording.

Land: Facilitate a discussion about adding by using place value drawings and new groups.

Daily Exit Ticket: Students will identify and correct an error using the vertical method in an addition problem.

Resources: No manipulatives needed.

Lesson #: 10

Mathematical Practice: 8

Standard: 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Choose and defend efficient solution strategies for addition.

Learning Activities:

Fluency: Students write a number given in standard form in expanded form to build fluency with forms of numbers from module 1. Students count by tens in unit and standard form to build fluency with composing a hundred. Students add tens in unit form and say the equation in standard form to build fluency with composing a hundred.

Launch: Students analyze addition problems to determine when using adding like units in vertical form is an efficient strategy.

Learn: Students use place value understanding to choose efficient addition strategies. Students use place value understanding to defend the efficiency of their solution strategies.

Land: Facilitate a discussion about choosing efficient solution strategies for addition.

Daily Exit Ticket: Students will choose and defend an efficient strategy for an addition problem.

Resources: No manipulatives needed.

Lesson #: 11

Mathematical Practice: 4

Standard: 2.OA.B.2, 2.NBT.B.6, 2.NBT.B.9

Target: Choose and defend efficient strategies to add up to four two-digit numbers.

Learning Activities:

Fluency: Students add tens in unit or standard form to build place value understanding.

Launch: Students reason about data organized in a table.

Learn: Students analyze four two-digit addends and consider efficient strategies for addition. Students choose an efficient addition strategy to add three two-digit numbers. Students compare and connect strategies to add three two-digit numbers and defend efficient solutions.

Land: Facilitate a discussion about efficient solution strategies.

Daily Exit Ticket: Students will choose efficient strategies to complete addition problems.

Resources: Add in Unit and Standard Form Sprint

Lesson #: 12

Mathematical Practice: 7

Standard: 2.NBT.B.7, 2.NBT.B.9

Target: Take from a ten or a hundred to subtract.

Learning Activities:

Fluency: Students subtract a multiple of 10 from a two-digit number, then hop forward 1 or 2 to prepare for using compensation to subtract within 1,000. Students use a number bond to take from a ten to prepare for taking from a ten or a hundred to subtract within 1,000.

Launch: Students analyze work samples to look for similarities and differences.

Learn: Students find the difference by using the take from a ten or take from a hundred strategy and check their work with addition. Students find the difference by using the take from a ten or a hundred strategy and check their work with addition.

Land: Facilitate a discussion about efficient solution strategies for the Problem Set.

Daily Exit Ticket: Students will choose efficient strategies to complete subtraction problems.

Resources: No manipulatives needed.

Lesson #: 13

Mathematical Practice: 3

Standard: 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9

Target: Use compensation to subtract within 1,000.

Learning Activities:

Fluency: Students use a number bond to take from a hundred to develop fluency with the strategy within 1,000. Students subtract a multiple of 10 from a three-digit number, then hop forward 1 or 2 to prepare for using compensation to subtract within 1,000.

Launch: Students reason about connections between problems to extend compensation understanding to numbers within 1,000.

Learn: Students reason about compensation by predicting the next step in the solution process. Students use hundreds as benchmark numbers to subtract within 1,000.

Land: Facilitate a discussion about when compensation is a useful subtraction strategy.

Daily Exit Ticket: Students will choose efficient strategies to complete subtraction problems.

Resources: sticky notes

Lesson #: 14

Mathematical Practice: 2

Standard: 2.NBT.B.5, 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9, 2.M.B.6

Target: Use compensation to keep a constant difference by adding the same amount to both numbers.

Learning Activities:

Fluency: Students partition a rectangle into equal shares, describe those shares as halves, thirds, or fourths, and determine how many make 1 whole to build reasoning with shapes. Students rename one place value unit in a three-digit number to prepare for strategies to decompose within 1,000. Students determine if an equation is true or false to prepare for constant differences.

Launch: Students view a measurement context to see how the compensation strategy works.

Learn: Students show compensation on a number line to see why the same amount is added to both numbers. Students use a tape diagram to represent making a new subtraction problem by adding the same amount to each number.

Land: Facilitate a discussion about using compensation to keep a constant difference by adding the same amount to both numbers.

Daily Exit Ticket: Students will choose compensation and tape diagrams to solve subtraction problems.

Resources: 15 Unifix® Cubes, index cards, Rectangles removable, measuring tape

Lesson #: 15

Mathematical Practice: 2

Standard: 2.NBT.B.5, 2.NBT.B.7, 2.NBT.B.8, 2.NBT.B.9, 2.M.B.6

Target: Use compensation to keep a constant difference by adding the same amount to both numbers.

Learning Activities:

Fluency: Students partition a rectangle into equal shares, describe those shares as halves, thirds, or fourths, and determine how many make 1 whole to build reasoning with shapes. Students rename one place value unit in a three-digit number to prepare for strategies to decompose within 1,000. Students determine if an equation is true or false to prepare for constant differences.

Launch: Students view a measurement context to see how the compensation strategy works.

Learn: Students show compensation on a number line to see why the same amount is added to both numbers. Students use a tape diagram to represent making a new subtraction problem by adding the same amount to each number.

Land: Facilitate a discussion about using compensation to keep a constant difference by adding the same amount to both numbers.

Daily Exit Ticket: Students will choose compensation and tape diagrams to solve subtraction problems.

Resources: 15 Unifix® Cubes, index cards, Rectangles removable, measuring tape

Lesson #: 16

Mathematical Practice: 6

Standard: 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Use concrete models to subtract and relate them to written recordings.

Learning Activities:

Fluency: Students use place value disks to subtract within 200 to prepare for relating concrete models to a written recording for subtraction within 1,000.

Launch: Students work collaboratively to rename a three-digit number.

Learn: Students use place value disks to represent subtraction. Students relate a place value model to written vertical form and record vertically.

Land: Facilitate a discussion about subtraction.

Daily Exit Ticket: Students will solve subtraction problems using Place Value Disks and Vertical Form.

Resources: Place Value Disks Set, chart paper, sticky notes

Lesson #: 17**Mathematical Practice: 5****Standard:** 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9**Target:** Use place value drawings to represent subtraction with one decomposition and relate them to written recordings.**Learning Activities:****Fluency:** Students tell time on an analog clock to the nearest 5 minutes and use picture clues to distinguish between a.m. and p.m. to build fluency with telling time from module 3. Students count by tens in unit form and standard form to build fluency with counting by tens within 1,000. Students use place value drawings to subtract within 200 to prepare for relating math drawings to a written recording for subtraction within 1,000.**Launch:** Students relate a place value model to a place value drawing and reason about similarities in how a concrete model and a pictorial model represent decomposition.**Learn:** Students use place value drawings to represent subtraction. Students relate a place value drawing to vertical form, record in vertical form, and check their answer with an addition strategy.**Land:** Facilitate a discussion about representing subtraction with place value drawings and written recordings.**Daily Exit Ticket:** Students will identify and correct a given solution to a subtraction problem.**Resources:** No manipulatives needed.**Lesson #: 18****Mathematical Practice: 4****Standard:** 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9**Target:** Use place value drawings to represent subtraction with up to two decompositions and relate them to written recordings.**Learning Activities:****Fluency:** Students tell time on an analog clock to the nearest 5 minutes and use picture clues to distinguish between a.m. and p.m. to build fluency with telling time from module 3. Students compare numbers within 1,000 in different forms by using symbols to build fluency with comparing numbers and forms of numbers from module 1. Students rename two place value units in a hundred to prepare for subtraction from multiples of 100 in lesson 19.**Launch:** Students watch a video and reason about a word problem context.**Learn:** Students use place value drawings and vertical form to subtract and then use an addition strategy to check their work.**Land:** Facilitate a discussion about the part–total relationship.**Daily Exit Ticket:** Students will solve a subtraction problem using a place value drawing and vertical form.**Resources:** No manipulatives needed.**Lesson #: 19****Mathematical Practice: 3****Standard:** 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Use place value drawings to represent subtraction from numbers with 0 in the tens and/or ones place and relate to a written recording.

