

# Grade 2 Math

## Link Community Charter School

UNITS (9/9 SELECTED)	SUGGESTED DURATION
<div></div> Unit 1: Adding, Subtracting and Working With Data	19 lessons
<div></div> Unit 2: Adding and Subtracting within 100	17 lessons
<div></div> Unit 3: Measuring Length	19 lessons
<div></div> Unit 4: Addition and Subtraction on the Number Line	16 lessons
<div></div> Unit 5: Numbers to 1,000	15 lessons
<div></div> Unit 6: Geometry, Time, and Money	22 lessons
<div></div> Unit 7: Adding and Subtracting within 1,000	19 lessons
<div></div> Unit 8: Equal Groups	14 lessons
<div></div> Unit 9: Putting It All Together	14 lessons

# Unit 1: Adding, Subtracting and Working With Data

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.OA.B.2
- 2.NBT.B.5
- 2.MD.D.10
- 2.OA.A.1
- 2.NBT.A.2
- 2.OA
- 2.OA.A
- 2.OA.B
- 2.NBT
- 2.NBT.B

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.7
- MA.K-12.6

# Unit 1: Adding, Subtracting and Working With Data

Grade 2 Math - Last Updated on August 21, 2023

## DESIRED RESULTS

### Established Goals

Students represent and solve story problems within 20 through the context of picture and bar graphs that represent categorical data. 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. 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 graph 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 relationship between addition and subtraction.

### Transfer

Students will be able to independently use their learning to

- Build toward fluency with adding within 100
- Build toward fluency with subtracting within 20
- Interpret picture and bar graphs
- Represent data using picture and bar graphs
- Solve one and two step problems using addition and subtraction within 20
- Make sense of and interpret tape diagrams
- Represent and solve compare problems with unknowns in all positions within 100

### Meaning

#### Big Ideas & Understandings

Students will understand that...

- data can be represented using picture and bar graphs
- tape diagrams can be used to solve one- and two-step word problems by creating a representation of the problem
- place value is used to add and subtract multi-digit numbers by lining up the place values and adding and subtracting like place values

#### Essential Questions

Students will keep considering...

- What are different ways we can represent data?
- - Is it easy to answer these questions from our chart just by looking at it? Why or why not?
  - What makes data displayed organized and clear to read?
  - How is the data represented differently in the bar graph compared to the picture

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Meaning	
	<p>graph?</p> <ul style="list-style-type: none"><li>• How can we use tape diagrams or other strategies to solve one- and two-step word problems?<ul style="list-style-type: none"><li>◦ What is the difference between the two bars in the bar graph?</li><li>◦ What does each part of the diagram represent?</li><li>◦ Did anyone get confused about what each bar represents? Did anyone get confused about how many each bar represents?</li></ul></li><li>• How can we use what we know about place value to add and subtract numbers?<ul style="list-style-type: none"><li>◦ How did thinking about a ten help you find your answer?</li><li>◦ How does looking for ways to make 10 help to find the value of the sum with larger numbers?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• data can be represented in different way including picture and bar graphs</li><li>• different strategies to solve one- and two-step word problems</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• adding fluently within 100</li><li>• subtracting fluently within 20</li><li>• interpreting picture and bar graphs</li><li>• representing data using picture and bar graphs</li><li>• solve one- and two-step word problems using addition and subtraction within 20</li><li>• using tape diagrams to solve word problems</li></ul>

# Unit 1: Adding, Subtracting and Working With Data

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## ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

### Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Assessment Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>Section C Checkpoint</li><li>End-of-Unit Assessment</li><li>Lesson Cool Down/Exit Tickets</li></ul>
	Other Evidence:

# Unit 1: Adding, Subtracting and Working With Data

Grade 2 Math - Last Updated on August 21, 2023

## LEARNING PLAN

### Summary of Key Learning Events and Instruction:

- [Lesson 1: Add and Subtract Within 10](#)
- [Lesson 2: Relate Addition and Subtraction Within 10](#)
- [Lesson 3: Relate Addition and Subtraction Within 20](#)
- [Lesson 4: Add and Subtract Your Way](#)
- [Lesson 5: Add Within 50](#)
- [Lesson 6: Center Day 1](#)
- [Lesson 7: Collect and Represent Data](#)
- [Lesson 8: Interpret Picture Graphs](#)
- [Lesson 9: Interpret Bar Graphs](#)
- [Lesson 10: Represent Data Using Picture Graphs and Bar Graphs](#)
- [Lesson 11: Questions About Data](#)
- [Lesson 12: Center Day 2](#)
- [Lesson 13: Use Bar Graphs to Compare](#)
- [Lesson 14: Use Diagrams to Compare](#)
- [Lesson 15: Diagrams with All Kinds of Compare Problems](#)
- [Lesson 16: Solve All Kinds of Compare Problems](#)
- [Lesson 17: Center Day 3](#)
- [Lesson 18: Class Surveys](#)

### Suggested Centers:

- [Number Puzzles: Addition and Subtraction \(1-4\)](#)- Stage 1
- [Number Puzzles: Addition and Subtraction \(1-4\)](#)- Stage 2
- [How Close? \(1-5\)](#)- Stage 3
- [Sort and Display\(1-3\)](#)- Stage 1
- [Sort and Display\(1-3\)](#)- Stage 2
- [Shake and Spill \(K-2\)](#)- Stage 5

# Unit 1: Adding, Subtracting and Working With Data

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## SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"> <li>• Demonstrate how to play games using connecting cubes and counters</li> <li>• Give students access to a ten frame and connecting cubes or counters to recreate the equations</li> <li>• Have students identify which details are most important or most useful to pay attention to</li> <li>• Activate prior knowledge</li> <li>• When using bar graphs, create graphs with detachable bars for easier comparison of bars that are not next to each other</li> <li>• Provide choice</li> </ul>	<ul style="list-style-type: none"> <li>• Provide all students with an opportunity for verbal output</li> <li>• Amplify key vocabulary words: add, addition, sum, take away, difference, value, expression</li> <li>• Think aloud, use gestures and a labeled display to show connections between parts of the equations and representations</li> <li>• On a visible display, record words and phrases students use</li> <li>• Turn to a partner and restate what was heard in their own words. Encourage students to borrow language from a display with words and phrases</li> <li>• Invite students to chorally repeat statements that use mathematical vocabulary</li> <li>• Provide sentence frames to encourage the use of full sentences</li> <li>• Give students time to plan what they are going to say</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"> <li>• Connecting cubes or counter</li> </ul>	<ul style="list-style-type: none"> <li>• Number cards (0-10) (groups of 2)</li> </ul>
2	<ul style="list-style-type: none"> <li>• Connecting cubes</li> </ul>	<ul style="list-style-type: none"> <li>• What's Behind My Back Stage 2 Recording Sheet Grade 1 (groups of 1)</li> </ul>
3	<ul style="list-style-type: none"> <li>• Connecting cubes</li> </ul>	<ul style="list-style-type: none"> <li>• What's Behind My Back Stage 3 Recording Sheet</li> </ul>

# Unit 1: Adding, Subtracting and Working With Data

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Lesson #	Materials to Gather	Materials to Copy
4	<ul style="list-style-type: none"> <li>Connecting cubes</li> <li>Number cards (0-10)</li> </ul>	<ul style="list-style-type: none"> <li>How Close? Stage 1 recording sheet (groups of 1)</li> </ul>
5	<ul style="list-style-type: none"> <li>Connecting Cubes</li> <li>Number Cards (0-10)</li> </ul>	<ul style="list-style-type: none"> <li>How Close? stage 3 recording sheet (groups of 1)</li> </ul>
6	<ul style="list-style-type: none"> <li>Number cards (0-10)</li> </ul>	<ul style="list-style-type: none"> <li>Number Puzzles Addition and Subtraction Stage 2 Gameboards (groups of 1)</li> <li>Number Puzzles Digit Cards (groups of 2)</li> </ul>
7	Chart paper, glue, markers, scissors, stickers, tape	<ul style="list-style-type: none"> <li>How we get to school (groups of 1)</li> </ul>
8		
9		
10	<ul style="list-style-type: none"> <li>materials from a previous activity</li> </ul>	<ul style="list-style-type: none"> <li>data tables (groups of 6)</li> <li>Picture and Bar Graph Template (groups of 1)</li> </ul>
11	<ul style="list-style-type: none"> <li>materials from a previous lesson</li> </ul>	
12	<ul style="list-style-type: none"> <li>Collections of objects</li> </ul>	<ul style="list-style-type: none"> <li>Sort and Display stage 2 recording sheet (groups of 1)</li> </ul>
13		



## Unit 1: Adding, Subtracting and Working With Data

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Lesson #	Materials to Gather	Materials to Copy
14	<ul style="list-style-type: none"><li>• glue or tape</li><li>• scissors</li></ul>	<ul style="list-style-type: none"><li>• Party Time (groups of 1)</li></ul>
15		<ul style="list-style-type: none"><li>• Card Sort: At the Beach (groups of 2)</li></ul>
16		
17	<ul style="list-style-type: none"><li>• counting collections</li><li>• Materials from previous centers</li></ul>	<ul style="list-style-type: none"><li>• 10-frame standard (groups of 1)</li><li>• Counting collections Stage 3 Recording sheet (groups of 1)</li></ul>
18	<ul style="list-style-type: none"><li>• colored pencils</li></ul>	<ul style="list-style-type: none"><li>• Picture and Bar Graph Template (groups of 1)</li></ul>

# Unit 2: Adding and Subtracting within 100

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.MD.D.10
- 2.NBT.A.2
- 2.NBT.B.5
- 2.NBT.B.9
- 2.OA.A.1
- 2.OA.B.2
- 2.NBT.B.6
- 2.OA
- 2.OA.A
- 2.OA.B
- 2.NBT
- 2.NBT.A
- 2.NBT.B
- 2.MD
- 2.MD.D

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.5
- MA.K-12.6
- MA.K-12.7

## Unit 2: Adding and Subtracting within 100

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### DESIRED RESULTS

#### Established Goals

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. Students begin by using any strategy to find the value of the 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. Students use their knowledge of addition and subtraction within 100 to solve one- and two-step story problems of all types, with unknowns in all positions.

