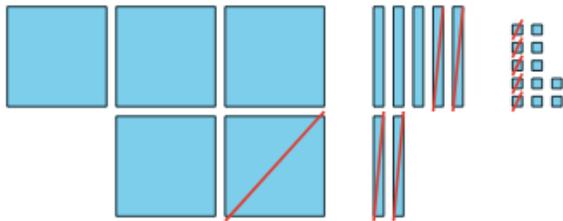


## 2nd GRADE MATH CURRICULUM

How do Jada's equations match Lin's diagram?  
Finish Jada's work to find  $582 - 145$ .

Lin's diagram



Jada's equations

$$\begin{array}{r}
 500 - 100 = \\
 70 \\
 80 - 40 = \\
 12 \\
 \cancel{1} - 5 = \\
 -
 \end{array}$$



**Grade Level(s):** 2nd Grade

**Curriculum Author(s):** Taryn Fernandez, Jennifer Schnitzer, Alicia Schiavo  
*(Curriculum content aligns with the CT State Model Math Curriculum and is based on the Illustrative Math program used in grades K-9)*

**Course Description:** The big ideas in grade 2 include: extending understanding of the base-ten number system, building fluency with addition and subtraction, using standard units of measure, and describing and analyzing shapes.

**Year At A Glance**

Unit Title	Overarching Essential Question	Overarching Enduring Understanding	<u>Vision of A Learner “I Can” Statements</u>
<a href="#">Adding, Subtracting, and Working with Data</a>	How can we collect, organize, and represent categorical data?	Data can be organized, represented and analyzed by using a line plot, picture graph or bar graph.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Adding and Subtracting within 100</a>	How do visual representations depict addition and subtraction?	Addition and subtraction can be represented on various models such as number lines, picture graphs, and bar graphs.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Measuring Length</a>	How do we measure length?	Length is found by counting intervals rather than counting the marks on a number line	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Addition and Subtraction on the Number Line</a>	How do visual representations depict addition and subtraction?	A number line diagram can be used to represent whole-numbers sums and differences.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Numbers to 1,000</a>	How does the position of a digit in a number affect its value?	<ul style="list-style-type: none"> <li>● Place value is based on groups of tens</li> <li>● Each hundred is composed of 100 ones or 10 tens</li> </ul>	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)



<a href="#">Geometry, Time, and Money</a>	<ul style="list-style-type: none"> <li>• How are various representations of time related?</li> <li>• How do coin values affect how money is counted?</li> <li>• What attributes of shapes help us identify them?</li> </ul>	<ul style="list-style-type: none"> <li>• Coins have different values and are counted according to their values.</li> <li>• Standard units provide common language for communicating time.</li> <li>• Shapes are identifiable based upon attributes such as the number of sides, whether they are 2-dimensional or 3-dimensional, the number of equal angles, and the number of equal faces.</li> </ul>	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Adding and Subtracting within 1,000</a>	Why can numbers be composed and decomposed and how is it beneficial?	When adding and subtracting numbers, the place and value of the digits is important for determining either the sum or the difference.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Equal Groups</a>	Can you share equally?	Some numbers of objects can be split into two equal groups without any objects leftover, and some cannot.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)
<a href="#">Putting it All Together</a>	How can we apply our previous learning to new situations?	When we take time to express what we notice and wonder, we can make connections to previous learning and apply that learning to new situations.	TCC1(PK-2); TCC2(PK-2); TCC3(PK-2); CCE1(PK-2); CCE2(PK-2); CCE3(PK-2); CCE4(PK-2); DE4(PK-2); TI1(PK-2); TI2(PK-2); TI3(PK-2); P2(PK-2); P3(PK-2); AA1(PK-2); AA2(PK-2); AA4(PK-2)



## Unit 1 - Adding, Subtracting, and Working with Data

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.NBT.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.OA.B.2: Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.MD.D.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
- 2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 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.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

<p><b>Understandings:</b> Students will understand that...</p> <ul style="list-style-type: none"> <li>• Addition and subtraction can be represented on various models such as picture graphs, bar graphs, and tape diagrams.</li> <li>• Data can be organized, represented and analyzed by using a line plot, picture graph or bar graph.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• How do visual representations depict addition and subtraction?</li> <li>• How can we collect, organize, and represent categorical data?</li> </ul>
<p><b>Students will know...</b></p> <ul style="list-style-type: none"> <li>• Results of surveys can be interpreted and findings can be represented in many ways</li> <li>• Large collections of objects can be counted</li> </ul>	<p><b>Students will be able to...</b></p> <ul style="list-style-type: none"> <li>• Represent and solve story problems within 20 through the context of picture and bar graphs that represent categorical data</li> <li>• Build toward fluency with addition and subtraction</li> <li>• Analyze different representations of the same data to identify common features.</li> <li>• Generate and answer questions about data represented in picture graphs and bar graphs.</li> <li>• Interpret tape diagrams that represent Compare problems, with unknowns in all positions within 100.</li> </ul>
<p><b>Key Vocabulary:</b> categorical data, picture graphs, bar graphs, tape diagrams, fluency, interpret, represent, findings, collections, objects, representations, unknown, compare</p>	
<p><b>Assessment Evidence</b></p>	
<p><b>Performance Tasks:</b> Students subtract numbers in a data context reading the information from a bar graph. Students are given data in a table and they create a graph. They may choose to make a picture graph or a bar graph. Students find the missing value to make equations true. Students solve a Compare Smaller Unknown story problem. Students interpret a partially filled in bar graph and then solve problems about and complete the graph.</p>	<p><b>Other Evidence:</b> Various checkpoints throughout the unit for the following:</p> <ul style="list-style-type: none"> <li>• Build toward fluency with subtracting within 20.</li> <li>• Interpret picture and bar graphs.</li> <li>• Solve one- and two-step problems using addition and subtraction within 20.</li> <li>• Represent and solve Compare problems with unknowns in all positions within 100.</li> </ul>
<p><b>Learning Plan</b></p>	
<ul style="list-style-type: none"> <li>• TCC1(PK-2): I can ask questions to solve a problem.</li> <li>• TCC2(PK-2): I can look and listen to other ideas to make my own thinking.</li> <li>• TCC3(PK-2): I can use what I've learned to come up with a solution.</li> </ul>	