Learning Activities:

Fluency: Students compare numbers within 1,000 in different forms by using symbols to build fluency with comparing numbers and forms of numbers from module 1. Students count by tens in unit form and standard form to build fluency with counting by tens within 1,000. Students rename two place value units in a three-digit number to prepare for subtraction from numbers with a 0 in the tens place.

Launch: Students use place value understanding to reason about two ways to decompose a hundred.

Learn: Students use place value drawings and vertical form to show the decomposition of a hundred in one step. Students use place value drawings and vertical form to show renaming across a 0 in the tens place.

Land: Facilitate a discussion about the number 7 in the Problem Set.

Daily Exit Ticket: Students will solve a subtraction problem using a place value drawing and vertical form.

Resources: No manipulatives needed.

Lesson #: 20

Mathematical Practice: 3

Standard: 2.OA.B.2, 2.NBT.B.7, 2.NBT.B.9

Target: Subtract by using multiple strategies and defend an efficient strategy.

Learning Activities:

Fluency: Students compare numbers within 1,000 in different forms by using symbols to build fluency with comparing numbers and forms of numbers.

Launch: Students analyze two situations and then select and defend their preference.

Learn: Students subtract by using multiple strategies and reason about efficiency. Students defend an efficient solution strategy.

Land: Facilitate a discussion about choosing efficient solution strategies.

Daily Exit Ticket: Students will choose, use, and defend an efficient strategy to solve a subtraction problem.

Resources: Chart paper, Compare Numbers Sprint, Equation chart

Lesson #: 21

Mathematical Practice: 7

Standard: 2.NBT.B.7, 2.NBT.B.9

Target: Apply strategies to find sums and differences and relate addition to subtraction.

Learning Activities:

Fluency: Students identify the name and value of a penny and a dime and then determine the value of a group of coins to prepare for problem solving with coins and bills in module 5. Students write and complete four equations to represent a number bond to prepare for applying strategies to find sums and differences and relating addition to subtraction.

Launch: Students analyze two pictures and look for similarities and differences.

Learn: Students apply various solution strategies to find sums and differences. Students match related addition and subtraction problems and compare solution strategies.

Land: Facilitate a discussion about how number 1 can help you to solve number 2 in the Problem Set.

Daily Exit Ticket: Students will solve and check their solutions to subtraction problems.

Resources: Sums and Differences Cards

Lesson #: 22

Mathematical Practice: 1

Standard: 2.OA.A.1, 2.NBT.B.5, 2.NBT.B.9

Target: Solve compare with smaller unknown word problems.

Learning Activities:

Fluency: Students identify the name and value of a penny, dime, and nickel and then determine the value of a group of coins to prepare for problem solving with coins and bills in module 5. Students write and complete four equations to represent a tape diagram to prepare for solving *compare with smaller unknown* word problems.

Launch: Students analyze and represent a *compare with smaller unknown* word problem.

Learn: Students solve a *compare with smaller unknown* word problem by using addition or subtraction strategies. Students analyze word problems and determine if the word *more* always signals addition.

Land: Facilitate a discussion about solving comparison word problems.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: No manipulatives needed.

Lesson #: 23

Mathematical Practice: 5

Standard: 2.OA.A.1, 2.NBT.B.5, 2.NBT.B.9, 2.DL.B.4

Target: Solve two-step addition and subtraction word problems.

Learning Activities:

Fluency: Students answer questions about a horizontal bar graph with three categories to build fluency with interpreting data from module 1. Students write and complete four equations to represent a tape diagram to prepare for solving two-step addition and subtraction word problems that involve a *compare* and *put together* situation.

Launch: Students notice and wonder about a piece of artwork to generate context for word problems.

Learn: Students solve a two-step word problem with contexts from a piece of art. Students solve a two-step word problem by using contexts from a piece of art.

Land: Facilitate a discussion about their problem-solving process.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: No manipulatives needed.

Lesson #: 24**Mathematical Practice:** 6**Standard:** 2.NBT.A.2, 2.NBT.B.7**Target:** Organize, count, and represent a collection of objects.**Learning Activities:**

Fluency: Students answer questions about a vertical bar graph with four categories to build fluency with interpreting data from module 1. Students identify the name and value of a penny, dime, nickel, and quarter and then determine the value of a group of coins to prepare for problem solving with coins and bills in module 5.

Launch: Students discuss different ways to find the total of a small collection.

Learn: Partners organize and count a collection and record their process. Students use their collection total to practice addition and subtraction within 1,000. Students reason about and compare the efficiency of strategies for organizing and counting.

Land: Facilitate a discussion about how the size of the collection affects the counting strategy.

Daily Exit Ticket: None.

Resources: Counting collection, Organizing tools, Recording sheet, 6-sided dot die

Unit Modifications for Special Population Students**Advanced Learners**

Lesson 14 - If students demonstrate proficiency with this strategy, invite them to show two forms of compensation and explain how the strategies are alike and different. Encourage students to share which form they prefer and why.

Lesson 18 - Ask students to study the vertical form. What do they notice?

- Do they notice that the problem involves doubles? Where do they see doubles?
- Do they notice that, when they set up the problem for subtraction, they can subtract in any order?
- Do they notice that they can mentally check their solution by seeing $8 + 8 = 16$ in the ones place and tens place and $4 + 4 = 8$ in the hundreds place?

Lesson 21 - Consider extending student thinking by providing a completed number bond and asking students to create as many equations as possible.

Struggling Learners

Lesson 4 - Consider using smaller numbers so students can use their fingers to model the context. For example, Beth has 5 buttons. She has 4 fewer buttons than Tim. How many buttons does Tim have?

Ask students to use their hands to show Beth's buttons. Then guide them to model and reason that if Beth has 4 fewer than Tim, that means Tim has 4 more than Beth. This can help students understand why the solution requires addition.

Lesson 17 - Have place value disks readily available for students who might benefit from a concrete representation of the total to help with renaming units. For a greater level of support, consider providing bundles of craft sticks so students can physically unbundle units.

	<p>Lesson 22 - If students label Jill's tape, rather than the difference, with 18, consider asking the following questions to advance their understanding:</p> <ul style="list-style-type: none"> • What question do we need to answer? • What is the unknown? How can we label it? • Where is the number 18 in the problem? What does it tell us? • What part of the tape diagram shows Lan's 18 more blueberries?
English Language Learners	<p>Lesson 3 - Consider providing sentence frames or terms that help students communicate by using place value understanding.</p> <ul style="list-style-type: none"> • I noticed the (ones/tens/hundreds) place stayed the same. • I noticed the (ones/tens/hundreds) place changed. • I noticed I can add (tens/hundreds) to find the unknown. • I noticed I can take away (tens/hundreds) to find the unknown. <p>Lesson 10 - Students may be familiar with the word <i>defend</i> in the sense of protecting something. Help them understand that to defend their choices means to speak in support of the reasoning behind those choices.</p> <p>Lesson 22 - The language in comparison problems is challenging. Consider the following suggestions to support students' understanding:</p> <ul style="list-style-type: none"> • Have a student point to the basket on the slide that shows more blueberries. • Ask, "Who picks more blueberries?" Write <i>L</i> for Lan under the basket with more. • Ask, "Who picks fewer blueberries?" Write <i>J</i> for Jill under the basket with fewer. <p>Refer to this picture as students draw the tapes for Lan's and Jill's blueberries.</p>
Special Needs Learners	<p>Lesson 3 - Consider revising this multi-step problem to a two-step problem for students who may need support to organize and process multiple steps. For example:</p> <p>Imani has two bins of beads to make flag bracelets. One bin has 120 beads and the other has 150 beads. There are 200 red and blue beads, and the rest are white. How many white beads does Imani have?</p> <p>Lesson 5 - If students need support with the strategy, consider using the following questions and prompt:</p> <ul style="list-style-type: none"> • Which addend is closer to a ten? • How many more to make the next ten? • Use a number bond to decompose the 5 to make the next ten. <p>Lesson 23 - For students who may need a more concrete representation of the numbers, consider providing other examples of drawings that they can use to help make sense of the story. Prompt students to think of other drawings they might use by asking the following questions:</p> <ul style="list-style-type: none"> • What other drawings can I use to help make sense of the problem? • How can I represent 70 people with a drawing?
Learners with a 504	<p>Refer to page four in the Parent and Educator Resource Guide to Section 504 to assist in the development of appropriate plans.</p>

Interdisciplinary Connections

Standards:

SL.PE.2.1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

This standard is addressed during the "Learn" and "Land" section of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day.