#### Transfer

Students will be able to independently use their learning to

- add and subtract within 100 using strategies based on place value and the relationship between addition and subtraction
- subtract within 100 using strategies based on place value, including decomposing a ten, and the properties of operations
- represent and solve one- and two-step problems involving addition and subtraction within 100, including different problem types with unknowns in all positions

#### Meaning

##### Big Ideas & Understandings

Students will understand that...

- like place values are added and subtracted with like place values (ones with ones, tens with tens, etc.)
- how to compose and decompose tens in order to add and subtract within 100
- using models and diagrams help to solve one- and two- step story problems

##### Essential Questions

Students will keep considering...

- How can you use properties of addition and subtraction to help you add and subtract?
  - Why did you and your partner find the same number even though one added and the other subtracted?
  - How are your methods the same? How are they different?
  - How could you use the third expression to

## Unit 2: Adding and Subtracting within 100

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Meaning	
	<p>help you find the difference of the last expression?</p> <ul style="list-style-type: none"><li>• How can we use what we know about place value to add and subtract numbers?<ul style="list-style-type: none"><li>◦ How could you use what you know about tens and ones to add or subtract?</li><li>◦ Why do you need to change 82 to 7 tens and 12 ones to subtract ones from ones?</li><li>◦ When you decompose a tower of ten, what happens to the tower? How could you show this with base-ten blocks?</li></ul></li><li>• How can we represent story problems to make sure the representation matches the story?<ul style="list-style-type: none"><li>◦ What are some ways you can show what happens in a story problem?</li><li>◦ What do you need to find the answer? How do you know?</li><li>◦ How does your work show the story problem?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• how to compose and decompose tens</li><li>• place value strategies for adding and subtracting within 100</li><li>• how to use a model or diagram to solve one- and two-step story problems</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• composing and decomposing tens</li><li>• adding and subtracting within 100</li><li>• solving one- and two-step story problems</li></ul>

## Unit 2: Adding and Subtracting within 100

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### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Assessment Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>Section C Checkpoint</li><li>End-of-Unit Assessment</li><li>Daily Lesson Cool Downs/Exit tickets</li></ul>
	Other Evidence:

# Unit 2: Adding and Subtracting within 100

Grade 2 Math - Last Updated on August 21, 2023

## LEARNING PLAN

### Summary of Key Learning Events and Instruction:

- [Lesson 1: Add and Subtract to Compare](#)
- [Lesson 2: Find the Unknown Addend](#)
- [Lesson 3: Add or Subtract to Solve Story Problems](#)
- [Lesson 4: Center Day 1](#)
- [Lesson 5: Subtract Your Way](#)
- [Lesson 6: Compare Methods for Subtraction](#)
- [Lesson 7: Subtract Two Digits](#)
- [Lesson 8: Different Ways to Decompose](#)
- [Lesson 9: Add and Subtract Within 100](#)
- [Lesson 10: Center Day 2](#)
- [Lesson 11: How Do You Solve Story Problems?](#)
- [Lesson 12: Story Problems and Diagrams](#)
- [Lesson 13: Story Problems and Equations](#)
- [Lesson 14: Solve it Your Way](#)
- [Lesson 15: Center Day 3](#)
- [Lesson 16: Our Market's Inventory](#)

### Suggested Centers

- [Capture Squares](#)- Stage 1
- [Capture Squares](#)- Stage 2
- [Capture Square](#)- Stage 3
- [Capture Squares](#)- Stage 4
- [Five in a Row: Addition and Subtraction](#)- Stage 5
- [Five in a Row: Addition and Subtraction](#)- Stage 6
- [Target Numbers](#)- Stage 4
- [Target Numbers](#)- Stage 5
- [Shake and Spill](#)- Stage 5
- [Math Stories](#)- Stage 4
- [Math Stories](#)- Stage 5

## Unit 2: Adding and Subtracting within 100

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### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Supporting Students with IEPs/504s	Supporting English Language Learners
<ul style="list-style-type: none"> <li>• Provide choice</li> <li>• Chunk tasks into manageable parts</li> <li>• check in with students to provide feedback and encouragement often</li> <li>• Provide feedback on whether or not they are using the tools strategically and the efficiency of their strategies</li> <li>• Have students explain their thinking orally, using connecting cubes or base-ten blocks</li> <li>• Have students identify which details they think are important to remember and most useful from each strategy</li> <li>• Provide students access to a chart that shows an example of a completed tape diagram so that students can refer to it as they work</li> <li>• Provide students access to base-ten blocks</li> <li>• Have students plan a strategy, including the tools they will use, to solve the problem and share their strategy with a partner</li> </ul>	<ul style="list-style-type: none"> <li>• Ask students to restate what they heard using precise mathematical language and their own words</li> <li>• Three reads of story problems</li> <li>• Display sentence frames to support students with preparing to explain their thinking in the whole-class discussion</li> <li>• Revoice student ideas to demonstrate and amplify mathematical language use</li> <li>• Display words and phrases of mathematical language and direct students to borrow language from the display as needed</li> <li>• Think aloud and use gestures to act out the scenario</li> <li>• Clarify questions about context and discuss the meaning of any unfamiliar terms in story problems</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"> <li>• connecting cubes in towers of 10 and singles</li> </ul>	
2	<ul style="list-style-type: none"> <li>• Base-ten blocks</li> <li>• Connecting cubes</li> </ul>	
3	<ul style="list-style-type: none"> <li>• Base-ten blocks</li> <li>• connecting cubes</li> </ul>	

## Unit 2: Adding and Subtracting within 100

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Lesson #	Materials to Gather	Materials to Copy
4	<ul style="list-style-type: none"><li>Colored pencils or crayons</li><li>Number cards 0-10</li><li>Paper clips</li><li>two-color counters</li></ul>	<ul style="list-style-type: none"><li>Capture squares Stage 3 Gameboard (groups of 2)</li><li>Capture Square Stage 3 Spinner (groups of 2)</li><li>Five in a Row: Addition and Subtraction Stage 6 Gameboard (groups of 2)</li></ul>
5	<ul style="list-style-type: none"><li>Base-ten blocks</li><li>Connecting Cubes</li></ul>	
6	<ul style="list-style-type: none"><li>Base-ten blocks</li><li>Number cards 0-10</li></ul>	<ul style="list-style-type: none"><li>Target Numbers Stage 4 Recording Sheet (groups of 1)</li></ul>
7	<ul style="list-style-type: none"><li>Base-ten blocks</li><li>Connecting cubes</li></ul>	<ul style="list-style-type: none"><li>Using blocks to take away (groups of 4)</li></ul>
8	<ul style="list-style-type: none"><li>Base-ten blocks</li></ul>	
9	<ul style="list-style-type: none"><li>Base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>Sort and find the value (groups of 2)</li></ul>
10	<ul style="list-style-type: none"><li>base-ten blocks</li><li>materials from previous centers</li><li>number cubes</li></ul>	<ul style="list-style-type: none"><li>Target Number stage 5 recording sheet (groups of 1)</li></ul>
11	<ul style="list-style-type: none"><li>base-ten blocks</li><li>connecting cubes</li></ul>	



## Unit 2: Adding and Subtracting within 100

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Lesson #	Materials to Gather	Materials to Copy
12	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>Story problem and diagram cards (groups of 2)</li></ul>
13	<ul style="list-style-type: none"><li>base-ten blocks</li><li>materials from a previous lesson</li></ul>	<ul style="list-style-type: none"><li>equations for different types of word problems (groups of 2)</li></ul>
14	<ul style="list-style-type: none"><li>base-ten blocks</li><li>connecting cubes</li><li>tools for creating a visual display</li></ul>	
15	<ul style="list-style-type: none"><li>materials from a previous lesson</li></ul>	<ul style="list-style-type: none"><li>math stories stage 5 recording sheet (groups of 1)</li><li>math stories stage 5 tape diagrams (groups of 2)</li></ul>
16	<ul style="list-style-type: none"><li>materials from a previous activity</li><li>number cubes</li></ul>	

# Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.MD.A2.MD.A.12.MD.A.32.MD.A.42.MD.B.52.MD.B.62.NBT.A.22.NBT.B.5
- 2.OA.A.12.OA.B.22.MD.A.22.OA.A2.MD.D.92.OA2.OA.B2.NBT2.NBT.A
- 2.NBT.B2.MD2.MD.B2.MD.D

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1MA.K-12.2MA.K-12.3MA.K-12.4MA.K-12.5MA.K-12.8MA.K-12.7
- MA.K-12.6

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

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. Students learn about standard units of length: centimeters, meters, 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 difference 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 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 the line plot to the tools they used to measure lengths.