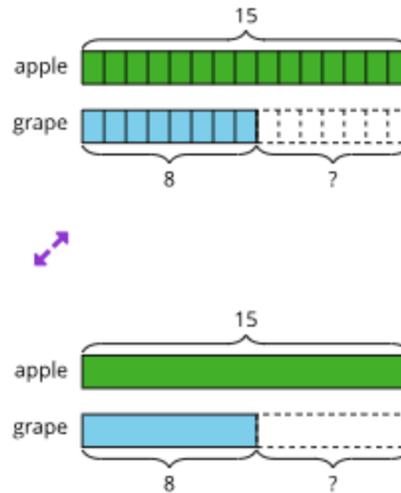


- CCE1(PK-2): I can share my ideas with help and show that I respect others.
  - CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
  - CCE3(PK-2): I can listen to my classmates and share my ideas with them.
  - CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
  - DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
  - TI1(PK-2): I can use pictures or models to decide what to do next.
  - TI2(PK-2): I can explore and use tools that work best for me.
  - TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
  - P2(PK-2): I can use a strategy to keep trying even when something is hard.
  - P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
  - AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
  - AA2(PK-2): I can think about what worked for me or others and try it again.
  - AA4(PK-2): I can listen to others and participate as I learn and grow.
- Students represent and solve story problems within 20 through the context of picture and bar graphs that represent categorical data. Students build toward fluency with addition and subtraction.

In this unit, students begin the year-long work to develop fluency with sums and differences within 20, building on concepts of addition and subtraction from grade 1. They learn new ways to represent and solve problems involving addition, subtraction, and categorical data.

In grade 1, students added and subtracted within 20 using strategies based on properties of addition and place value. They developed fluency with sums and differences within 10. Students also gained experience in collecting, organizing, and representing categorical data.

Here, students are introduced to picture graphs and bar graphs as a way to represent categorical data. They ask and answer questions about situations described by the data. The structure of the bar graphs paves the way for a new representation, the tape diagram.



Students learn that tape diagrams can be used to represent and make sense of problems involving the comparison of two quantities. The diagrams also help to deepen students' understanding of the relationship between addition and subtraction.

This opening unit also offers opportunities to introduce mathematical routines and structures for centers, and to develop a shared understanding of what it means to do math and to be a part of a mathematical community.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 2 - Adding and Subtracting Within 100

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.MD.D.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
- 2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.B.5: Fluently 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.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.
- 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: Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.NBT.B.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.

- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- Addition and subtraction can be represented on various models such as number lines, picture graphs, and bar graphs.
- Fluency is being efficient, accurate, and flexible with addition and subtraction strategies.

**Essential Questions:**

- How do visual representations depict addition and subtraction?
- What does it mean to be fluent?

**Students will know...**

- Properties of operations.
- Numbers are composed of other numbers.
- Relationship between addition and subtraction.
- When adding and subtracting numbers, the place and value of the digits is important for determining either the sum or the difference.
- Addition and subtraction strategies can be used to solve real-world measurement problems.
- A symbol can be used to represent an unknown number.

**Students will be able to...**

- Use number sentences or drawings to solve measurement word problems within 100.
- Write an equation using a symbol for the unknown number to represent the problem.
- Represent whole numbers as lengths from 0 on a number line diagram.
- Use number line diagrams to represent whole-number sums and differences within 100.
- Fluently add within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.
- Fluently subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.
- Use strategies to add and subtract within 100 efficiently, accurately, and flexibly.
- Generalize computation strategies of addition and subtraction that will apply to larger numbers.
- Use strategies to add up to four two-digit numbers.
- Use mental strategies to add and subtract 10 or 100 from a given number 100–900.
- Explain and justify why addition and subtraction strategies work.
- Explore and explain the use of addition and subtraction to solve real-world problems involving lengths (given in the same whole number units).



	<ul style="list-style-type: none"> <li>• Use drawings and equations with a symbol for the unknown number to represent the problem.</li> </ul>
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Key Vocabulary: Fluent, Operation, Place Value, Quantity, Solve, Symbol, Unknown, Solve, Unit, Value, digit, composing, decomposing, properties, reasoning, base-ten blocks, connecting cubes, tape diagrams, Addition, Associative Property, Commutative Property, Difference, Equation, Identity, Properties of Addition, Remainder, Subtraction, Sum, Remainder, Skip count

**Assessment Evidence**

<p><b>Performance Tasks:</b> Students evaluate expressions where a multiple of 10 is added to or subtracted from a two-digit number. Students solve a two-step Add To followed by Take From problem within 50. Students find the value of an addition expression and a subtraction expression using a method of their choosing. Students have seen different ways to subtract where a ten is decomposed. Students evaluate addition and subtraction expressions using any method they like. Students solve a two-step addition problem using numbers presented in a table.</p>	<p><b>Other Evidence:</b> Various checkpoints throughout the unit for the following:</p> <ul style="list-style-type: none"> <li>• Add and subtract within 100 using strategies based on place value and the relationship between addition and subtraction.</li> <li>• Subtract within 100 using strategies based on place value, including decomposing a ten, and the properties of operations.</li> <li>• Represent and solve one- and two-step problems involving addition and subtraction within 100, including different problem types with unknowns in all positions.</li> </ul>
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**Learning Plan**

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.



- Students add and subtract within 100 using strategies based on place value, properties of operations, and the relationship between addition and subtraction. They then use what they know to solve story problems.

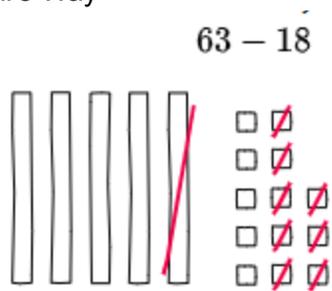
Previously, students added and subtracted numbers within 100 using strategies they learned in grade 1, such as counting on and counting back, and with the support of tools such as connecting cubes. In this unit, they add and subtract within 100 using strategies based on place value, the properties of operations, and the relationship between addition and subtraction.