For example, in Lesson 1 students work with a partner to organize and count a collection and record their process. Partners work together to estimate how many objects are in their collection and record their estimates in their books. Partners can consider amounts that would be too big and too small to help them make a reasonable estimate. Partners are encouraged to talk about how to organize their collections before they begin counting.

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

This standard is addressed during the "Launch" section of every lesson. Students are introduced to the priority math standards addressed for the day in a variety of ways, they then unpack and use this information during the "Learn" section in small group, partner, and whole group setting, and use the same information to complete the "Problem Set" individually.

For example, in Lesson 18 Students watch the *Are We There Yet?* video. Students turn and talk about what they noticed. Students participate in a brief conversation about the video. They discuss observations and any relevant questions they have. Teachers guide the conversation toward how many more miles the family needs to travel.

**"The family has traveled 488 miles. They need to travel 976 miles in all.
How many more miles do they need to travel?"**

NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

This standard is addressed during the "Land" section of every lesson when they defend their work in the "Problem Set."

For example, in Lesson 10 Students use place value understanding to defend the efficiency of their solution strategies. Students share their solutions one at a time. As each student shares, the teacher asks questions to elicit their thinking and clarify the model they used to represent the problem. The teacher asks the class questions to highlight efficiency and to help students make connections between the shared solutions and their own work. The teacher also encourages students to ask questions of their own.

Integration of 21st Century Skills

Standards:

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives

This standard is addressed during the “Land” section of every lesson. Students are engaged in math discourse about the different strategies peers used to solve the assigned problems for the day. For example, in Lesson 7 students participate in a class discussion about their problem-solving strategies for the Problem Set. Students are encouraged to restate their classmates’ responses in their own words and respond to the following guiding questions.

**“When you recorded the work you did with disks, what was important to remember?
How does vertical form relate to how the addition was modeled with place value disks?
How can we show a new unit with place value models and written recordings?”**

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

This standard is addressed during the “Launch”, “Learn”, and “Land” sections of every lesson. Students work collaboratively in partners, small groups, and/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 24 students participate in a discussion about how the size of the collection affects the counting strategy. They will examine a picture of a group of marbles and brainstorm strategies to determine the total number of marbles using the following guiding questions.

**“Would you use the same strategies we’ve shared during today’s lesson to count this collection of marbles? Why?
How does your place value understanding help you count and group more efficiently?”**

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

This standard is addressed during the “Land” section of every lesson. Students are asked to reflect, analyze, and discuss the work that was done concerning the priority math standards addressed for the day during the entire lesson.

For example, in Lesson 22 students analyze and represent a *compare with smaller unknown* word problem. Students turn and talk about what information they know from the problem, using the following guiding questions.

**“What can we draw?
What question do we need to answer?
What is the unknown? How can we label it?
Before we draw, who picks more blueberries, Lan or Jill? How do you know?
We know how many blueberries Lan picks. Let’s draw a tape to represent Lan’s blueberries. Does Lan pick 18 blueberries?
Lan has more blueberries. So, will the tape for Jill’s blueberries be longer or shorter than Lan’s?”**

Unit Title: Module 5 - Money, Data, and Customary Measurement**Unit Description:**

Students apply place value strategies and properties of operations to work with coins and bills. Students revisit measurement concepts using customary units, and they solve problems in the context of money, length, and data.

Unit Duration: 16 lessons (#7 is optional), 2 assessment days; **Module 6 EQUIP & Module 5 Assessment**, 1 review day = **19 days**

Desired Results**Standard(s):**

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

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

2.NBT.B.5 With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

2.NBT.B.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

2.M.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

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

2.M.A.3 Estimate lengths using units of inches, feet, centimeters, and meters.

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

2.M.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

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

2.M.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

2.DL.A.1 Understand that people collect data to answer questions. Understand that data can vary. (This standard can be implemented during Eureka "Data Talks".)

2.DL.B.3 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.

2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (Clarification: sizes are compared directly or visually, not compared by measuring)

Understandings:

- I can organize, count, and represent a collection of coins.
- I can use the fewest number of coins to make a given value.
- I can solve one- and two-step word problems to find the total value of a group of coins.
- I can solve one- and two-step word problems to find the total value of a group of bills.
- I can use different strategies to make 1 dollar or to make change from 1 dollar.
- I can solve word problems by using different ways to make change from 1 dollar.
- I can use an inch ruler and a yard stick to estimate and measure the length of various objects.
- I can measure an object twice by using different length units, and compare and relate measurement to unit size.
- I can measure to compare differences in lengths.
- I can identify unknown numbers on a number line by using the interval as a reference point.
- I can solve word problems that involve measurements and reason about estimates.
- I can create a line plot to represent data and ask and answer questions.

Essential Questions:

- How does using a strategy, such as making a ten or a hundred, help you count?
- How can a given value be represented by using the fewest number of coins?
- Can different representations model the same word problem?
- How is it helpful to draw a model to represent a problem before solving?
- How do we measure accurately?
- How do we select an appropriate measurement tool?
- How do benchmarks help us make reasonable estimates?
- Why is it important to include the number and the unit when we record measurements?
- How can we use measurements to compare lengths?
- How does the interval help me find unknown numbers on a number line?
- How does the size of the length unit affect the number of units used to measure?
- How does drawing a model help us solve a two-step word problem?
- What information can we get from line plots?

Assessment Evidence

Formative/Summative Assessments:

- Module 6 EQUIP
- Topic Tickets; A, B, C
- Lesson Exit tickets (13)
- Module 5 Assessment

Benchmarks:

- The iReady assessment is administered in the Fall and Winter.

Learning Plan

Lesson #: 1

Mathematical Practice: 7

Standard: 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.DL.A.2, 2.M.C.8

Target: Organize, count, and represent a collection of coins.

Learning Activities:

Fluency: Students identify the name and value of a penny, dime, nickel, and quarter then determine the value of a group of coins to prepare for recognizing and counting collections of coins. Students count with quarters, dimes, nickels, and pennies to build fluency counting money. Students determine if a group of coins has the same value as a nickel, dime, quarter, or one-dollar bill to build fluency with money.

Launch: Students reason about the value of coins and determine which set of coins they would rather have.

Learn: Students use self-selected strategies to organize and count objects and record their process. Students discuss strategies for organizing and compare the efficiency of each.

Land: Facilitate a discussion about organizing and counting efficiently.

Daily Exit Ticket: None.

Resources: chart paper, quarters, pennies, nickels, dimes, resealable plastic bags, Counting collection, organizing tools, recording sheet, scissors

Lesson #: 2

Mathematical Practice: 6

Standard: 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Use the fewest number of coins to make a given value.

Learning Activities:

Fluency: Students count with quarters, dimes, nickels, and pennies to build fluency counting money. Students determine how many of a specific coin is equal to a different coin or a one-dollar bill to build fluency with money. Students determine the value of a coin or the total value of a group of coins to build fluency counting money.

Launch: Students find many ways to make 100 cents and discuss which combination of coins is most efficient.

Learn: Students find multiple coin combinations to make a given value and determine which combination uses the fewest coins. Students exchange coins to make an amount by using the fewest number of coins possible.

Land: Facilitate a discussion about how to use the fewest number of coins to make a given value.

Daily Exit Ticket: Students will draw a given amount of money two ways.

Resources: quarters, pennies, nickels, dimes, resealable plastic bags, Coins Sprint

Lesson #: 3

Mathematical Practice: 4

Standard: 2.OA.A.1, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Solve one- and two-step word problems to find the total value of a group of coins.

Learning Activities:

Fluency: Students sketch a shape with a given attribute and find other shapes with the same attributes to build reasoning with shapes and their attributes. Students identify one- and ten-dollar bills, then determine the value of a group of bills to prepare for solving word problems involving bills in lesson 4. Students count with quarters, dimes, nickels, and pennies to build fluency counting money.