#### Transfer

Students will be able to independently use their learning to...

- measure length in centimeters and meters
- represent and solve one-step story problems within 100
- measure length in feet and inches
- represent and solve one- and two-step story problems within 100
- represent numerical data on a line plot

#### Meaning

##### Big Ideas & Understandings

Students will understand that...

- there are standard units of measurement: feet, inches, centimeters and meters
- line plots are another way data can be organized and represented
- we can use diagrams and models to represent and solve story problems

##### Essential Questions

Students will keep considering...

- How do we know what units and tools to use to measure something?
  - Which tool was easier to use to measure?
  - Which tool did you use to measure \_\_\_\_?
  - Why did you use that tool?
  - Would you want to measure a large object using your 10-centimeter ruler?
  - Why are our measurements different?

## Unit 3: Measuring Length

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Meaning	
	<p>(different units, incorrectly lining up the ruler)</p> <ul style="list-style-type: none"><li>• How can we organize and represent data using a line plot?<ul style="list-style-type: none"><li>◦ What does each x on the line plot represent?</li><li>◦ How many measurements did we collect for our line plot? Explain how you see the data.</li><li>◦ Why is it important to keep the Xs the same size and in rows?</li></ul></li><li>• How do we use addition and subtraction to solve story problems involving lengths?<ul style="list-style-type: none"><li>◦ Which measurements are important to pay attention to in the story?</li><li>◦ What are different ways we could represent this problem?</li><li>◦ Did you add or subtract to find the length of the other reptile? How did your diagram help you?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• the standard units of length are centimeters, meters, feet and inches</li><li>• objects can be measured using different units</li><li>• the same object can have different lengths when measured using different units because the units are different sizes</li><li>• line plots are another way to organize and represent data</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• using rulers and other measuring tools</li><li>• measuring using meters and centimeters</li><li>• measuring using feet and inches</li><li>• solving one- and two-step story problems involving lengths</li><li>• organizing and representing data using line plots</li></ul>

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Section Checkpoint Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>Section C Checkpoint</li><li>End-of-Unit Assessment</li><li>Daily Lesson Cool Downs/Exit Tickets</li></ul>
	Other Evidence:

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

### LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Standard Units of Measure](#)

[Lesson 2: Measure in Centimeters](#)

[Lesson 3: Create and Use a Ruler](#)

[Lesson 4: Measure and Estimate in Centimeters](#)

[Lesson 5: Measure in Meters](#)

[Lesson 6: Compare Reptile Lengths in Story Problems](#)

[Lesson 7: Center Day 1](#)

[Lesson 8: What is an Inch?](#)

[Lesson 9: From Feet to Inches](#)

[Lesson 10: Measure with a Torn Tape](#)

[Lesson 11: Saree Silk Stories: Necklaces and Bracelets](#)

[Lesson 12: Saree Silk Stories: Friendship Bracelets](#)

[Lesson 13: Center Day 2](#)

[Lesson 14: What is a Line Plot?](#)

[Lesson 15: Create Line Plots](#)

[Lesson 16: Interpret Measurement Data](#)

[Lesson 17: Center Day 3](#)

[Lesson 18: Make a Yard Stick](#)

Suggested Centers:

- [Target Numbers](#)- Stage 5
- [Five in a Row: Addition and Subtraction](#)- Stage 6
- [Estimate and Measure](#)- Stage 1
- [Capture Squares](#)- Stage 4
- [Math Stories](#)- Stage 5
- [Number Puzzles](#)- Stage 4
- [Target Measurements](#)- Stage 1

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"><li>• have students identify which details were important to solve the problem or use the strategy</li><li>• check for understanding by having student rephrase directions in their own words</li><li>• support students with organization of materials</li><li>• have students verbalize their strategy before they begin</li><li>• Provide students with alternatives to writing on paper (white boards, chart paper)</li><li>• use multiple examples and non-examples to reinforce the importance of lining the objects up with zero appropriately</li><li>• emphasize the importance of accuracy</li><li>• have students plan a strategy, including the tools they will use, for measuring items</li><li>• give students access to inch tiles</li><li>• demonstrate actions in story problems to help students visualize the problem</li><li>• provide access to a completed tape diagram for students to refer to as they work on story problems</li><li>• provide choice and autonomy</li><li>• give students access to grid paper when creating line plots to keep data organized and neat</li></ul>	<ul style="list-style-type: none"><li>• give students 2-3 minutes to make sure both partners can share out and give time to rehearse what they will share with the whole class</li><li>• display words and phrases such as: ruler, edge, measure, length, centimeter, estimate, longer, shorter, feet, inches</li><li>• invite students to borrow language from the display and add language to the display as you progress through lessons and learn new mathematical vocabulary</li><li>• three reads of story problems</li><li>• provide sentence frames</li><li>• remind students what words they should be using in partner talks</li><li>• have students chorally repeat phrases that include mathematical language in context</li></ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"><li>• centimeter cubes</li><li>• connecting cubes</li><li>• straws</li><li>• string</li></ul>	

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
2	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>bearded dragons (groups of 3)</li><li>reptile length (groups of 1)</li></ul>
3	<ul style="list-style-type: none"><li>base-ten blocks</li><li>materials from a previous activity</li><li>scissors</li></ul>	<ul style="list-style-type: none"><li>centimeter ruler template (groups of 1)</li></ul>
4	<ul style="list-style-type: none"><li>materials from a previous activity</li><li>objects of various lengths</li><li>centimeter rulers</li></ul>	
5	<ul style="list-style-type: none"><li>base-ten blocks</li><li>metersticks</li><li>centimeter rulers</li><li>tape (painter's or masking)</li></ul>	
6	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
7	<ul style="list-style-type: none"><li>materials from previous centers</li><li>metersticks</li><li>objects of various lengths</li><li>centimeter rulers</li></ul>	<ul style="list-style-type: none"><li>estimate and measure stage 2 recording sheets (groups of 1)</li></ul>
8	<ul style="list-style-type: none"><li>inch tiles</li><li>objects of various lengths</li><li>inch rulers</li></ul>	
9	<ul style="list-style-type: none"><li>inch tiles</li></ul>	



## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
	<ul style="list-style-type: none"> <li>measuring tapes</li> <li>objects of various lengths</li> <li>inch rulers</li> <li>tape (painter's or masking)</li> </ul>	
10	<ul style="list-style-type: none"> <li>objects of various lengths</li> <li>inch rulers</li> </ul>	
11	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	
12		
13	<ul style="list-style-type: none"> <li>materials from previous centers</li> <li>centimeter rulers</li> <li>inch rulers</li> <li>straightedges</li> </ul>	<ul style="list-style-type: none"> <li>target measurement stage 1 recording sheets (groups of 2)</li> <li>number puzzles addition stage 4 gameboard (groups of 2)</li> <li>number puzzles digit cards (groups of 2)</li> </ul>
14	<ul style="list-style-type: none"> <li>inch rulers</li> <li>sticky notes</li> </ul>	
15	<ul style="list-style-type: none"> <li>objects of various lengths</li> <li>centimeter rulers</li> </ul>	<ul style="list-style-type: none"> <li>line plot template (groups of 1)</li> </ul>
16		<ul style="list-style-type: none"> <li>line plot template (groups of 1)</li> </ul>
17	<ul style="list-style-type: none"> <li>materials from previous centers</li> <li>objects of various lengths</li> <li>centimeter rulers</li> </ul>	<ul style="list-style-type: none"> <li>creating line plots stage 1 recording sheet (groups of 1)</li> </ul>

## Unit 3: Measuring Length

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
	<ul style="list-style-type: none"><li>• inch rulers</li></ul>	
18	<ul style="list-style-type: none"><li>• chart paper</li><li>• index cards</li><li>• materials from a previous activity</li><li>• sticky notes</li><li>• tape</li></ul>	

# Unit 4: Addition and Subtraction on the Number Line

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.MD.B.6
- 2.NBT.A.2
- 2.NBT.B.5
- 2.MD.B.5
- 2.OA.A.1
- 2.OA
- 2.OA.A
- 2.NBT
- 2.NBT.A
- 2.NBT.B
- 2.MD
- 2.MD.B

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.6
- MA.K-12.4
- MA.K-12.5
- MA.K-12.7
- MA.K-12.8

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

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

Students learn about the structure of the 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. They see 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 the points on the number line. 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 to show only the numbers needed to solve the problems, which is acceptable.