Students begin by using any strategy to find the value of sums and differences that do not involve composing or decomposing a ten. They are then introduced to base-ten blocks as a tool to represent addition and subtraction and move towards strategies that involve composing and decomposing tens.

Students develop their understanding of grouping by place value, and begin to subtract one- and two-digit numbers from two-digit numbers by decomposing a ten as needed. They apply properties of operations and practice reasoning flexibly as they arrange numbers to facilitate addition or subtraction.

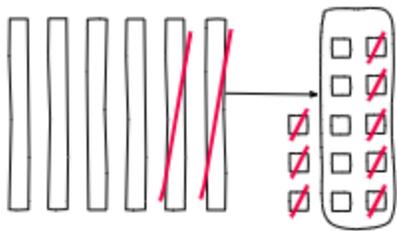
For example, students compare Mai and Lin’s methods for finding the value of  $63 - 18$ .

Mai’s Way



Lin’s Way

$$63 - 18$$



At the end of the unit, students apply their knowledge of addition and subtraction within 100 to solve one- and two-step story problems of all types, with unknowns in all positions. To support them in reasoning about place value when adding and subtracting, students may choose to use connecting cubes, base-ten blocks, tape diagrams, and other representations learned in earlier units and grades.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 3 - Measuring Length

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.A.3: Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.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.MD.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.MD.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.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 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: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
- 2.MD.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.MD.D.9: 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.

**Vision of A Learner Attributes:** Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I’ve learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.

- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- Length is found by counting intervals rather than counting the marks on a number line
- There is an inverse relationship between the unit size and number of units. (The smaller the unit, the more needed to measure; the larger the unit, the fewer needed to measure.)
- Data can be organized, represented and analyzed by using a line plot, picture graph or bar graph.

**Essential Questions:**

- How do we measure length?
- What is the relationship between the sizes of units to the number of units?
- How can measurement data be organized?

**Students will know...**

- The standard tools for linear measurement.
- The location of the beginning point of the appropriate standard measuring tool.
- Length-units.
- Length is measured by using an appropriate tool.
- The length of an object remains constant regardless of where it is placed on a measurement tool.
- Starting points on a measurement tool may vary.
- Units must be of equal size.
- Measurements can be nonstandard or standard units.
- All measurements include a margin of error.
- Numerals on a measuring tool indicate the number of length units.

**Students will be able to...**

- Measure the length of an object by selecting and using appropriate standard tools.
- Measure length of an object twice, using units of different lengths for the two measurements.
- Describe how two measurements using different units relate to the size of the unit chosen.
- Estimate lengths using units of inches, feet, centimeters and meters.
- Check for reasonableness of estimates.
- Compare objects visually, side by side, and measure the difference.
- Express the difference between lengths in terms of a standard length unit.

- Lengths can be estimated.
- Lengths can be compared.
- Length is measured by using an appropriate tool.
- A number line diagram is similar to a ruler in that whole numbers are 1 unit apart.
- Each number on a number line denotes the distance from the labeled point from 0, not the number itself.
- Addition and subtraction strategies can be used to solve real-world measurement problems.
- A symbol can be used to represent an unknown number.
- Length measurement data can be generated and used to create a line plot in whole number units.
- Categorical data results from sorting objects into as many as four categories.
- Given a graph, the data can be used to solve addition, subtraction, and comparison problems.

- Select and use appropriate tools: rulers, meter sticks, yard sticks, and measuring tapes.
- Use physical representations of standard units to measure length.
- Discuss and describe how different units can give different measurements.
- Emphasize the use of approximate language using phrases such as “about how many.”
- Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the number 0, 1, 2.
- Represent whole-number sums and differences within 100 on a number line diagram.
- Use number sentences or drawings to solve measurement word problems within 100.
- Explore and explain the use of addition and subtraction to solve real-world problems involving lengths (given in the same whole number units).
- Use drawings and equations with a symbol for the unknown number to represent the problem.
- Find the unknown length unit in real-world situations.
- Explore the relationship between number lines and whole number measurement tools.
- Write an equation using a symbol for the unknown number to represent the problem.
- Generate measurement data by measuring lengths of several objects to the nearest whole unit or by making repeated measurements of the same object.
- Show measurement data by making a line plot, where the horizontal scale is marked off in whole-number units.

**Key Vocabulary:** compare, distance, equal, estimate, length, longer, measure, quantity, symbol, taller, unknown, wider, centimeter, customary, system, difference, foot, inch, linear, measuring tape, meter, meter stick, metric system, ruler, subtraction, sum, unit, yardstick, zero, compare, equal, longer, shorter, taller, wider, Adding to, Difference, line plot

## Assessment Evidence

### Performance Tasks:

Students demonstrate their familiarity with standard units of measure and estimating heights. Students are asked to compare the length of the same object in two standard units of measure, centimeters and inches. Students add data to a line plot. Students measure and compare the lengths of two rectangles in centimeters. Students solve a two-step addition problem with a measurement context. Students solve a problem about distance estimates and how they differ from an actual value.

### Other Evidence:

Various checkpoints throughout the unit for the following:

- Measure length in centimeters and meters.
- Represent and solve one-step story problems within 100.
- Measure length in feet and inches.
- Represent numerical data in a line plot.

## Learning Plan

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

- Students measure and estimate lengths in standard units and solve measurement story problems within 100.

This unit introduces students to standard units of lengths in the metric and customary systems.

In grade 1, students expressed the lengths of objects in terms of a whole number of copies of a shorter object laid without gaps or overlaps. The length of the shorter object serves as the unit of measurement.

Here, students learn about standard units of length: centimeters, meter, inches, and feet. They examine how different measuring tools represent length units, learn how to use the tools, and gain experience in measuring and estimating the lengths of objects. Along the way, students notice

that the length of the same object can be described with different measurements and relate this to differences in the size of the unit used to measure.