Launch: Students find the total value of a group of coins and decide what items can be purchased.

Learn: Students reason about and compare word problem representations.

Land: Facilitate a discussion about solving one- and two-step word problems to find the total value of a group of coins.

Daily Exit Ticket: Students will draw and write the solution to a two-step word problem.

Resources: No manipulatives needed.

Lesson #: 4

Mathematical Practice: 2

Standard: 2.OA.A.1, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Solve one- and two-step word problems to find the total value of a group of bills.

Learning Activities:

Fluency: Students choose a strategy to determine the unknown part in a number bond to prepare for using different strategies to make \$1 or to make change from \$1 in lesson 5. Students identify ten- and five-dollar bills then determine the value of a group of bills to prepare for solving word problems involving bills. Students count with ten-, five-, and one-dollar bills to build fluency counting money.

Launch: Students organize and count bills to find the total value.

Learn: Students use models to determine a solution strategy. Students determine which models correctly represent a word problem.

Land: Facilitate a discussion about solving one- and two-step word problems to find the total value of a group of bills.

Daily Exit Ticket: Students will draw and write the solution to a two-step word problem.

Resources: Model Signs, chart paper, plastic bags or envelopes, scissors, Dollar Bills

Lesson #: 5

Mathematical Practice: 3

Standard: 2.OA.A.1, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Use different strategies to make 1 dollar or to make change from 1 dollar.

Learning Activities:

Fluency: Students sketch a shape with a given attribute and find other shapes with the same attributes to build reasoning with shapes and their attributes. Students count with ten-, five-, and one-dollar bills to build fluency counting money. Students choose a strategy and determine the unknown part in a number bond to prepare for using different strategies to make 1 dollar or to make change from 1 dollar.

Launch: Students decompose 1 dollar by using a variety of coin combinations.

Learn: Students count on to make change from 1 dollar. Students use more abstract place value strategies to solve a *put together/take apart* word problem that requires them to find the unknown part to make 1 dollar. Students compare and connect place value strategies used to solve a word problem.

Land: Facilitate a discussion about different strategies to make 1 dollar or to make change from 1 dollar.

Daily Exit Ticket: Students will find the unknown in subtraction problems.

Resources: Number Bond, Decomposition Tree, quarters, pennies, nickels, dimes

Lesson #: 6

Mathematical Practice: 3

Standard: 2.OA.A.1, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Solve word problems by using different ways to make change from 1 dollar.

Learning Activities:

Fluency: Students sort groups of bills and coins by total value to build fluency with money. Students determine which value or measure is greater, longer, taller, or worth more to prepare for solving word problems using bills and coins in lesson 7.

Launch: Students collect information from a video and solve a making change word problem.

Learn: Students compare models and strategies and recognize that a model helps them find multiple solution strategies. Students compare models and strategies they use to solve problems. They name how they are similar and different.

Land: Facilitate a discussion about different strategies to make change from 1 dollar.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: Envelopes, Bills and Coins Sort Cards—Set, Find Someone Who chart, sticky notes

Lesson #: 7 (Optional)

Mathematical Practice: 1

Standard: 2.OA.A.1, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.7, 2.M.C.8

Target: Solve word problems by using bills and coins.

Learning Activities:

Fluency: Students sort groups of bills and coins by total value to build fluency with money. Students determine which value or measure is greater, longer, taller, or worth more to prepare for solving word problems by using bills and coins.

Launch: Students decompose 100 dollars to prepare to solve word problems involving bills and coins.

Learn: Students count dollar bills and coins to find the total value. Students apply bill and coin counting to word problem contexts.

Land: Facilitate a discussion about how units of money compare to units of measurement.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: envelopes, Bills and Coins Sort Cards—Set B, sticky notes, Wallet of Dollar Bills, Bag of coins, Decomposition Tree, Dollars and Cents

Lesson #: 8

Mathematical Practice: 6

Standard: 2.M.A.1, 2.M.A.2

Target: Iterate an inch tile to create a unit ruler and measure to the nearest inch.

Learning Activities:

Fluency: Students identify a polygon and answer questions about the polygon's attributes to build reasoning with polygons and their attributes. Students determine which tool is best to measure the length of an object, then estimate the length to build fluency with metric lengths and measurement tools from module 1. Students find the length of an object measured in centimeters to build fluency with metric lengths and measurement tools from module 1.

Launch: Students compare a centimeter to an inch.

Learn: Students iterate an inch tile to create a 12-inch ruler. Students use their rulers to measure objects and draw lines of specified lengths.

Land: Facilitate a discussion about how to iterate an inch tile to create a unit ruler and measure to the nearest inch.

Daily Exit Ticket: Students will measure the sides of a triangle.

Resources: Centimeter cube, Color tile, plastic, 1", blank paper, ruler, Color tile, plastic, 1", Paper strips, 12"

Lesson #: 9

Mathematical Practice: 5

Standard: 2.M.A.1, 2.M.A.3

Target: Use an inch ruler and a yard stick to estimate and measure the length of various objects.

Learning Activities:

Fluency: Students identify a polygon and answer questions about the polygon's attributes to build reasoning with polygons and their attributes. Students say the total to build fluency with mentally adding 10 or 100 from module 1. Students find the length of an object measured in inches to develop fluency with customary lengths and measurement tools.

Launch: Students generate benchmarks for 1 inch, 1 foot, and 1 yard to support estimation.

Learn: Students use benchmarks to estimate and measure by using an appropriate tool. Students measure lengths to the nearest inch, foot, and yard.

Land: Facilitate a discussion about how selecting the correct measuring tool and using benchmarks to measure.

Daily Exit Ticket: Students will estimate and measure a given object.

Resources: paper, unused crayon, unsharpened pencil, paper clip, scissors, folder, stapler, sticky notes, double-sided meter stick, student-created rulers, tape

Lesson #: 10

Mathematical Practice: 6

Standard: 2.M.A.2

Target: Measure an object twice by using different length units, and compare and relate measurement to unit size.

Learning Activities:

Fluency: Students write a subtraction and an addition equation to represent a tape diagram, then find the value of the unknown to build fluency with part-total relationships and fluency within 1,000. Students determine which tool is best to measure the length of an object, then estimate the length to build fluency with customary lengths and measurement tools. Students find the length of an object measured in inches to develop fluency with customary lengths and measurement tools.

Launch: Students articulate the importance of specifying unit lengths.

Learn: Students measure objects twice by using centimeters and inches and compare the measurements. Students measure by using four different units and relate unit size to the number of iterations needed.

Land: Facilitate a discussion about number 7 of the Problem Set.

Daily Exit Ticket: Students will measure a line segment in cm and in and compare the findings.

Resources: Centimeter Cubes, Color Tile, ruler, student-create ruler, student create yard stick, index cards, paper, marker, box of crayons

Lesson #: 11

Mathematical Practice: 5

Standard: 2.M.A.4

Target: Measure to compare differences in lengths.

Learning Activities:

Fluency: Students say the total to build fluency with mentally adding 10 or 100 from module 1. Students find the length of an object to the nearest centimeter and inch to develop an understanding of unit size. Students find the length of an object to the nearest centimeter and inch to develop an understanding of unit size.

Launch: Students reason about the measurements of space creatures to make comparisons.

Learn: Students use given measurements to draw a creature. Students describe and compare the lengths of their creatures' body parts.

Land: Facilitate a discussion about using measurement to compare differences in length.

Daily Exit Ticket: Students will find the unknown in addition and subtraction problems.

Resources: scissors, string, ruler, student-create ruler, student create yard stick, chart paper, markers

Lesson #: 12

Mathematical Practice: 7

Standard: 2.M.B.6

Target: Identify unknown numbers on a number line by using the interval as a reference point.

Learning Activities:

Fluency: Students write the total to build fluency with mentally adding 10 or 100 from module 1.

Launch: Students represent the distance a rocket travels on a football field after watching a rocket launch.

Learn: Students reason about intervals and represent differences on a number line. Students determine the interval for a number line and label the unknown numbers.

Land: Facilitate a discussion about identifying unknown numbers on a number line by using the interval as a reference point.

Daily Exit Ticket: Students will analyze a given solution to a measurement problem.