#### Transfer

Students will be able to independently use their learning to...

- represent whole numbers within 100 as lengths from 0 on a number line
- understand the structure of a number line
- represent sums and differences on a number line

#### Meaning

##### Big Ideas & Understandings

Students will understand that...

- numbers on a number line represent the length from 0
- number lines can be used to solve addition and subtraction problems
- addition and subtraction are opposite operations

##### Essential Questions

Students will keep considering...

- How can number lines be used to solve addition and subtraction problems?
  - How many spaces do we need to move on the number line?
  - How do you know which direction to move on the number line?
  - How do you know if the arrow shows addition or subtraction?

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

Grade 2 Math - Last Updated on August 21, 2023

Meaning	
	<ul style="list-style-type: none"><li>• What strategies can be used to solve addition and subtraction problems?<ul style="list-style-type: none"><li>◦ Which strategy shows subtraction as taking away?</li><li>◦ Which strategy shows subtraction as finding an unknown addend?</li><li>◦ How can we break down the jumps on the number line instead of doing one big jump? (jumping by tens and ones, getting to a ten)</li></ul></li><li>• How do we ensure precision when creating number lines?<ul style="list-style-type: none"><li>◦ How did you decide where to place your number on the number line?</li><li>◦ What final revisions could be made to make our number line more precise?</li><li>◦ How do you know your point is the right distance from 0?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• numbers on a number line show the length from 0</li><li>• moving to the right on a number line shows addition</li><li>• moving to the left on a number line shows subtraction</li><li>• number lines can be used to represent addition and subtraction equations</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• creating a number line</li><li>• finding missing numbers on a number line</li><li>• adding on a number line</li><li>• subtracting on a number</li><li>• matching a number line representation with an equation</li></ul>

Unit 4: Addition and Subtraction on the Number Line

Grade 2 Math - Last Updated on August 21, 2023

ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Teacher assessment guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>End-of-Unit Assessment</li><li>Daily Lesson Cool Downs/Exit Tickets</li></ul>
	Other Evidence:

# Unit 4: Addition and Subtraction on the Number Line

Grade 2 Math - Last Updated on August 21, 2023

## LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Whole Numbers on a Number Line](#)

[Lesson 2: Features of a Number Line](#)

[Lesson 3: Unlabeled Tick Marks](#)

[Lesson 4: Compare Numbers on a Number Line](#)

[Lesson 5: Estimate on a Number Line](#)

[Lesson 6: Center Day 1](#)

[Lesson 7: Addition and Subtraction on the Number Line](#)

[Lesson 8: Equations on a Number Line](#)

[Lesson 9: The Difference Between Numbers](#)

[Lesson 10: Place Value and the Number Line](#)

[Lesson 11: Different Ways to Add and Subtract](#)

[Lesson 12: Equations with Unknowns](#)

[Lesson 13: Represent Story Problems](#)

[Lesson 14: Center Day 2:](#)

[Lesson 15: Riddles](#)

Suggested Centers:

- [Five in a Row: Addition and Subtraction](#) -Stage 6
- [How Close?](#)- Stage 3
- [Number Puzzles: Addition and Subtraction](#)- Stage 4
- [Number Line Scoot](#)- Stage 1
- [Jump the Line](#)- Stage 1

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

Grade 2 Math - Last Updated on August 21, 2023

### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Supporting Student with IEPs/504s	Supporting English Language Learners
<ul style="list-style-type: none"> <li>• activate prior knowledge connecting number lines to measuring tools</li> <li>• provide access to a blank number line with equally spaced tick marks to support organization</li> <li>• give students access to two colors of connecting cubes. Build a number line that changes color back and forth at intervals of 5. This provides a concrete visual for intervals of 5.</li> <li>• provide context for abstract problems (frogs jumping, rabbits, hopping) let the counters represent the animal hopping on the number line</li> <li>• have students represent jumping forward on the top of the number line and jumping backward on the bottom of the line in another color</li> <li>• write the equation that matches the work shown</li> <li>• provide opportunities for kinesthetic learning, create a large number line on the floor and invite students to do the problem by hopping on the number line</li> <li>• have students act out the problem by drawing a large number line on the white board and have the students move forward or backward to act out the problem</li> <li>• check for understanding frequently</li> </ul>	<ul style="list-style-type: none"> <li>• display sentence frames</li> <li>• create a display with key mathematical vocabulary for this unit: number line, distance from zero, in order, interval, spaces, tick mark, point, pattern. Add to the display throughout the unit</li> <li>• encourage students to borrow vocabulary from the display as needed</li> <li>• amplify student language that correctly uses mathematical vocabulary</li> <li>• illustrate the connection between the equations and the directions of the arrows by following along and pointing to the relevant parts of the images</li> <li>• have students turn to a partner and restate what they heard using precise mathematical language</li> <li>• provide students with an opportunity to rehearse what they are going to say with a partner before they share out with the whole class</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"> <li>• objects of various lengths</li> </ul>	
2	<ul style="list-style-type: none"> <li>• string</li> </ul>	<ul style="list-style-type: none"> <li>• class number line cards (0-30) (groups of 30)</li> </ul>



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

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
3		
4	<ul style="list-style-type: none"> <li>counters</li> <li>dry erase markers</li> <li>materials from a previous lesson</li> <li>number cubes</li> <li>sheet protectors</li> </ul>	<div> <ul style="list-style-type: none"> <li>number line to 100 (groups of 1)</li> </ul> </div>
5	<ul style="list-style-type: none"> <li>chart paper</li> <li>markers</li> </ul>	<ul style="list-style-type: none"> <li>order numbers on the number line cards (groups of 12)</li> </ul>
6	<ul style="list-style-type: none"> <li>centimeter cubes</li> <li>materials from previous centers</li> <li>paper clips</li> </ul>	<ul style="list-style-type: none"> <li>number line scoot stage 1 directions (groups of 2)</li> <li>number line scoot stage 1 gameboard (groups of 2)</li> <li>number line scoot stage 1 spinner (groups of 2)</li> </ul>
7	<ul style="list-style-type: none"> <li>glue</li> <li>scissors</li> </ul>	
8		
9	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	<ul style="list-style-type: none"> <li>number line to 100 (groups of 1)</li> </ul>
10	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	
11	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	<ul style="list-style-type: none"> <li>number line to 100 (groups of</li> </ul>

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

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
	<ul style="list-style-type: none"><li>tools for creating a visual display</li></ul>	1)
12		<ul style="list-style-type: none"><li>number line to 100 (groups of 1)</li></ul>
13		<ul style="list-style-type: none"><li>story problems card sort (stories, equations, number lines, diagrams) (groups of 3)</li><li>number line to 100 (groups of 1)</li></ul>
14	<ul style="list-style-type: none"><li>dry erase markers</li><li>materials from previous centers</li><li>paper clips</li><li>sheet protectors</li></ul>	<ul style="list-style-type: none"><li>jump the line stage 1 gameboard (groups of 2)</li><li>jump the line stage 1 spinners (groups of 2)</li></ul>
15		<ul style="list-style-type: none"><li>number line to 100 (groups of 1)</li></ul>

# Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.MD.B.6
- 2.NBT.A
- 2.NBT.A.1
- 2.NBT.A.1.a
- 2.NBT.A.1.b
- 2.NBT.A.2
- 2.NBT.A.3
- 2.NBT.B.5
- 2.OA.B.2
- 2.NBT.A.4
- 2.NBT.B.8
- 2.OA
- 2.OA.B
- 2.NBT
- 2.NBT.B
- 2.MD
- 2.MD.B

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.5
- MA.K-12.6
- MA.K-12.7
- MA.K-12.8

## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

Students extend place value understanding to three-digit numbers. In grade 1, students learned that a ten is made up of 10 ones and two-digit numbers are formed using tens and ones. Here, they learn that a hundred is a unit made up of 10 tens, 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 drawings or diagrams, 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 by 10 and 100. They also locate, compare, and order three-digit numbers on a number line.

#### Transfer

Students will be able to independently use their learning 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

#### Meaning

##### Big Ideas & Understandings

Students will understand that...

- numbers are written using the smallest amount of each unit by making tens and hundreds from ones and tens
- when we get 10 in one place value, we move it to the next greater place value
- numbers 21-98 are written by joining two number words

##### Essential Questions

Students will keep considering...