Throughout the unit, students solve one- and two-step story problems involving addition and subtraction of lengths. To make sense of and solve these problems, they use previously learned strategies for adding and subtracting within 100, including strategies based on place value.

To close the unit, students learn that line plots can be used to represent numerical data. They create and interpret line plots that show measurement data and use them to answer questions about the data.

Students relate the structure of a line plot to the tools they used to measure lengths. This prepares students for the work in the next unit, where they interpret numbers on the number line as lengths from 0. The number line is an essential representation that will be used in future grades and throughout students' mathematical experiences.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 4 - Addition and Subtraction on the Number Line

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.MD.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.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.MD.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.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.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

<p><b>Understandings:</b> Students will understand that...</p> <ul style="list-style-type: none"> <li>• A number line diagram can be used to represent whole-numbers sums and differences.</li> <li>• A number line diagram is similar to a ruler in that whole numbers are 1 unit apart.</li> </ul>	<p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• How do visual representations depict addition and subtraction?</li> <li>• How is a number line diagram like a measurement tool?</li> </ul>
<p><b>Students will know...</b></p> <ul style="list-style-type: none"> <li>• There is a relationship between number lines and measurement tools.</li> <li>• Each number on a number line denotes the distance from the labeled point from 0, not the number itself.</li> <li>• The structure of a number line</li> </ul>	<p><b>Students will be able to...</b></p> <ul style="list-style-type: none"> <li>• Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the number 0, 1, 2.</li> <li>• Represent whole-number sums and differences within 100 on a number line diagram.</li> <li>• Explore the relationship between number lines and whole number measurement tools.</li> </ul>
<p><b>Key Vocabulary:</b> relationship, measurement, diagram, distance, structure, number line, equal, represents, whole-number, sums, differences, tool, strategies</p>	
<p><b>Assessment Evidence</b></p>	
<p><b>Performance Tasks:</b> Students choose the number that could be represented by the point on the number line. Students match a number line diagram with equations having an unknown. Students locate numbers on a number line and then use the number line to find their difference. Students represent equations on the number line. Students solve a two-step story problem and may represent it on the number line.</p>	<p><b>Other Evidence:</b> Various checkpoints throughout the unit for the following:</p> <ul style="list-style-type: none"> <li>• Represent whole numbers within 100 as lengths from 0 on a number line.</li> <li>• Represent sums and differences on a number line.</li> </ul>
<p><b>Learning Plan</b></p>	
<ul style="list-style-type: none"> <li>• TCC1(PK-2): I can ask questions to solve a problem.</li> <li>• TCC2(PK-2): I can look and listen to other ideas to make my own thinking.</li> <li>• TCC3(PK-2): I can use what I've learned to come up with a solution.</li> <li>• CCE1(PK-2): I can share my ideas with help and show that I respect others.</li> <li>• CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.</li> </ul>	



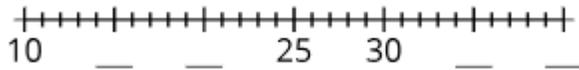
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
  - CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
  - DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
  - TI1(PK-2): I can use pictures or models to decide what to do next.
  - TI2(PK-2): I can explore and use tools that work best for me.
  - TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
  - P2(PK-2): I can use a strategy to keep trying even when something is hard.
  - P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
  - AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
  - AA2(PK-2): I can think about what worked for me or others and try it again.
  - AA4(PK-2): I can listen to others and participate as I learn and grow.
- Students learn about the structure of a number line and use it to represent numbers within 100. They also relate addition and subtraction to length and represent the operations on the number line.

In this unit, students are introduced to the number line, an essential representation that will be used throughout students' K–12 mathematical experience. They learn to use the number line to represent whole numbers, sums, and differences.

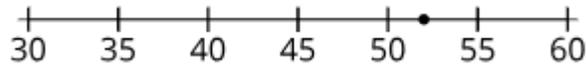
In a previous unit, students learned to measure length with rulers. Here, they see that the tick marks and numbers on the number line are like those on a ruler: both show equally spaced numbers that represent lengths from 0.

Students use this understanding of structure to locate and compare numbers on the number line, as well as to estimate numbers represented by points on the number line.

Locate and label 17 on the number line.



What number could this be? \_\_\_\_\_



Students then learn conventions for representing addition and subtraction on the number line: using arrows pointing to the right for adding and arrows pointing to the left for subtracting. Students also use the number line to represent addition and subtraction methods discussed in Number Talks, such as counting on, counting back by place, and decomposing a number to get to a ten. The reasoning here deepens students' understanding of the relationship between addition and subtraction.

The number lines in this unit show a tick mark for every whole number in the given range, though not all may be labeled with the numeral. As students become more comfortable with this representation, they may draw number lines that show only the numbers needed to solve the problems, which is acceptable.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits



## Unit 5 - Numbers to 1,000

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.MD.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.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.
- 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.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.OA.B.2: Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.
- 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.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.

- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- Place value is based on groups of tens
- Each hundred is composed of 100 ones or 10 tens

**Essential Questions:**

- How does the position of a digit in a number affect its value?

**Students will know...**

- The value of digits.
- Place value names.
- Basic addition and subtraction computation and problem-solving strategies.

**Students will be able to...**

- Read, write, and represent three-digit numbers using base-ten numerals and expanded form.
- Use place value understanding to compose and decompose three-digit numbers.
- Compare and order three-digit numbers using place value understanding and the relative position of numbers on a number line.
- Represent whole numbers up to 1,000 as lengths from 0 on a number line.
- Use skip-counting by tens and hundreds to locate whole numbers up to 1,000 on a number line.

**Key Vocabulary:** Addition, Associative property, Base ten, Commutative property, Difference, Digit, Hundreds, Identity property, Ones, Place Value, Properties of Addition, Subtraction, Sum, Tens

### Assessment Evidence

**Performance Tasks:**

Students label the tick marks on a number line starting at 0 where the tick marks represent tens. Students write a number represented by a base-ten block diagram. Students examine different ways to express a number. Students compare 3-digit numbers, some of which are given in

**Other Evidence:**

Various checkpoints throughout the unit for the following:

- Use place value understanding to compose and decompose three-digit numbers.
- Read, write, and represent three-digit numbers using base-ten

expanded form. Students compare the value of expressions. Students list all the three-digit numbers that can be made with the digits 2, 5, and 7 in increasing order.