Resources: student create yard stick, Add 10 or 100 Sprint

Lesson #: 13

Mathematical Practice: 6

Standard: 2.OA.A.1, 2.M.B.5, 2.G.A.1

Target: Solve word problems that involve measurements and reason about estimates.

Learning Activities:

Fluency: Students partition a rectangle into equal shares, describe those shares as halves or thirds, and determine how many make 1 whole to build reasoning with shapes. Students say an equation to represent a doubles fact on the rekenrek to build addition fluency within 20. Students add four numbers by using place value strategies to prepare for measuring rectangular objects.

Launch: Students determine when precise measurements are needed and why.

Learn: Students find the total length around a garden and reason about how the size of a unit impacts the number of units needed to measure. Students use geometric reasoning to find an unknown length.

Land: Facilitate a discussion about how estimates can help us to reason about word problems.

Daily Exit Ticket: Students will provide reasoning about an estimate for a word problem.

Resources: rekenrek, Rectangles Removable

Lesson #: 14

Mathematical Practice: 4

Standard: 2.OA.A.1, 2.M.B.5

Target: Solve addition and subtraction two-step word problems that involve length.

Learning Activities:

Fluency: Students partition a circle into equal shares, describe those shares as halves or fourths, and determine how many make 1 whole to build reasoning with shapes. Students say an equation to represent a doubles fact on the rekenrek to build addition fluency within 20. Students model an addition or subtraction strategy on an open number line to prepare for finding sums and differences involving length.

Launch: Students notice and wonder about the distance rockets travel.

Learn: Students draw a model to represent a two-step word problem before deciding on a strategy to solve. Students critique work to address a common misconception and reason about two-step word problems.

Land: Facilitate a discussion about solving two-step word problems.

Daily Exit Ticket: Students will draw and write the solution for a word problem.

Resources: rekenrek, Circles Removable

Lesson #: 15

Mathematical Practice: 7

Standard: 2.DL.B.3, 2.DL.A.1, 2.DL.A.2

Target: Use measurement data to create a line plot.

Learning Activities:

Fluency: Students say the difference to build fluency with mentally subtracting 10 or 100 from module 1. Students model an addition or subtraction strategy on an open number line to build addition and subtraction fluency within 100. Students complete a number sequence to prepare for identifying unknown numbers on a number line.

Launch: Students reason about which length pencil they prefer to write with.

Learn: Students measure the length of their pencil and create a line plot.

Land: Facilitate a discussion about how to use measurement data to create a line plot.

Daily Exit Ticket: Students will use a line plot to answer questions.

Resources: ruler, unsharpened pencil, grid paper

Lesson #: 16

Mathematical Practice: 7

Standard: 2.DL.B.3, 2.DL.A.1, 2.DL.A.2

Target: Create a line plot to represent data and ask and answer questions.

Learning Activities:

Fluency: Students add four numbers by using place value strategies to build fluency with adding four two-digit numbers from module 2. Students say the difference to build fluency with mentally subtracting 10 or 100 from module 1. Students complete a number sequence to build fluency with counting by fives and tens.

Launch: Students discuss the similarities and differences between two line plots.

Learn: Students plot their height on a line plot. Students ask and answer questions about line plot data.

Land: Facilitate a discussion about how creating and reading line plots.

Daily Exit Ticket: Students will create a line plot, use it to answer questions, and solve a word problem.

Resources: student created yard sticks, chart paper

Unit Modifications for Special Population Students

Advanced Learners

Lesson 4 - Challenge students to find out how much more money they need to make \$1,000. Encourage them to find as many ways as possible to make the remaining \$487.

Lesson 5 - Consider challenging students to use what they know about how many pennies it takes to compose 1 dollar to determine how many pennies it takes to compose 5 dollars, 10 dollars, or more. Repeat with dimes, nickels, or quarters.

Lesson 13 - Ask students to find the side lengths measured in yards. Have them reason about why the side lengths are measured in feet instead of a larger unit, such as yards.

Struggling Learners

Lesson 6 - Consider providing manipulatives for students to use to support their understanding. Make connections between the concrete manipulatives and the pictorial representation with the following prompts:

- Show me how you would show the total.
- What can you draw to show the parts?
- How can you describe what you acted out and what you drew?

Lesson 14 - Support students in solving comparison word problems by providing measurement tools, such as a yard stick, to help them reason about the lengths and to find the difference between two lengths.

	<p>Lesson 16 - Students may respond with 6 when asked which height is the most common. Consider asking the following questions to advance understanding. Gesture to the line plot as needed.</p> <ul style="list-style-type: none"> • What do those 6 X's mean? • How tall are those 6 people? • So, 6 people are 50 inches tall. Are 6 people 47 inches tall? Is there a height that happens more than 6 times? • Which height is the most common?
English Language Learners	<p>Lesson 5 - Consider supporting students' understanding of the multiple-meaning word <i>change</i> by providing examples of each meaning.</p> <ul style="list-style-type: none"> • <i>Change</i> can mean "coins." • <i>Change</i> can mean "the money you get back if you pay too much." • <i>Change</i> can mean "to make something different than it was before." <p>For example, I can change my seat from the front row to the back row.</p> <p>Lesson 11 - If students need support making reasonable estimates, consider providing a checklist:</p> <ol style="list-style-type: none"> 1. Select a unit of measure (inches, feet, or yards). 2. Think, "Which benchmark, such as a paper clip, a whiteboard, or the table, best represents this unit?" 3. Ask, "About how many benchmarks will fit in this space?" 4. Estimate. <p>Lesson 12 - As you introduce the word <i>interval</i>, point to the number line to show the space between each tick mark. Consider having students count by the value of each interval as you point. Label a number line with the term <i>interval</i> for students to refer to.</p>
Special Needs Learners	<p>Lesson 3 - Provide physical coins for students to model the word problems. Consider creating a reference page of place value strategies and encourage students to use whichever appropriate strategy they feel most comfortable with.</p> <p>Lesson 9 - If students need support making reasonable estimates, consider providing a checklist:</p> <ol style="list-style-type: none"> 1. Select a unit of measure (inches, feet, or yards). 2. Think, "Which benchmark, such as a paper clip, a whiteboard, or the table, best represents this unit?" 3. Ask, "About how many benchmarks will fit in this space?" 4. Estimate. <p>Lesson 11 - Consider providing 1-inch grid chart paper to support students in drawing their creature to the precise measurements.</p>
Learners with a 504	<p>Refer to page four in the Parent and Educator Resource Guide to Section 504 to assist in the development of appropriate plans.</p>

Interdisciplinary Connections

Standards:

SL.PE.2.1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

This standard is addressed during the “Learn” and “Land” section of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day. For example, in Lesson 13 students determine when precise measurements are needed and why. They discuss various scenarios in pairs and determine whether an exact or estimated measurement is required.

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

This standard is addressed during the “Launch” section of every lesson. Students are introduced to the priority math standards addressed for the day in a variety of ways, they then unpack and use this information during the “Learn” section in small group, partner, and whole group setting, and use the same information to complete the “Problem Set” individually.

For example, in Lesson 14 students watch a video about a rocket launch. They then notice and wonder about the distance rockets travel. They then participate in a class discussion using the following guided questions.

“What do you notice?

What do you wonder?

What information do you need to know to answer some of your questions?

How can we find how much farther the green rocket ship traveled than the yellow rocket?

This picture helps us ask and answer questions. When we have a word problem that doesn’t have pictures, what can we draw to help us make sense of the problem?”

SL.ES.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

This standard is addressed during the “Fluency”, “Launch”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 6 **students collect information from a video and solve a making change word problem. They will ask and answer questions about the video as well as the word problems their classmates create about the video.**

Integration of 21st Century Skills

Standards:

9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

This standard is addressed in Lessons 1, 2, 3, 4, 5, 6, & 7 as students solve problems with coins and bills. After organizing, counting, and representing a collection of coins, students manipulate different combinations of coins to make the same total value. Ultimately, students use the fewest number of coins to make a given value.

Students find the total value of a group of coins or bills in the context of one- and two-step word problems. Students also make 1 dollar or make change from 1 dollar. Students solve word problems with coins and bills, which supports real-world experiences with mixed units of money.