- What number patterns are helpful in naming, reading, and writing numbers to 1,000?
  - What did you notice about the number of hundreds, tens, and ones when naming the number?
  - How would you represent the number \_\_\_ with base-ten blocks? Explain how you

## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

Meaning	
<ul style="list-style-type: none"><li>• numbers 100-999 are written by joining number word that describe the numbers of hundreds, tens, and ones</li><li>• we use place value to compare and order number, looking at the greatest place value first</li></ul>	<p>know.</p> <ul style="list-style-type: none"><li>◦ Do you notice a pattern in the digits?</li><li>• How can we use place value understanding to compose and decompose three-digit numbers?<ul style="list-style-type: none"><li>◦ What if Andre wanted the greatest amount of blocks to show this number? What would he do?</li><li>◦ Is there a way to represent the same number without using any ones?</li><li>◦ How do you know that you have used the fewest number of blocks possible?</li></ul></li><li>• What strategies can be used to compare numbers up to 1,000?<ul style="list-style-type: none"><li>◦ Whose method made it easier to see that 371 is greater than 317? Explain.</li><li>◦ How did you decide which number was greater?</li><li>◦ How does the expanded form of these numbers help you decide which is greater?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• 10 tens make a hundred</li><li>• place value is used to compare and order numbers</li><li>• a number line shows the lengths from 0 with larger numbers being farther from 0</li><li>• a number line can be used to compare and order numbers</li><li>• when we have 10 units it one place value, we</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• reading, writing, and naming numbers to 1,000</li><li>• using place value to compose and decompose numbers</li><li>• comparing and ordering three-digit numbers using different strategies<ul style="list-style-type: none"><li>◦ diagrams</li><li>◦ number lines</li><li>◦ expanded form</li></ul></li></ul>

## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

Acquisition	
move it to the next larger place value	<ul style="list-style-type: none"><li>• placing three-digit numbers on a number line</li><li>• writing three-digit numbers in expanded form</li></ul>

### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>• Assessment/Checklist Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>• Section A Checkpoint</li><li>• Section B Checkpoint</li><li>• End-of-Unit Assessment</li><li>• Daily Lesson Cool Downs/Exit Tickets</li></ul>
	Other Evidence:

## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

### LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: How Do We Compose a Hundred?](#)

[Lesson 2: Make Hundreds](#)

[Lesson 3: Compose Three-Digit Numbers](#)

[Lesson 4: Write Three-Digit Numbers](#)

[Lesson 5: Expanded Form of Numbers](#)

[Lesson 6: Represent Numbers in Different Ways](#)

[Lesson 7: Center Day 1](#)

[Lesson 8: Three-Digit Numbers](#)

[Lesson 9: Compare Numbers on the Number Line](#)

[Lesson 10: Place Value Comparison \(Part 1\)](#)

[Lesson 11: Place Value Comparison \(Part 2\)](#)

[Lesson 12: Order Numbers](#)

[Lesson 13: Center Day 2](#)

[Lesson 14: Hundreds of Objects](#)

Suggested Centers:

- [Greatest of Them All](#)- Stage 1
- [Greatest of Them All](#)- Stage 2
- [Mystery Number](#)- Stage 1
- [Mystery Number](#)- Stage 2
- [Get Your Numbers in Order](#)- Stage 1
- [Get Your Numbers in Order](#)- Stage 2
- [Jump the Line](#)- Stage 1

## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"> <li>• activate prior knowledge</li> <li>• check for understanding by having students rephrase what was said</li> <li>• chunk tasks into more manageable parts</li> <li>• provide feedback and encouragement often</li> <li>• Provide choice</li> <li>• check in and provide feedback that encourages collaboration and community</li> <li>• have students label tick marks on number lines that do not have all tick marks labeled</li> <li>• have students act out problems before solving</li> <li>• represent comparisons in multiple ways (number lines, diagrams, blocks, expanded form)</li> <li>• have students physically act out problems by putting a large number line on the board or the floor and have students find their place on the large number line</li> <li>• provide students with a graphic organizer to organize groups of ten and hundred</li> </ul>	<ul style="list-style-type: none"> <li>• display sentence frames</li> <li>• have students rehearse what they are going to say with a partner before sharing with the group</li> <li>• provide all students with an opportunity to use mathematical language by having them chorally repeat key vocabulary</li> <li>• amplify student language that uses mathematical language</li> <li>• have students repeat their reasoning using mathematical language (can you say that again using the word ___?)</li> <li>• display key mathematical language, direct student to look at and use words from the display</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"> <li>• base-ten blocks</li> </ul>	
2	<ul style="list-style-type: none"> <li>• base-ten blocks</li> </ul>	
3	<ul style="list-style-type: none"> <li>• base-ten blocks</li> <li>• tools for creating a visual display</li> </ul>	
4	<ul style="list-style-type: none"> <li>• base-ten blocks</li> </ul>	



## Unit 5: Numbers to 1,000

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
5	<ul style="list-style-type: none"><li>• base-ten blocks</li><li>• number cubes</li></ul>	
6	<ul style="list-style-type: none"><li>• base-ten blocks</li><li>• chart paper</li><li>• tools for creating a visual display</li></ul>	
7	<ul style="list-style-type: none"><li>• materials from previous center</li><li>• number cards 0-10</li></ul>	<ul style="list-style-type: none"><li>• mystery number stage 2 directions (groups of 2)</li></ul>
8		
9		
10		
11	<ul style="list-style-type: none"><li>• number cards 0-10</li></ul>	<ul style="list-style-type: none"><li>• greatest of them all stage 2 recording sheet (groups of 1)</li></ul>
12		
13	<ul style="list-style-type: none"><li>• dry erase markers</li><li>• materials from previous centers</li><li>• number cards 0-10</li><li>• sheet protectors</li></ul>	<ul style="list-style-type: none"><li>• get your numbers in order stage 2 gameboard (groups of 2)</li></ul>
14	<ul style="list-style-type: none"><li>• collections of objects</li><li>• sticky notes</li></ul>	

# Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.G.A.12.MD.A.12.NBT.A.32.NBT.B.52.G.A.32.NBT.A.12.G.A2.MD.C.7
- 2.NBT.A.22.NBT.B.62.MD.C.82.NBT.B.82.OA.A.12.G2.OA2.OA.A2.NBT
- 2.NBT.A2.NBT.B2.MD2.MD.A2.MD.C

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1MA.K-12.2MA.K-12.3MA.K-12.4MA.K-12.5MA.K-12.6MA.K-12.7
- MA.K-12.8

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

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 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. Students then study three-dimensional shapes, and identify the two-dimensional 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. Later, students use their understanding of halves and fourths to tell time. They use "quarter past" and "quarter til" 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 money context. They skip-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 c.

#### Transfer

Students will be able to independently use their learning 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
- use addition and subtraction within 100 to solve one- and two-step word problems

#### Meaning

Big Ideas & Understandings	Essential Questions
Students will understand that...	Students will keep considering...

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

### Meaning

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• a shape can be identified by the number of sides, vertices, or angles</li><li>• rectangles and circles can be partitioned into equal parts</li><li>• equal sized pieces have the same area, but do not need to be the same shape</li><li>• time can be recorded to the nearest five-minute interval by skip-counting by 5</li><li>• specific coins and bills have unique value and the size of the coin or bill does not indicate its value</li></ul> | <ul style="list-style-type: none"><li>• How can shapes and solids be recognized and drawn using specified attributes?<ul style="list-style-type: none"><li>◦ How did you sort these shapes?</li><li>◦ What could you name each of your groups?</li><li>◦ What are some vocabulary words you have learned to describe this shape?</li></ul></li><li>• How can circles and rectangles be divided into equal sized-parts and how do we name those parts?<ul style="list-style-type: none"><li>◦ How can you fold this to make two equal pieces?</li><li>◦ What is something you did to try to make the pieces equal when you partitioned shapes by drawing lines?</li><li>◦ What do you think each of these pieces might be called?</li></ul></li><li>• What are good strategies for telling time to the nearest five-minute interval?<ul style="list-style-type: none"><li>◦ How did you know how many minutes the clock shows?</li><li>◦ How did __ know you could start counting at 30? Why does this work?</li><li>◦ How could you use what you know about half past __ to count on to find the time?</li></ul></li><li>• What strategies can be used to count money?<ul style="list-style-type: none"><li>◦ How did you organize the coins to find the total value? Why did you choose to organize them this way?</li><li>◦ When we have a group of coins with different values, what are some methods you use to find the total?</li><li>◦ Is there a way you could swap out a group of your coins for 1 coin that's worth the same amount?</li><li>◦ How could you say how much money that is</li></ul></li></ul> |
|---|---|

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

Meaning	
	using dollars and cents?