- numerals and expanded form.
- Use place value understanding to compose and decompose three-digit numbers
- Represent whole numbers up to 1,000 as lengths from 0 on a number line.
- Compare and order three-digit numbers using place value understanding and the relative position of numbers on a number line.

### Learning Plan

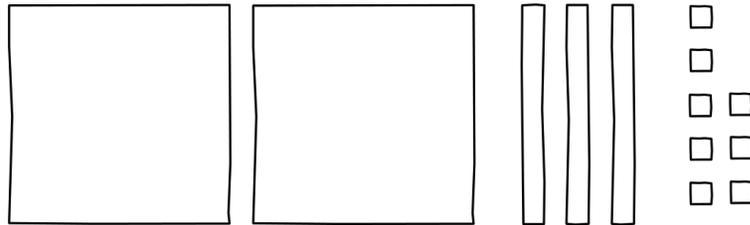
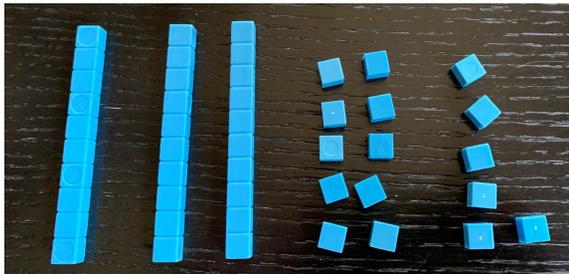
- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

- Students extend place value understanding to three-digit numbers.

In this unit, students extend their knowledge of the units in the base-ten system to include hundreds.

In grade 1, students learned that a ten is a unit made up of 10 ones, and two-digit numbers are formed using units of tens and ones. Here, they learn that a hundred is a unit made up of 10 tens, and three-digit numbers are formed using units of hundreds, tens, and ones.

To make sense of numbers in different ways and to build flexibility in reasoning with them, students work with a variety of representations: base-ten blocks, base-ten diagrams or drawings, number lines, expressions, and equations.



At the start of the unit, students express a quantity in terms of the number of units represented by base-ten blocks (3 hundreds, 14 tens, 22 ones). They practice composing larger units from smaller units and representing the value using the fewest number of each unit (4 hundreds, 6 tens, 2 ones). They connect the number of units to three-digit numerals (462).

Next, students make sense of three-digit numbers on the number line. In a previous unit, students learned about the structure of the number line by representing whole numbers within 100 as lengths from zero. Here, they get a sense of the relative distance of whole numbers within 1,000 from zero. Students learn to count to 1,000 by skip-counting on a number line by 10 and 100. They also locate, compare, and order three-digit numbers on a number line.



Throughout the unit, the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 are referred to as multiples of 100 for simplicity. The same is true for multiples of 10. “Multiple” is not a word that students are expected to understand or use in grade 2. Students can describe the numbers as some number of tens or hundreds, such as “20 tens” or “3 hundreds.”

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 6 - Geometry, Time, and Money

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 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.
- 2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.NBT.A.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 2.NBT.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 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.
- 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.
- 2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.MD.C.7: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- 2.NBT.B.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.MD.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.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.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.

**Vision of A Learner Attributes:** Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I’ve learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.

- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- Coins have different values and are counted according to their values.
- Standard units provide common language for communicating time.
- Shapes are identifiable based upon attributes such as the number of sides, whether they are 2-dimensional or 3-dimensional, the number of equal angles, and the number of equal faces.

**Essential Questions:**

- How are various representations of time related?
- How do coin values affect how money is counted?
- What attributes of shapes help us identify them?

**Students will know...**

- The differences between triangles, quadrilaterals, pentagons, hexagons, and cubes
- Skip counting by fives helps with telling time
- The standard tools for time measurement.
- Hours and minutes.
- Time can be measured.
- Time can be measured to the nearest 5 minutes.
- Time can be measured using an analog clock or digital clock.
- Time can be recorded using hours and to the nearest 5 minutes, e.g., Twenty-five minutes after eleven is represented as 11:25.
- A day is measured as an interval of 24 hours.
- A day is divided equally into a.m. time and p.m. time.

**Students will be able to...**

- Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.
- Partition rectangles and circles into halves, thirds, and fourths and name the pieces.
- Recognize 2 halves, 3 thirds, and 4 fourths as one whole.
- Understand that equal pieces do not need to be the same shape.
- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Find the value of a group of bills and coins.

- Coins such as pennies, nickels, dimes, and quarters can be counted.
- Dollar bills can be counted.
- Monetary symbols (\$ and ¢).
- An amount of dollars is represented with the dollar symbol (\$).
- A collection of pennies, nickels, dimes, and quarters can be counted.
- The dollar symbol and cent symbol are not used simultaneously, i.e., do not use decimal notation.

- Solve word problems involving dollars within 100, and use the \$ symbol appropriately.
- Solve word problems involving cents within 100, and use the cents symbol appropriately.
- Identify and use “¢” as a symbol to represent coin values.
- Identify and use “\$” as a symbol to represent dollars.
- Find the value of a collection of quarters, dimes, nickels, and pennies.
- Compare collections of coins based on their values.
- Use pennies, nickels, dimes, and quarters as manipulatives to reinforce place value up to 100 cents.
- Solve word problems by adding and subtracting within 100, whole dollars with whole dollars, and cents with cents.