For example, in Lesson 1 students reason about the value of coins and determine which set of coins they would rather have. They examine the value of two separate sets of coins and then state which set they would like to have.

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

This standard is addressed during the “Launch”, “Learn”, and “Land” sections of every lesson. Students work collaboratively in partners, small groups, an/or whole group to discuss strategies, problems, choices, and opinions concerning the priority math standards in the lesson.

For example, in Lesson 9 **students generate benchmarks for 1 inch, 1 foot, and 1 yard to support estimation.** Teacher will gather students near a table that measures about 36 inches in length and use the following guiding questions to facilitate a discussion.

“Which one of these objects is about 1 inch long: the paper clip, the table, or the whiteboard?

Whenever we think about the length unit 1 inch, let’s picture the length of a paper clip.

Which object is about 1 foot long?

Whenever we think about the length unit 1 foot, let’s picture the length of the whiteboard.

Let’s use the whiteboard to measure the table and see how long it is.

Use the mark-and-move-forward technique to measure the table.

What is the length of the table, in feet?

We can rename 3 feet as another unit of measure. It is called 1 yard. A yard is 3 feet, or 36 inches, in length. Whenever we think about the length unit 1 yard, let’s picture the long side of the table.

Let’s find other objects in the classroom that are about 1 inch, 1 foot, or 1 yard.”

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

This standard is addressed during the “Land” section of every lesson. Students are asked to reflect, analyze, and discuss the work that was done concerning the priority math standards addressed for the day during the entire lesson.

For example, in Lesson 7 students reflect on and analyze their work using the following guiding questions.

“How is 1 dollar similar to or different from 1 cent?

How does the unit affect the value of money?

How is this work similar to or different from measurement?”

Unit Title: Module 6 - Multiplication and Division Foundations	
Unit Description: Students count and solve problems with equal groups of objects. Students organize equal groups into rows and columns to create rectangular arrays. As they compose and decompose arrays, students gain foundations for multiplication and division.	
*These skills will be reinforced and practiced during individual, differentiated practice using the Zearn digital platform.	
Unit Duration: 18 lessons (#18 is optional), 1 assessment day; Module 6 Assessment , 1 review day = 20 days	
Desired Results	
Standard(s): 2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 2.OA.B.2 With accuracy and efficiency, add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. 2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. 2.OA.C.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. 2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s. 2.G.A.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	
Understandings: <ul style="list-style-type: none"> • I can create equal groups and write repeated addition equations. • I can use math drawing to show equal groups. • I understand that arrays are made of rows and columns. • I can compose arrays to solve word problems. • I can decompose arrays to make repeated addition problems. • I can describe a square array. • I can use math drawings to compose a rectangle. • I can decompose an array to find the total. • I understand that equal arrays can be composed differently. • I can decompose an array to make a number bond. • I understand that double facts show even numbers. • I can use arrays to see if a number is even or odd. 	Essential Questions: <ul style="list-style-type: none"> • What are equal groups? • How can I use a repeated addition equation to make equal groups? • How can you use a tape diagram to write a repeated addition equation? • How does an array show equal groups? • How is decomposing arrays similar to decomposing numbers? • How does adding or subtracting a row or column change an array? • What are the attributes of a square array? • How does decomposing an array help us find the total? • How can arrays with the same total be composed in different ways? • How do you know if a number is even?
Assessment Evidence	

Formative/Summative Assessments:

- Topic Tickets A, B, C, D
- Lesson Exit tickets (13)
- End of Module Assessment

Benchmarks:

- The iReady assessment is administered in the Fall and Winter.

Learning Plan**Lesson #: 1****Mathematical Practice: 2****Standard: 2.OA.C.4**

Target: Compose equal groups and write repeated addition equations.

Learning Activities:

Fluency: Students write the time to the nearest 5 minutes and use picture clues to distinguish between a.m. and p.m. to build fluency with time from module 3. Students count by tens in unit and standard form to prepare for counting and problem solving with equal groups. Students relate counting on the rekenrek to counting the math way to prepare for counting and problem solving with equal groups.

Launch: Students reason about and model an equal groups situation and relate it to a repeated addition equation.

Learn: Students articulate how they know when a group is equal and analyze a common misconception. Students partition a total into equal groups. Students create equal groups to find an unknown in a word problem.

Land: Facilitate a discussion about composing equal groups and writing repeated addition equations.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: rekenrek, Color Tiles

Lesson #: 2**Mathematical Practice: 7****Standard: 2.OA.C.4, 2.NBT.A.2**

Target: Organize, count, and represent a collection of objects.

Learning Activities:

Fluency: Students write the time to the nearest 5 minutes and use picture clues to distinguish between a.m. and p.m. to build fluency with time from module 3. Students count by fives in unit and standard form to prepare for counting and problem solving with equal groups. Students relate counting on the rekenrek to counting the math way to prepare for counting and problem solving with equal groups.

Launch: Students discuss different ways to find the total of a collection.

Learn: Partners organize and count objects and record their process. Students discuss strategies for organizing in equal groups to find the total.

Land: Facilitate a discussion about organizing and counting efficiently.

Daily Exit Ticket: None

Resources: rekenrek, Counting Collections, recording Sheet, organizational tools, scissors

Lesson #: 3**Mathematical Practice: 8****Standard:** 2.OA.C.4, 2.NBT.A.2**Target:** Use math drawings to represent equal groups and relate them to repeated addition.**Learning Activities:**

Fluency: Students count by twos in unit and standard form to prepare for counting and problem solving with equal groups. Students relate counting on the rekenrek to counting the math way to prepare for counting and problem solving with equal groups. Students represent an equal groups picture with a sentence, unit form, and a repeated addition equation to develop fluency with problem solving with equal groups.

Launch: Students articulate how the same number of objects, split into equal groups many ways, are similar or different.

Learn: Students create equal groups concretely, write repeated addition equations, and reason about composing smaller equal groups to add more efficiently. Students create equal groups pictorially, write repeated addition equations, and reason about composing smaller equal groups to add more efficiently.

Land: Facilitate a discussion about using math drawings to represent equal groups and relate them to repeated addition.

Daily Exit Ticket: Students will create equal groups and represent them with a repeated addition problem.

Resources: rekenrek, Color Tiles

Lesson #: 4**Mathematical Practice: 4****Standard:** 2.OA.A.1, 2.OA.C.4, 2.NBT.A.2**Target:** Represent equal groups with a tape diagram.**Learning Activities:**

Fluency: Students construct a number line with their fingers while counting aloud to develop fluency with counting and problem solving with equal groups. Students represent an equal groups picture with a sentence, unit form, and a repeated addition equation to develop fluency with problem solving with equal groups.

Launch: Students compare and contrast various drawings that represent equal groups.

Learn: Students represent and solve a word problem with equal groups. Students share representations and solutions and reason about their connections. Students apply their learning to represent equal groups with a tape diagram.

Land: Facilitate a discussion about the usefulness of a tape diagram and a repeated addition equation to represent a situation with equal groups.

Daily Exit Ticket: Students will create equal groups using drawings.

Resources: No manipulatives needed.

Lesson #: 5**Mathematical Practice: 8****Standard:** 2.OA.A.1, 2.OA.C.4, 2.NBT.A.2**Target:** Compose arrays with rows and columns and use a repeated count to find the total.

Learning Activities:

Fluency: Students say an addition equation with a total of 11 to 18 to build addition fluency within 20. Students represent an array shown on a rekenrek with a sentence, unit form, and a repeated addition equation to develop fluency with arrays and equal groups.

Launch: Students relate equal groups to an array.

Learn: Students organize equal groups into arrays and determine the characteristics of an array. Students use the same total to compose many different equal groups. Students articulate why unequal groups cannot be organized into an array.

Land: Facilitate a discussion about how equal groups relate to arrays.

Daily Exit Ticket: Students will create arrays of 24.

Resources: Colored Tiles, Addition Within 20 cards, envelopes, 100-bead rekenrek

Lesson #: 6**Mathematical Practice: 7**

Standard: 2.OA.C.4, 2.NBT.A.2

Target: Decompose arrays into rows and columns and relate them to repeated addition.