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• the identifying attributes of triangles, quadrilaterals, pentagons, hexagons, and cubes</li><li>• 2 halves, 3 thirds, and 4 fourths are one whole</li><li>• that equal pieces do not need to be the same shape</li><li>• each number on the clock is equal to 5 minutes</li><li>• a.m. and p.m. are different time periods</li><li>• the value of bills and coins</li><li>• the size of the coin does not indicate its value</li><li>• strategies for counting groups of bills and coins</li><li>• the same amount of money can be represented in different ways</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• identifying triangles, quadrilaterals, pentagons, hexagons and cubes by their specified attributes</li><li>• recognizing and drawing shapes having specified attributes</li><li>• partitioning rectangles and circles into halves, thirds, and fourths</li><li>• telling and writing time from analog and digital clocks to the nearest five minutes</li><li>• finding the value of a group of bills and coins</li><li>• using addition and subtraction to solve one- and two-step story problems</li></ul>

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Assessment Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>Section C Checkpoint</li><li>Section D Checkpoint</li><li>End-of-Unit Assessment</li><li>Daily Lesson Coll Downs/Exit Tickets</li></ul>
	Other Evidence:

# Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

## LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Identify and Sort Shapes](#)

[Lesson 2: Draw Shapes](#)

[Lesson 3: Specific Side Lengths](#)

[Lesson 4: Solid Shapes](#)

[Lesson 5: Center Day 1](#)

[Lesson 6: Compose and Decompose Shapes](#)

[Lesson 7: Make Halves, Thirds, and Fourths](#)

[Lesson 8: Are All Pieces Created Equal?](#)

[Lesson 9: You Ate the Whole Thing](#)

[Lesson 10: Center Day 2](#)

[Lesson 11: Tell Time with Halves and Quarters](#)

[Lesson 12: Count by 5 to Tell Time](#)

[Lesson 13: Is It a.m. or p.m.?](#)

[Lesson 14: Center Day 3](#)

[Lesson 15: Identify Pennies, Nickels, and Dimes](#)

[Lesson 16: Identify Quarters](#)

[Lesson 17: Let's Make a Dollar](#)

[Lesson 18: Money Problems](#)

[Lesson 19: More Money Problems](#)

[Lesson 20: Center Day 4](#)

[Lesson 21: Pattern Block Puzzles](#)

Suggested Centers:

- [Can You Draw It](#)- Stage 1
- [Can You Draw It](#)- Stage 2
- [Which One?](#)- Stage 2
- [Which One?](#)- Stage 3
- [How Are They the Same?](#)- Stage 2
- [Picture Books](#)- Stage 3
- [Would You Rather](#)- Stage 1

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"><li>• Maintain a visible display to record new vocabulary</li><li>• activate or supply background knowledge</li><li>• have students verbalize their strategy before they begin working</li><li>• Provide students with a sorting mat and one possible category to get started</li><li>• provide students with access to the definitions of the shapes that they will be using so that they can have conversations using the correct vocabulary</li><li>• when making equal pieces, relate the paper to food items to cut and share with multiple people and relate the name of the pieces to the number of people that will be sharing the pieces</li><li>• maintain a visible display with different ways to make halves, thirds, and fourths to reiterate that fractions have equal parts and can be made in certain ways</li><li>• use different colored markers for the hour hand and minute hand to consistently show the difference between the two hands and focus on their length</li><li>• provide students with a clock that is partially marked with the minutes, either by 15 minute or 5 minutes, that they can use as a reference when telling times</li><li>• check for understanding by having students verbally name each coin and write the value above the coins</li><li>• keep a display of the coin poster available as a reference</li><li>• chunk tasks into more manageable pieces, check in after each chunk</li><li>• look for students using a strategy and ask them to</li></ul>	<ul style="list-style-type: none"><li>• direct attention to visual display for vocabulary</li><li>• have students borrow language from the display with mathematical vocabulary</li><li>• have students begin partner interactions by restating the question</li><li>• have students chorally repeat the names of shapes</li><li>• remind students to use the name of the shape and not the color of the block</li><li>• create a visual display for fractions, annotate the display</li><li>• display sentence frames</li><li>• take turns finding a match and explaining reasoning with a partner</li><li>• direct attention to words, values, and images of coins from the coin poster</li><li>• have students rehearse what they are going to say with a partner before sharing with the class</li><li>• have students prepare a visual display that shows the strategy they used to solve the story problem, encourage students to include details that will help other interpret their display (labels, notes, diagrams)</li></ul>



## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

<p>verbalize their solution to ensure they are on the right track</p> <ul style="list-style-type: none"><li>• provide choice</li><li>• provide access to plastic or actual coins to represent the money</li><li>• provide access to base-ten blocks to add and subtract with a concrete manipulative if needed</li><li>• have students identify important information in a story problem and verbalize a plan before they begin to solve</li><li>• provide access to a completed tape diagram as a reference for completing story problems</li></ul>	
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Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"><li>• materials from a previous activity</li></ul>	<ul style="list-style-type: none"><li>• shape cards grade 2 (groups of 2)</li></ul>
2		
3	<ul style="list-style-type: none"><li>• rulers</li></ul>	
4	<ul style="list-style-type: none"><li>• geoblocks</li><li>• scissors</li><li>• tape</li><li>• tools for creating a visual display</li></ul>	<ul style="list-style-type: none"><li>• cube pattern (groups of 2)</li><li>• shape design card sort (groups of 2)</li></ul>
5	<ul style="list-style-type: none"><li>• materials from a previous activity</li><li>• materials from a previous lesson</li></ul>	<ul style="list-style-type: none"><li>• centimeter dot paper-standard (groups of 1)</li></ul>

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
6	<ul style="list-style-type: none"><li>• pattern blocks</li></ul>	<ul style="list-style-type: none"><li>• compose a butterfly(groups of 2)</li><li>• centimeter dot paper-standard (groups of 1)</li><li>• isometric dot paper-standard (groups of 1)</li></ul>
7	<ul style="list-style-type: none"><li>• construction paper</li><li>• scissors</li><li>• rulers</li></ul>	
8		
9	<ul style="list-style-type: none"><li>• colored pencils</li></ul>	
10	<ul style="list-style-type: none"><li>• materials from a previous lesson</li><li>• materials from previous centers</li><li>• paper</li></ul>	<ul style="list-style-type: none"><li>• shape cards grade 2 (groups of 2)</li></ul>
11	<ul style="list-style-type: none"><li>• chart paper</li></ul>	<ul style="list-style-type: none"><li>• halves and quarters clock sort (groups of 2)</li></ul>
12		<ul style="list-style-type: none"><li>• count on the clock card sort (groups of 2)</li></ul>
13	<ul style="list-style-type: none"><li>• glue</li><li>• scissors</li></ul>	<ul style="list-style-type: none"><li>• hours in a day timeline (groups of 1)</li></ul>
14	<ul style="list-style-type: none"><li>• materials from a previous</li></ul>	<ul style="list-style-type: none"><li>• picture books stage 3 recording</li></ul>

## Unit 6: Geometry, Time, and Money

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
	center • picture books	sheet (groups of 1)
15	• scissors	• money poster images (groups of 0) • coins to cut and count (groups of 1)
16		• coins to cut and count (groups of 1)
17		
18		
19		
20	• materials from previous centers	• would you rather stage 1 recording sheet (groups of 2) • would you rather stage 1 spinner (groups of 2)
21	• card stock • pattern blocks	

# Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

## STANDARDS ADDRESSED

### New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.NBT.A
- 2.NBT.A.2
- 2.NBT.A.4
- 2.NBT.B.5
- 2.NBT.B.7
- 2.NBT.B.8
- 2.NBT.B.9
- 2.NBT.B.6
- 2.MD.D.10
- 2.NBT.A.1
- 2.NBT.A.3
- 2.NBT
- 2.NBT.B
- 2.MD
- 2.MD.D

### New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.5
- MA.K-12.6
- MA.K-12.7
- MA.K-12.8

## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

Students use place value understanding and the relationship between addition and subtraction, and properties of operations to add and subtract within 1,000. 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 difference 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 the, 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 and connect different ways to represent place value strategies. For example, students make sense of a written method of subtracting by comparing it to a base-ten diagram and their experiences with base-ten blocks. 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 or operations, and the relationship between addition and subtraction.

#### Transfer

Students will be able to independently use their learning to...

- use place value understanding, the relationship between addition and subtractions, and properties of operations to add and subtract within 1,000
- 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
- add numbers within 1,000 using strategies based on place value understanding, including composing a ten or hundred
- subtract numbers within 1,000 using strategies based on place value understanding, including decomposing a ten or hundred

#### Meaning

Big Ideas & Understandings	Essential Questions
Students will understand that...	Students will keep considering...

## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

### Meaning

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• addition and subtraction are opposite operations</li><li>• they can use different methods to solve addition and subtraction problems</li><li>• composing a ten or hundred must be done when the two numbers in the tens/hundreds place add up to more than ten</li><li>• decomposing a ten or hundred must be done when subtracting a larger ten/hundred from a smaller ten/hundred</li><li>• they cannot switch the order of subtraction problems to avoid decomposing a ten/hundred</li></ul> | <ul style="list-style-type: none"><li>• How can you use strategies based on the relationship between addition and subtraction and properties of operations to add and subtract within 1,000?<ul style="list-style-type: none"><li>◦ What did you notice when you located the numbers on the number line? How could that help you think about finding the difference?</li><li>◦ How could you think about this difference as an unknown addend equation?</li><li>◦ Do you notice any patterns when you add or subtract hundreds and hundreds? Tens and tens?</li></ul></li><li>• How can you use place value understanding to add within 1,000 when composing a ten or hundred is needed?<ul style="list-style-type: none"><li>◦ How can you use a number line or base-ten blocks to show your thinking?</li><li>◦ How could you tell when you could compose a ten or hundred?</li><li>◦ Without a diagram, how can you tell if you need to compose a ten or hundred?</li></ul></li><li>• How can you use place value understanding to subtract within 1,000 when decomposing a ten or hundred is needed?<ul style="list-style-type: none"><li>◦ How could you use the base-ten blocks to show that you decomposed a ten?</li><li>◦ How did you know if you had to decompose a ten/hundred?</li><li>◦ What is another way you could represent the value of the digits and show subtracting by place?</li></ul></li></ul> |
|---|---|

## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• addition and subtraction strategies based on the relationship between addition and subtraction</li><li>• addition and subtraction strategies based on properties of operations</li><li>• when to compose or decompose a ten or hundred when adding and subtracting</li><li>• place value strategies for adding and subtracting within 1,000</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• using strategies based on the relationship between operations and properties of operations to add and subtract within 1,000</li><li>• using place value strategies to add and subtract within 1,000</li><li>• composing tens and hundreds to add within 1,000</li><li>• decomposing tens and hundreds to subtract within 1,000</li></ul>

### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
<p>Rubrics/Checklists:</p> <ul style="list-style-type: none"><li>• Assessment and Checkpoint Teacher Guides</li></ul>	<p>Performance Task(s):</p> <ul style="list-style-type: none"><li>• Section A Checkpoint</li><li>• Section B Checkpoint</li><li>• Section C Checkpoint</li><li>• End-of-Unit Assessment</li><li>• Daily Lesson Cool Downs/Exit Tickets</li></ul>
	<p>Other Evidence:</p>

# Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

## LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Compare, Count On, and Count Back](#)

[Lesson 2: Add and Subtract with Tens and Hundreds](#)

[Lesson 3: Count On or Count Back to Subtract](#)

[Lesson 4: Add and Subtract Three-Digit Numbers in Different Ways](#)

[Lesson 5: Center Day 1](#)

[Lesson 6: Use a Ten to Add Within 1,000](#)

[Lesson 7: Compose a Larger Unit](#)

[Lesson 8: Compose Tens and Hundreds to Add](#)

[Lesson 9: Add Three-Digit Numbers](#)

[Lesson 10: Add Within 1,000](#)

[Lesson 11: Center Day 2](#)

[Lesson 12: Decompose to Subtract](#)

[Lesson 13: Decompose Tens or Hundreds](#)

[Lesson 14: Think Before You Subtract](#)

[Lesson 15: Decompose a Ten and a Hundred to Subtract](#)

[Lesson 16: Subtract Within 1,000](#)

[Lesson 17: Center Day 3](#)

[Lesson 18: Paint Splattered Bar Graph](#)

Suggested Centers:

- [Jump the Line](#)- Stage 1
- [Number Line Scoot](#)- Stage 1
- [Five in a Row: Addition and Subtraction](#)- Stage 6
- [Five in a Row: Addition and Subtraction](#)- Stage 7
- [Five in a Row: Addition and Subtraction](#)- Stage 8
- [How Close?](#)-Stage 3
- [How Close?](#)- Stage 4
- [Number Puzzles: Addition and Subtraction](#)- Stage 4
- [Target Numbers](#)- Stage 5
- [Target Numbers](#)- Stage 6
- [Target Numbers](#)- Stage 7



## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"> <li>• have students show jumps on the number line by using an animal cutout</li> <li>• have students act out scenarios of giving and taking hundreds on a number line</li> <li>• differentiate the degree of difficulty or complexity</li> <li>• begin with a more accessible problem and then increase the difficulty</li> <li>• make connections between concrete methods and abstract methods</li> <li>• identify connections between different methods that result in the same outcome</li> <li>• show a side by side comparison of different methods of representing problems to make connections between the methods</li> <li>• have students plan a strategy by thinking aloud with a partner</li> <li>• provide choice</li> <li>• check for understanding by having students repeat directions in their own words</li> <li>• provide alternatives to writing on paper</li> <li>• connect problems to students</li> </ul>	<ul style="list-style-type: none"> <li>• have students begin partner interactions by repeating the question</li> <li>• give students extra time when discussing with a partner to make sure that both partners are able to provide</li> <li>• visibly display and record mathematical words and phrases and update as needed</li> <li>• have students borrow words from the visual display as needed</li> <li>• provide sentence frames</li> <li>• have students restate what they heard using mathematical terms</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1		
2	<ul style="list-style-type: none"> <li>• base-ten blocks</li> <li>• number cubes</li> </ul>	
3	<ul style="list-style-type: none"> <li>• base-ten blocks</li> </ul>	
4	<ul style="list-style-type: none"> <li>• base-ten blocks</li> </ul>	

## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
5	<ul style="list-style-type: none"><li>materials from previous centers</li><li>paper clips</li><li>two-color counters</li></ul>	<ul style="list-style-type: none"><li>five in a row addition and subtraction stage 7 gameboard (groups of 2)</li></ul>
6	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>card sort perfect 10 (groups of 3)</li></ul>
7	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>walk about and add cards (groups of 24)</li></ul>
8	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
9	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
10	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>how did you do that? addition card sort game (groups of 1)</li></ul>
11	<ul style="list-style-type: none"><li>materials from previous centers</li><li>number cards 0-10</li><li>paper clips</li><li>two-color counters</li></ul>	<ul style="list-style-type: none"><li>how close? stage 4 recording sheet (groups of 1)</li><li>five in a row addition and subtraction stage 8 gameboards (groups of 2)</li></ul>
12	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
13	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
14	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	

## Unit 7: Adding and Subtracting within 1,000

Grade 2 Math - Last Updated on August 21, 2023

Lesson #	Materials to Gather	Materials to Copy
15	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>walk about and subtract cards (groups of 24)</li></ul>
16	<ul style="list-style-type: none"><li>base-ten blocks</li></ul>	
17	<ul style="list-style-type: none"><li>materials from previous centers</li><li>number cubes</li></ul>	<ul style="list-style-type: none"><li>target numbers stage 6 recording sheet (groups of 1)</li></ul>
18		

# Unit 8: Equal Groups

Grade 2 Math - Last Updated on August 21, 2023

STANDARDS ADDRESSED

New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.NBT.A.2
- 2.NBT.B.7
- 2.NBT.B.8
- 2.OA.B.2
- 2.OA.C
- 2.OA.C.3
- 2.G.A.2
- 2.OA.C.4

- 2.OA
- 2.OA.B
- 2.NBT
- 2.NBT.A
- 2.NBT.B
- 2.G
- 2.G.A

New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.5
- MA.K-12.6
- MA.K-12.7

- MA.K-12.8

## Unit 8: Equal Groups

Grade 2 Math - Last Updated on August 21, 2023

### DESIRED RESULTS

#### Established Goals

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

#### Transfer

Students will be able to independently use their learning to...

- determine whether a group of objects (up to 20) has an even or odd 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
- partition rectangles into rows and columns of equal-size squares and count to find the total number of squares
- represent the total number of objects in an array as a sum of equal addends

#### Meaning

Big Ideas & Understandings	Essential Questions
<p>Students will understand that...</p> <ul style="list-style-type: none"><li>• even numbers can be split into two equal groups or groups of two with none left over</li><li>• odd numbers will have one left over when making two equal groups</li><li>• skip counting and writing equations can be used to find the total of an array</li></ul>	<p>Students will keep considering...</p> <ul style="list-style-type: none"><li>• How do you tell if a number (up to 20) is even or odd?<ul style="list-style-type: none"><li>◦ How could you arrange your counters to show pairs?</li><li>◦ What do you notice about even and odd numbers?</li></ul></li></ul>

## Unit 8: Equal Groups

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Meaning	
<ul style="list-style-type: none"><li>the total number of objects in an array can be represented by writing an expression of the sum of equal addends</li></ul>	<ul style="list-style-type: none"><li>What expression can you write to show that this is an even number?</li><li>What strategies can you use to find the total amount in an array?<ul style="list-style-type: none"><li>How many columns are in the array?</li><li>How can you find the total number of objects in this array?</li><li>Why did you count by ___ to find how many objects are in this array?</li></ul></li><li>How can we write expressions for arrays?<ul style="list-style-type: none"><li>How do the addends in your equation match your array?</li><li>How does the number of addends in your expression match your array?</li><li>Does the sum of your equation match the total number of counters?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>even numbers can be put into two equal groups, or groups of two with none left over</li><li>odd numbers will have one left over when put in two equal groups</li><li>arrays contain objects arranged into rows and columns with the same number of objects in each row and the same number in each column</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>identifying if a number is even or odd</li><li>skip-counting by two</li><li>writing an addition expression for an even number as the sum of two equal addends</li><li>finding the total number of objects in an array by skip counting</li><li>partitioning rectangles into equal size rows and columns</li><li>representing the total number of objects in an array as a sum of equal addends</li></ul>