**Key Vocabulary:** Compare, Difference, Mental math, Operation, Quantity, Represent, Solve, Symbol, a.m., analog, clock, digital, p.m., Coin, Dime, Dollar (bill), Money, Nickel, Penny, Quarter, Value, Addition, Associative, Base ten, Commutative, Digit, Hundreds, Identity, Ones, Place Value, Properties of Addition, Remainder, Subtraction, Sum, Tens, Skip count, Half, Hour, Interval, Minute, Quarter, Skip count, Skip count, triangle, rectangle, quadrilateral, cube, hexagon, pentagon

### Assessment Evidence

#### Performance Tasks:

Students draw a shape with specified properties. Students identify a pentagon. Students identify squares partitioned into thirds with one third shaded. Students partition a circle into 4 equal parts and explain why the whole circle can be viewed as four fourths of the circle. Students draw the hour and minute hands to show a time and read the time on a different clock. Students add numbers within 100 using the context of money. Students solve a two-step story problem with a context of money.

#### Other Evidence:

Various checkpoints throughout the unit for the following:

- Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.
- Partition rectangles and circles into halves, thirds, and fourths and name the shares.
- Understand that equal pieces do not need to be the same shape.
- Recognize 2 halves, 3 thirds, and 4 fourths as one whole.
- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Find the value of a group of bills and coins.
- Use addition and subtraction to solve one- and two-step story problems.

- Use addition and subtraction within 100 to solve one- and two-step word problems.

### Learning Plan

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.
- Students reason with shapes and their attributes and partition shapes into equal shares, building a foundation for fractions. They relate halves, fourths, and skip-counting by 5 to tell time, and solve story problems involving the values of coins and dollars.

In this unit, students transition from place value and numbers to geometry, time, and money.

In grade 1, students distinguished between defining and non-defining attributes of shapes, including triangles, rectangles, trapezoids, and circles.

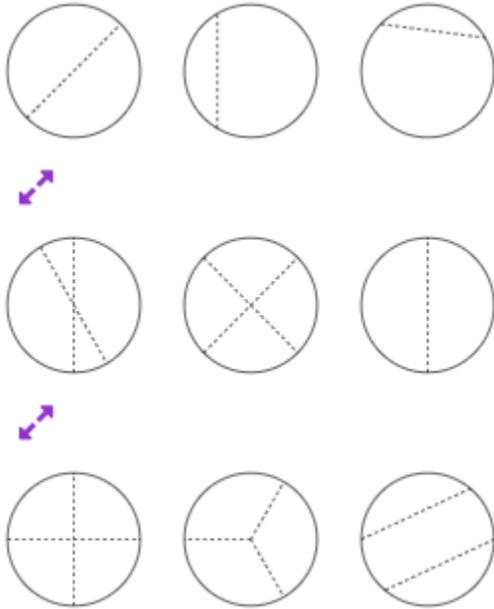
Here, they continue to look at attributes of a variety of shapes and see that shapes can be identified by the number of sides and vertices (corners). Students then study three-dimensional (solid) shapes, and identify the two-dimensional (flat) shapes that make up the faces of these solid shapes.

Next, students look at ways to partition shapes and create equal shares. They extend their knowledge of halves and fourths (or quarters) from grade 1 to now include thirds.

Students compose larger shapes from smaller equal-size shapes and partition shapes into two, three, and four equal pieces.

As they develop the language of fractions, students also recognize that a whole can be described as 2 halves, 3 thirds, or 4 fourths, and that equal-size pieces of the same whole need not have the same shape.

Which circles are not examples of circles partitioned into halves, thirds, or fourths?



Later, students use their understanding of halves and fourths (or quarters) to tell time. In grade 1, they learned to tell time to the half hour. Here, they relate a quarter of a circle to the features of an analog clock. They use “quarter past” and “quarter till” to describe time, and skip-count to tell time in 5-minute intervals. They also learn to associate the notation “a.m.” and “p.m.” with their daily activities.

To continue to build fluency with addition and subtraction within 100, students conclude the unit with a money context. They skip-count, count on from the largest value, and group like coins, and then add or subtract to find the value of a set of coins. Students also solve one- and two-step story problems involving sets of dollars and different coins, and use the symbols \$ and ¢.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 7 - Adding and Subtracting Within 1,000

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 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.5: Fluently 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.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.
- 2.NBT.B.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.MD.D.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
- 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.
- 2.NBT.A.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I’ve learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others’ body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.

- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- When adding and subtracting numbers, the place and value of the digits is important for determining either the sum or the difference.
- When adding or subtracting, sometimes it is necessary to compose or decompose tens or hundreds.
- Numbers are composed of other numbers.
- Place value is based on groups of ten.

**Essential Questions:**

- Why can numbers be composed and decomposed and how is it beneficial?
- How does the position of a digit in a number affect its value?

**Students will know...**

- The value of digits.
- Place value names.
- Basic addition and subtraction computation and problem-solving strategies.
- The properties of addition (commutative, associative, and identity.)

**Students will be able to...**

- Add and subtract within 1000 using models, drawings, operation properties and/or the relationship between addition and subtraction using base 10 strategies.
- Relate the chosen strategy and explain the reasoning used.
- Mentally add 10 or 100 to a number between 100-900.
- Mentally subtract 10 or 100 to a number between 100-900.
- Generalize computation strategies of addition and subtraction that will apply to larger numbers.
- Create a model or draw a representation, and when appropriate, write an equation to record the addition or subtraction strategy. Use concrete models, drawings, place value, properties of operations, and other strategies for addition and subtraction within 1,000.
- Identify problems that require decomposing the tens or hundreds to find a solution.
- Listen to and ask questions about others' strategies.
- Use mental strategies to add and subtract 10 or 100 from a given number 100-900.