Learning Activities:

Fluency: Students sort expressions cards by total to build addition fluency within 20. Students represent an array shown on a rekenrek with a sentence, unit form, and a repeated addition equation to develop fluency with arrays and equal groups.

Launch: Students relate equal groups to an array.

Learn: Students decompose an array into rows or columns and write repeated addition equations. Students describe an array as rows or columns and write repeated addition equations to match.

Land: Facilitate a discussion about decomposing arrays into rows and columns and relating them to repeated addition.

Daily Exit Ticket: Students will answer questions about an array.

Resources: Colored Tiles, Addition Within 20 cards, sticky notes, 100-bead rekenrek, rulers

Lesson #: 7**Mathematical Practice: 7**

Standard: 2.OA.C.4, 2.NBT.A.2

Target: Distinguish between rows and columns and use math drawings to represent arrays.

Learning Activities:

Fluency: Students say a subtraction equation with a difference of 2 to 9 to build subtraction fluency within 20. Students add two-digit numbers to build addition fluency within 100.

Launch: Students analyze an array and wonder about whether the orientation affects the total.

Learn: Students reason about how the same array can be described differently. Students compare an array that has been rotated. Students identify representations of equal groups as a unit.

Land: Facilitate a discussion about the difference between rows and columns, and using math drawings to represent arrays.

Daily Exit Ticket: Students will draw an array and write corresponding number sentences.

Resources: Colored Tiles, Subtraction Within 20 cards, Envelopes, Take a Stand signs

Lesson #: 8

Mathematical Practice: 2

Standard: 2.OA.C.4, 2.NBT.A.2

Target: Use square tiles to create arrays with gaps.

Learning Activities:

Fluency: Students sort expressions cards by difference to build subtraction fluency within 20. Students add two-digit numbers to build addition fluency within 100.

Launch: Students determine that gaps between objects in an array do not change the total of the array.

Learn: Students compose arrays to match a context to develop understanding of rows and columns. Students decompose an array into groups of rows or columns with no gaps between the tiles. Students construct scenarios to match a given array.

Land: Facilitate a discussion about the arrays found in *Display Castle and Sun*, 1928, by Paul Klee.

Daily Exit Ticket: Students will draw an array and write corresponding number sentences.

Resources: Colored Tiles, Subtraction Within 20 cards, sticky notes, rulers

Lesson #: 9

Mathematical Practice: 8

Standard: 2.OA.C.4, 2.NBT.A.2, 2.G.A.2

Target: Determine the attributes of a square array.

Learning Activities:

Fluency: Students count by twos with an emphasis on multiples of 4 to develop fluency with counting by fours. Students count with an emphasis on multiples of 3 to develop fluency with counting by threes. Students determine the number of rows and columns in an array, then represent the array with a sentence, unit form, and a repeated addition equation to prepare for work with rectangular arrays.

Launch: Students compare arrays and find that all arrays are rectangular and some are square.

Learn: Students compose rectangular arrays and write two repeated addition equations to represent them. Students compose square arrays and write a repeated addition equation.

Land: Facilitate a discussion about the attributes of a square array.

Daily Exit Ticket: Students will draw an array and write corresponding number sentences.

Resources: Colored Tiles

Lesson #: 10

Mathematical Practice: 7

Standard: 2.OA.C.4, 2.NBT.A.2, 2.G.A.2

Target: Use math drawings to compose a rectangle.

Learning Activities:

Fluency: Students count by twos with an emphasis on multiples of 4 to develop fluency with counting by fours. Students count with an emphasis on multiples of 3 to develop fluency with counting by threes. Students determine the number of rows and columns in an array, then represent the array with a sentence, unit form, and two repeated addition equations to prepare for composing rectangular arrays.

Launch: Students analyze a variety of arrays and look for similarities and differences.

Learn: Students draw arrays by reasoning about the structure of an array as a collection of same-size squares arranged in rows and columns. Students draw arrays and write repeated addition equations to solve a word problem.

Land: Facilitate a discussion about number 6 on the Problem Set.

Daily Exit Ticket: Students will draw an array and write corresponding number sentences.

Resources: Colored Tiles, blank paper

Lesson #: 11

Mathematical Practice: 7

Standard: 2.OA.C.4, 2.NBT.A.2, 2.G.A.2

Target: Decompose an array to find the total efficiently.

Learning Activities:

Fluency: Students count by twos with an emphasis on multiples of 4 to develop fluency with counting by fours. Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20.

Launch: Students determine that a decomposed array is equal to its total.

Learn: Students decompose the rows of an array into equal parts to find the total efficiently. Students decompose the columns of an array into equal parts to find the total efficiently. Students compare the efficiency of decomposing an array into equal groups versus decomposing an array into two groups that are not equal.

Land: Facilitate a discussion about how to decompose an array to find the total efficiently.

Daily Exit Ticket: Students will draw and decompose an array.

Resources: Colored Tiles, ruler, *Eureka Math*² Numeral Cards, Hidden Addends Mat

Lesson #: 12

Mathematical Practice: 3

Standard: 2.OA.C.4, 2.NBT.A.2, 2.G.A.2

Target: Reason about how equal arrays can be composed differently.

Learning Activities:

Fluency: Students count with an emphasis on multiples of 3 to develop fluency with counting by threes. Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20.

Launch: Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20.

Learn: Students partition two same-size arrays into rows and columns and reason about how the total is affected. Students compose arrays and determine that many different arrays can be made by using the same number of paper squares.

Land: Facilitate a discussion about how arrays can be composed differently.

Daily Exit Ticket: Students will describe an array.

Resources: Colored Tiles, scissors, Arrays, *Eureka Math*² Numeral Cards, Hidden Addends Mat

Lesson #: 13

Mathematical Practice: 4

Standard: 2.OA.C.4, 2.NBT.A.2, 2.G.A.2

Target: Decompose an array and relate it to a number bond.

Learning Activities:

Fluency: Students subtract two-digit numbers to build subtraction fluency within 100. Students determine the number of rows and columns in a rectangular array, and then represent the array with a sentence, unit form, and two repeated addition equations to build fluency with rectangular arrays.

Launch: Students determine which model represents a decomposed array.

Learn: Students identify a specified array within a larger array and use a number bond to represent the part–total relationship.

Land: Facilitate a discussion about how decomposed arrays relate to number bonds.

Daily Exit Ticket: Students will answer questions about an array and create a matching number bond.

Resources: colored pencils

Lesson #: 14

Mathematical Practice: 8

Standard: 2.OA.C.3, 2.G.A.2

Target: Relate doubles to even numbers and write equations to express the sums.

Learning Activities:

Fluency: Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students subtract two-digit numbers to build subtraction fluency within 100.

Launch: Students reason about a context and manipulate tiles to show even amounts.

Learn: Students determine that the sums of all doubles facts are even numbers. Students double a given number of tiles to compose an even total. Students sort numbers and representations into two categories: even and not even.

Land: Facilitate a discussion about how doubles are related to even numbers.

Daily Exit Ticket: Students will draw an array and create a matching number sentences.

Resources: chart paper, Color Tiles, Even / Not Even cards

Lesson #: 15**Mathematical Practice:** 7**Standard:** 2.OA.C.3**Target:** Pair objects and skip-count to determine whether a number is even or odd.**Learning Activities:****Fluency:** Students subtract three-digit numbers to build subtraction fluency within 1,000.**Launch:** Students determine what comes next in a pattern as they learn the history of the Fibonacci sequence.**Learn:** Students form pairs to determine whether a number is even or odd. Students build arrays to show numbers from 0 to 20 and determine whether each number is even or odd.**Land:** Facilitate a discussion about even and odd numbers.**Daily Exit Ticket:** Students will classify numbers as even or odd and explain their reasoning.**Resources:** Color Tiles, A Number Is Even chart**Lesson #: 16****Mathematical Practice:** 3**Standard:** 2.OA.C.3**Target:** Use rectangular arrays to investigate combinations of even and odd numbers.**Learning Activities:****Fluency:** Students find the total and say an addition equation or related subtraction equation to build addition and subtraction fluency within 20. Students add three-digit numbers to build addition fluency within 1,000.**Launch:** Students reason about combinations of even and odd numbers.**Learn:** Students compose an even addend with an even addend and find that the sum is an even number. Students compose an even addend with an odd addend and find that the sum is an odd number. Students create two odd numbers with tiles and pair the leftover tile from each addend to make an even total. Students apply what they have learned about the total when adding different combinations of even and odd addends to larger numbers.**Land:** Facilitate a discussion about how rectangular arrays relate to even and odd numbers.**Daily Exit Ticket:** Students will draw an array.**Resources:** Color Tiles, chart paper**Lesson #: 17****Mathematical Practice:** 4**Standard:** 2.OA.A.1, 2.OA.C.4**Target:** Solve word problems that involve equal groups and arrays.**Learning Activities:****Fluency:** Students find an unknown total or part to build addition and subtraction fluency within 20. Students count with an emphasis on multiples of 3 to develop fluency with counting by threes.