	<ul style="list-style-type: none"> <li>● Explain why addition and subtraction strategies work by applying knowledge of place value and the properties of operations using concrete objects, pictures and words (both oral and written).</li> </ul>
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**Key Vocabulary:** Compare, Mental math, Operation, Quantity, Solve, Addition, Associative property, Base ten, Commutative property, Difference, Digit, Hundreds, Identity property, Ones, Place Value, Properties of Addition, Subtraction, Sum, Tens

**Assessment Evidence**

<p><b>Performance Tasks:</b> Students add and subtract multiples of 10 and 100 from three-digit numbers. Students find a sum of 4 two-digit numbers. Students find how much needs to be added to a number to reach 1,000. Students explain why an adding on strategy works to calculate a difference. Students find sums of three-digit numbers. Students find differences of three-digit numbers. Students explain why a compensation strategy for subtraction works in a situation where subtracting by place value would require decomposing both a ten and a hundred.</p>	<p><b>Other Evidence:</b> Various checkpoints throughout the unit for the following:</p> <ul style="list-style-type: none"> <li>● Add and subtract numbers within 1,000 without composition or decomposition, and use strategies based on the relationship between addition and subtraction and the properties of operations.</li> <li>● Add numbers within 1,000 using strategies based on place value understanding, including composing a ten or hundred.</li> <li>● Subtract numbers within 1,000 using strategies based on place value understanding, including decomposing a ten or hundred.</li> </ul>
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**Learning Plan**

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.



- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.
- Students use place value understanding, the relationship between addition and subtraction, and properties of operations to add and subtract within 1,000.

In this unit, students add and subtract within 1,000, with and without composing and decomposing a base-ten unit.

Previously, students added and subtracted within 100 using methods such as counting on, counting back, and composing or decomposing a ten. Here, they apply the methods they know and their understanding of place value and three-digit numbers to find sums and differences within 1,000.

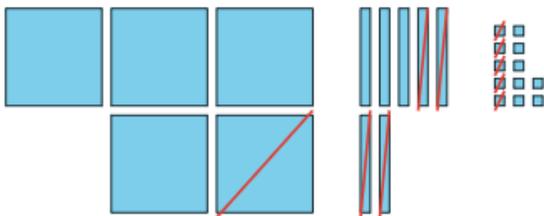
Initially, students add and subtract without composing or decomposing a ten or hundred. Instead, they rely on methods based on the relationship between addition and subtraction and the properties of operations. They make sense of sums and differences using counting sequences, number relationships, and representations (number line, base-ten blocks, base-ten diagrams, and equations).

As the unit progresses, students work with numbers that prompt them to compose and decompose one or more units, eliciting strategies based on place value. When adding and subtracting by place, students first compose or decompose only a ten, then either a ten or a hundred, and finally both a ten and a hundred. They also make sense of and connect different ways to represent place value strategies. For example, students make sense of a written method for subtracting 145 from 582 by connecting it to a base-ten diagram and their experiences with base-ten blocks.

How do Jada's equations match Lin's diagram?

Finish Jada's work to find  $582 - 145$ .

Lin's diagram



Jada's equations

$$\begin{array}{r}
 500 - 100 = \\
 70 - 40 = \\
 12 - 5 =
 \end{array}$$

Students learn to recognize when composition or decomposition is a useful strategy when adding or subtracting by place. In the later half of the unit, they encounter lessons that encourage them to think flexibly and use strategies that make sense to them based on number relationships, properties of operations, and the relationship between addition and subtraction.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits



## Unit 8 - Equal Groups

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.
- 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.OA.B.2: Fluently add and subtract within 20 using mental strategies. By the 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.G.A.2: Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- 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.

#### Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I’ve learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others’ body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn’t work.

- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- Some numbers of objects can be split into two equal groups without any objects leftover, and some cannot.
- Even numbers can be represented as a sum of two equal addends.

**Essential Questions:**

- Can you share equally?

**Students will know...**

- An array is an arrangement of objects into rows with an equal number of objects in each row.
- The total number of objects in an array can be determined by finding the sum of the number of objects in each row.
- Patterns can represent even and odd numbers as sums of two addends.
- Rows go side to side and columns go up and down.
- How the arrangement of the objects helps them estimate the total number of objects

**Students will be able to...**

- Determine whether representations of groups of objects show an even or odd number of objects.
- Justify why a number is even or odd using methods based on making two equal groups, pairing objects, or skip-counting by 2
- Interpret addition equations and connect the equations to representations of 2 equal groups
- Decompose even and odd numbers in different ways and notice that only the even numbers of objects could be decomposed into two equal addends.
- Use expressions with equal addends to represent arrays

**Key Vocabulary:** odd, even, array, column, row, addend, representation, equal, split, sum, pattern, justify, interpret, decompose, expressions, estimate, equations, strategies, analyze, compare, reasonable, placement, partition

### Assessment Evidence

**Performance Tasks:**

Students are given a situation where they do not know the number of objects and need to decide whether they can conclude that certain quantities are odd or even. Students select expressions that represent the number of squares in an array and they also decide whether there are an even number or odd number of squares in the array. Students divide a rectangle into equal rows and columns with the scaffold of regularly spaced tick marks on the side of the rectangle. Students

**Other Evidence:**

Various checkpoints throughout the unit for the following:

- Determine whether a group of objects (up to 20) has an odd or even number of members
- Write an equation to express an even number as a sum of two equal addends
- Find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns using addition

identify whether there are an even or an odd number of circles in an image. Students decide whether a number is even or odd. Students decide if a collection of pattern blocks can be split into two identical groups.

- Represent the total number of objects in an array as a sum of equal addends
- Partition rectangles into rows and columns of equal-size squares, and count to find the total number of squares

### Learning Plan

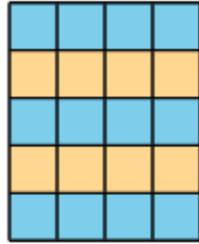
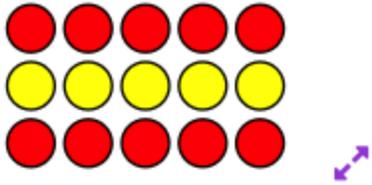
- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

- Students work with equal groups of objects to gain foundations for multiplication.

In this unit, students develop an understanding of equal groups, building on their experiences with skip-counting and with finding the sums of equal addends. The work here serves as the foundation for multiplication and division in grade 3 and beyond.

Students begin by analyzing even and odd numbers of objects. They learn that any even number can be split into 2 equal groups or into groups of 2, with no objects left over. Students use visual patterns to identify whether numbers of objects are even or odd.