Launch: Students determine which models best represent a word problem and defend their reasoning.

Learn: Students use the Read–Draw–Write (RDW) process to solve an equal groups word problem. Students use the Read–Draw–Write process to solve an array word problem. Students share solution strategies and reason about their connections.

Land: Facilitate a discussion about how solving word problems with equal groups and arrays.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: *Eureka Math*² Numeral Cards

Lesson #: 18 (Optional)

Mathematical Practice: 4

Standard: 2.OA.B.2

Target: Use various strategies to fluently add and subtract within 100 and know all sums and differences within 20 from memory.

Learning Activities:

Fluency: Students find an unknown total or part to build addition and subtraction fluency within 20. Students count with an emphasis on multiples of 3 to develop fluency with counting by threes.

Launch: Students determine which models best represent a word problem and defend their reasoning.

Learn: Students use the Read–Draw–Write (RDW) process to solve an equal groups word problem. Students use the Read–Draw–Write process to solve an array word problem. Students share solution strategies and reason about their connections.

Land: Facilitate a discussion about how solving word problems with equal groups and arrays.

Daily Exit Ticket: Students will draw and write the solution to a word problem.

Resources: *Eureka Math*² Numeral Cards, Measuring tape, The 9 Game, paper clips, counters, 6-sided dot dice

Unit Modifications for Special Population Students

Advanced Learners	<p>Lesson 5 - Challenge students to find the maximum number of combinations of equal groups that have a total of 12.</p> <p>Lesson 10 - Invite students to draw a different number bond to represent the array in which the total and parts are expressed in unit form. Students may describe the total as <i>5 twos</i> and draw 5 parts with <i>1 two</i> written inside each part. This is an opportunity to point out that just as we can count by units of ones and tens, we can also count by units of fives and twos.</p> <p>Lesson 13 - Invite students to reason about whether the unshaded part of the array can be described in units of five. Consider asking them to explain their reasoning.</p>
Struggling Learners	<p>Lesson 3 - Allow students who need support to continue working with concrete manipulatives. Consider drawing the circles for each group and the lines underneath each addend for them as they begin work on each problem.</p> <p>Lesson 14 - Assist students as they determine whether each card represents an even number by using one or more of the following prompts:</p> <ul style="list-style-type: none"> • Do you see a doubles fact? • Look at the ones place. What number do you see? • Skip-count by twos, starting at 0. Let's see if you say this number. <p>Lesson 17 - Some students may need support representing word problems with a tape diagram, as it is an abstract model. Allow them to use concrete objects, such as cubes, or to draw a picture to solve. Then have them make connections between their concrete or pictorial models and the tape diagram.</p>
English Language Learners	<p>Lesson 1 - Discuss the word <i>group</i> with students and the many groups to which they can belong, such as sports teams, Scouts, or table groups.</p> <p>Lesson 8 - To support students in understanding the meaning of <i>leftover</i> as remaining, unused, or extra, consider comparing the leftover tiles to leftover supplies at the end of the art project.</p> <p>Lesson 15 - The term <i>pair</i> is familiar from kindergarten. Take a moment to discuss words that are homophones of the word <i>pair</i>.</p> <ul style="list-style-type: none"> • Pear—a fruit that grows on trees • Pare—to cut away the outer peel or covering with a knife (e.g., pare an apple) <p>Consider inviting students to think of items that come in pairs (e.g., socks, boots).</p>
Special Needs Learners	<p>Lesson 4 - If students need support determining the difference between the number of groups versus the number in each group, provide square tiles to concretely represent the problem before moving to the more abstract tape diagram. Consider asking the following questions:</p> <ul style="list-style-type: none"> • How many groups of tiles do you have? What does each group represent? • How many tiles are in each group? What does each tile represent? <p>Lesson 12 - To minimize fine motor demands of this lesson, consider providing students with precut arrays.</p>

	Lesson 16 - If students need support drawing the objects on the Problem Set, have them continue to use the tiles from the lesson to represent the clouds, the chocolate bars, and the blueberries.
Learners with a 504	Refer to page four in the Parent and Educator Resource Guide to Section 504 to assist in the development of appropriate plans.

Interdisciplinary Connections

Standards:

SL.PE.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.

This standard is addressed during the “Learn” and “Land” section of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day.

For example, in Lesson 11 students think–pair–share about which arrangement of cookies they would rather have and why. Their discussion is guided by the following questions.

“What is the total number of cookies in option A?

How did you find the total?

What is the total number of cookies in option B?

How did you find the total?

What do you notice?

The array in option A is decomposed in option B, but the total is the same.”

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

This standard is addressed during the “Launch” section of every lesson. Students are introduced to the priority math standards addressed for the day in a variety of ways, they then unpack and use this information during the “Learn” section in small group, partner, and whole group setting, and use the same information to complete the “Problem Set” individually.

For example, in Lesson 9 students compare arrays and find that all arrays are rectangular and some are square. They will examine various pictures of arrays and discuss with their partners and as a whole class.

SL.PE.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion.

This standard is addressed during the “Fluency”, “Learn”, and “Land” sections of every lesson. Students are engaged in math discourse about the priority math standards addressed for the day during these sections of the lesson.

For example, in Lesson 1 students participate in the following Math Chat

Present the following problem and use the Math Chat routine to engage students in mathematical discourse.

Malik has 3 baskets of eggs.

Each basket has 4 eggs.

How many eggs does Malik have in all?

Give students 2 minutes of silent think time to manipulate their tiles and draw a picture to represent the problem on their personal whiteboards. Have students give a silent signal to indicate they are finished.

Have students discuss their thinking with a partner. Circulate and listen as they talk. Identify two or three students to share their thinking. Purposefully choose work that allows for rich discussion about connections between strategies.

Integration of 21st Century Skills

Standards:

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences

This standard will be addressed whenever students are assigned individual assignments on iReady, as well as when EQUIP assessments are assigned digitally.

Students will access the software platforms from Classlink on their ipads and complete independent math work.

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives

This standard is addressed during the “Land” section of every lesson. Students are engaged in math discourse about the different strategies peers used to solve the assigned problems for the day.

For example, in Lesson 12 students look at the arrays from problems 1 and 2 from the Problem Set and compare and contrast with a partner.

“How are they similar?”

How are the arrays from problems 1 and 2 different?

Can we compose or decompose arrays with the same total in different ways? How?”

9.4.2.CT.3: Use a variety of types of thinking to solve problems

This standard is addressed during the “Learn” and “Land” sections of every lesson. Students work collaboratively in partners and/or small groups to discuss and solve problems based on the priority math standards for the lesson.

For example, in Lesson 3 students use math drawings to represent equal groups and relate them to repeated addition.

Use the following prompts students participate in a class discussion. Students are encouraged to restate their classmates’ responses in their own words.

“How are 2 groups of 4 similar to or different from 4 groups of 2?”

How do repeated addition equations relate to equal groups?

How can we use a repeated addition equation to make equal groups?”

9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas

This standard is addressed during the “Land” section of every lesson. Students are asked to reflect, analyze, and discuss the work that was done concerning the priority math standards addressed for the day during the entire lesson.

For example, in Lesson 10 students analyze a variety of arrays and look for similarities and differences. They are shown various arrays and must decide which does not belong in the group.