Next, students learn about rectangular arrays. They describe arrays using mathematical terms (rows and columns). Students see the total number of objects as a sum of the objects in each row and as a sum of the objects in each column, which they express by writing equations with equal addends. They also recognize that there are many ways of seeing the equal groups in an array.



Later, students transition from working with arrays containing discrete objects to equal-size squares within a rectangle. They build rectangular arrays using inch tiles and partition rectangles into rows and columns of equal-size squares. The work here sets the stage for the concept of area in grade 3.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits

## Unit 9 - Putting it All Together

### Desired Results - Goals, Transfer, Meaning, Acquisition

#### Established Goals:

- 2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.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.MD.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.MD.D.9: 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.NBT.B.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.OA.B.2:
- 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.
- 2.NBT.A.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 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.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.
- 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.

**Vision of A Learner Attributes:** Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I’ve learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.

- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.
- AA4(PK-2): I can listen to others and participate as I learn and grow.

**Understandings:** Students will understand that...

- When we take time to express what we notice and wonder, we can make connections to previous learning and apply that learning to new situations.

**Essential Questions:**

- How can we apply our previous learning to new situations?

**Students will know...**

- Characteristics of line plots
- The meaning of the digits in a three-digit number
- Why an equation is true based on place value
- Words in a number story need to be interpreted carefully in order to decide which equation is the best match
- Tape diagrams can often be interpreted in multiple ways, either as showing addition or showing subtraction
- We can revise our explanations and representations to ensure clarity

**Students will be able to...**

- Find the value of sums and unknown addends from memory in expressions with values within 20.
- Find unknown addends within 20 and continue developing fluency with addition and subtraction within 20
- Measure lengths in centimeters and add and subtract lengths within 20 to answer questions
- Create and analyze line plots
- Interpret the context of a story and analyze tape diagrams to determine what question is being asked
- Explain how they solved story problems and represented their thinking

**Key Vocabulary:** notice, wonder, strategies, representations, revise, explanations, line plots, tables, addends, expressions, equation, place value, tape diagrams, analyze, addition, subtraction, story problems, measure

### Assessment Evidence

#### Performance Tasks:

Students choose different representations of a number within 1,000. Students compare numbers within 1,000 using  $>$ ,  $<$ , and  $=$ . Students identify numbers that appear on a list when counting from 0 by tens. Students measure the lengths of two figures and find how much longer one is than the other. Students estimate the length of a school hallway, choosing between 3 measurements only one of which is reasonable. Students solve a compare story problem about lengths. Students locate two numbers on the number line and then find their difference. Students solve a two part story problem where both operations are addition. Students perform addition and subtraction within 1,000. Students explain why a compensation method for subtraction works. Students calculate sums and differences within 1,000. Students find sums and differences within 100. Students add and subtract two-digit numbers. Students read a line plot and then complete the line plot based on given information.

#### Other Evidence:

Various checkpoints throughout the unit for the following:

- Fluently add and subtract within 20.
- Add and subtract within 1,000 using strategies based on place value and the properties of operations.
- Represent and solve one- and two-step story problems within 100.

### Learning Plan

- TCC1(PK-2): I can ask questions to solve a problem.
- TCC2(PK-2): I can look and listen to other ideas to make my own thinking.
- TCC3(PK-2): I can use what I've learned to come up with a solution.
- CCE1(PK-2): I can share my ideas with help and show that I respect others.
- CCE2(PK-2): I can ask an adult or my classmates for help and try a new way to complete the task.
- CCE3(PK-2): I can listen to my classmates and share my ideas with them.
- CCE4(PK-2): I can come up with ideas and share them with others in a way they can understand.
- DE4(PK-2): I can interpret others' body language to identify how they may be feeling and respond with kindness.
- TI1(PK-2): I can use pictures or models to decide what to do next.
- TI2(PK-2): I can explore and use tools that work best for me.
- TI3(PK-2): I can recognize the need for help and ask a peer or a teacher.
- P2(PK-2): I can use a strategy to keep trying even when something is hard.
- P3(PK-2): I can be patient when something is hard for me to do and try again using what I learned to help me do better.
- AA1(PK-2): I can use a strategy, test it out and try something new if it doesn't work.
- AA2(PK-2): I can think about what worked for me or others and try it again.



- AA4(PK-2): I can listen to others and participate as I learn and grow.
- Students consolidate and solidify their understanding of various concepts and skills related to major work of the grade. They also continue to work toward fluency goals of the grade.

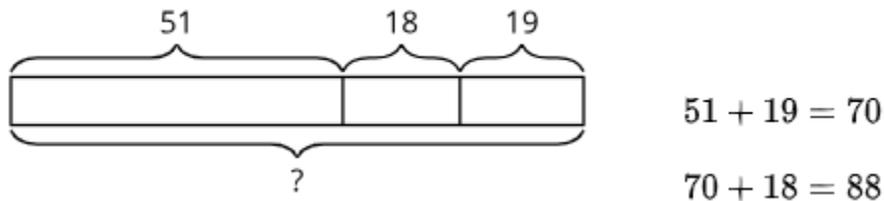
In this unit, students revisit major work and fluency goals of the grade, applying their learning from the year.

Section A gives students a chance to solidify their fluency with addition and subtraction within 20. In section B, students apply methods they used with smaller numbers to add and subtract numbers within 100. They also revisit numbers within 1,000: composing and decomposing three-digit numbers in different ways, and using methods based on place value to find their sums and differences.

In the final section, students interpret, solve, and write story problems involving numbers within 100, which further develop their fluency with addition and subtraction of two-digit numbers. They work with all problem types with the unknown in all positions.

Clare picked 51 apples. Lin picked 18 apples. Andre picked 19 apples.

Here is the work a student shows to answer to a question about the apples.



The sections in this unit are standalone sections, not required to be completed in order. The goal is to offer ample opportunities for students to integrate the knowledge they have gained and to practice skills related to the expected fluencies of the grade.

**Teacher Resources:** Imagine Learning Classroom, Kendall Hunt Illustrative Math Site, Teacher Resource Books, Center Kits