## Unit 8: Equal Groups

Grade 2 Math - Last Updated on August 21, 2023

### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Checkpoint/Assessment Teacher Guides</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>Section A Checkpoint</li><li>Section B Checkpoint</li><li>End of Unit Assessment</li><li>Daily Lesson Cool Downs/Exit Tickets</li></ul>
	Other Evidence:

## Unit 8: Equal Groups

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### LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Can You Share?](#)

[Lesson 2: Partners Make Pairs](#)

[Lesson 3: Is it Odd or Even?](#)

[Lesson 4: Decompose Even and Odd Numbers](#)

[Lesson 5: Patterns with Even and Odd Numbers](#)

[Lesson 6: Center Day 1](#)

[Lesson 7: What is an Array](#)

[Lesson 8: Count Columns and Objects in Columns](#)

[Lesson 9: A Sum of Equal Addends](#)

[Lesson 10: Write Expressions and Equations to Represent Arrays](#)

[Lesson 11: Arrays and Rectangles](#)

[Lesson 12: Partition Rectangles into Squares](#)

[Lesson 13: Center Day 2](#)

Suggested Centers:

- [Target Numbers](#)- Stage 7
- [Five in a Row: Addition and Subtraction](#)- Stage 8
- [How Close?](#)- Stage 4
- [Write Numbers](#)- Stage 4



## Unit 8: Equal Groups

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### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"> <li>• give students access to 10-frames</li> <li>• provide students an opportunity to self-assess and reflect on their own progress</li> <li>• check for understanding by having students rephrase in their own words</li> <li>• provide students with a graphic organizer for organizing objects into two groups</li> <li>• represent the problem in multiple ways to support understanding of the situation</li> <li>• help students relate arrays to the real world</li> <li>• act out creating arrays by putting the students in rows and columns</li> <li>• allow access to counters</li> <li>• use paper to cover unused rows and columns when writing expression, reveal one row/column at a time then write it in the expression</li> <li>• activate background knowledge</li> <li>• give students 1-inch grid paper when creating their arrays, then have them transfer their image to the open rectangle</li> <li>• allow access to inch tiles</li> </ul>	<ul style="list-style-type: none"> <li>• remind students to use mathematical language</li> <li>• display sentence frames</li> <li>• display mathematical language on a visual display and invite students to borrow words from the display as needed</li> <li>• give students appropriate time to make sure the whole group can explain before sharing with the class</li> <li>• have students rehearse what they are going to say with a partner before sharing out</li> </ul>

Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"> <li>• connecting cubes or counters</li> </ul>	
2	<ul style="list-style-type: none"> <li>• chart paper</li> <li>• connecting cubes</li> <li>• counters</li> </ul>	
3	<ul style="list-style-type: none"> <li>• counters</li> </ul>	<ul style="list-style-type: none"> <li>• even and odd card sort (groups)</li> </ul>

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Lesson #	Materials to Gather	Materials to Copy
	<ul style="list-style-type: none"><li>• crayon</li></ul>	of 1)
4	<ul style="list-style-type: none"><li>• counters</li></ul>	
5	<ul style="list-style-type: none"><li>• counters</li></ul>	<ul style="list-style-type: none"><li>• presto chango recording sheet (groups of 1)</li></ul>
6	<ul style="list-style-type: none"><li>• dry erase markers</li><li>• materials from previous centers</li><li>• sheet protectors</li></ul>	<ul style="list-style-type: none"><li>• write the number stage 4 gameboard</li></ul>
7	<ul style="list-style-type: none"><li>• counters</li></ul>	
8	<ul style="list-style-type: none"><li>• counters</li></ul>	
9	<ul style="list-style-type: none"><li>• counters</li></ul>	<ul style="list-style-type: none"><li>• match arrays to expressions card sort (groups of 2)</li></ul>
10	<ul style="list-style-type: none"><li>• counters</li></ul>	
11	<ul style="list-style-type: none"><li>• colored pencils or crayon</li><li>• inch tiles</li><li>• rulers</li></ul>	
12	<ul style="list-style-type: none"><li>• inch tiles</li><li>• rulers</li></ul>	
13	<ul style="list-style-type: none"><li>• materials from previous centers</li></ul>	

# Unit 9: Putting It All Together

Grade 2 Math - Last Updated on August 21, 2023

STANDARDS ADDRESSED

New Jersey (NJSLS) - Grade 2 - Mathematics (2020)

- 2.MD.A.1
- 2.MD.A.4
- 2.MD.B.5
- 2.MD.D
- 2.MD.D.9
- 2.NBT.B.5
- 2.OA.B.2
- 2.NBT.A
- 2.NBT.A.1
- 2.NBT.A.3
- 2.NBT.B.7
- 2.NBT.B.9
- 2.OA.A.1
- 2.OA
- 2.OA.A
- 2.OA.B
- 2.NBT
- 2.NBT.B
- 2.MD
- 2.MD.A
- 2.MD.B

New Jersey (NJSLS) - K-12 - Math Practice Standards (2020)

- MA.K-12.1
- MA.K-12.2
- MA.K-12.3
- MA.K-12.4
- MA.K-12.5
- MA.K-12.6
- MA.K-12.7
- MA.K-12.8

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### DESIRED RESULTS

#### Established Goals

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. 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 number in all positions. The goal of this unit 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.

#### Transfer

Students will be able to independently use their learning to...

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

#### Meaning

##### Big Ideas & Understandings

Students will understand that...

- they can use mental strategies to add and subtract fluently within 20
- they can compose and decompose numbers to add and subtract within 1,000
- tape diagrams, addition and subtraction can be used to solve one- and two-step story problems

##### Essential Questions

Students will keep considering...

- What strategies can be used to fluently add and subtract within 20?
  - How can you remember the sum for that expression?
  - What did you do when you didn't know the unknown number?
  - What other methods did you use to find the unknown number?
- How can you compose and decompose numbers to add and subtract within 1,000?
  - What are different ways we could represent

## Unit 9: Putting It All Together

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Meaning	
	<p>this number?</p> <ul style="list-style-type: none"><li>◦ What methods from previous lessons could you use to find the value?</li><li>◦ How did you know when you had to compose or decompose to find the value of an expression?</li><li>• What strategies can be used to solve one- and two-step story problems?<ul style="list-style-type: none"><li>◦ How are the methods the same? How are they different?</li><li>◦ What are other ways you made sense of story problems that had more than one step?</li><li>◦ How does your tape diagram represent the story problem? Which parts of the diagram go with which parts of the story?</li></ul></li></ul>

Acquisition	
Knowledge	Skills
<p>Students will know...</p> <ul style="list-style-type: none"><li>• many strategies for addition and subtraction within 1,000</li><li>• how to represent story problems</li></ul>	<p>Students will be skilled at...</p> <ul style="list-style-type: none"><li>• using mental strategies to fluently add and subtract within 20</li><li>• using strategies based on place value to add and subtract within 1,000</li><li>• using strategies based on properties of operations to add and subtract within 1,000</li><li>• fluently add and subtract within 100</li><li>• creating tape diagrams or one- and two-step story problems</li><li>• using addition and subtraction within 100 to solve one- and two-step story problems</li></ul>

## Unit 9: Putting It All Together

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### ASSESSMENT EVIDENCE (DIAGNOSTIC / FORMATIVE / SUMMATIVE)

## Assessments

Evaluation Criteria	Assessment Evidence
Rubrics/Checklists: <ul style="list-style-type: none"><li>Assessment Teacher Guide</li></ul>	Performance Task(s): <ul style="list-style-type: none"><li>End of Course Assessment</li><li>Daily Lesson Cool Downs/Exit Tickets</li></ul>
	Other Evidence:

### LEARNING PLAN

Summary of Key Learning Events and Instruction:

[Lesson 1: Sums and Differences Within 20](#)

[Lesson 2: Fluency Flip](#)

[Lesson 3: Measure on a Map](#)

[Lesson 4: Measure and Plot](#)

[Lesson 5: Compose and Decompose Numbers Within 1,000](#)

[Lesson 6: Represent Numbers with Expressions](#)

[Lesson 7: Add and Subtract Within 1,000](#)

[Lesson 8: Add and Subtract Within 100](#)

[Lesson 9: Sort the Story Problems](#)

[Lesson 10: What's the Question?](#)

[Lesson 11: All About Tape Diagrams](#)

[Lesson 12: What's the Story?](#)

[Lesson 13: Let's Solve Our Story Problems](#)

## Unit 9: Putting It All Together

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### SUPPORTING MATERIALS/RESOURCES/STRATEGIES FOR DIFFERENTIATION

Support for Students with IEPs/504s	Support for English Language Learners
<ul style="list-style-type: none"><li>• give students access to a number line or a number bond mat with base-ten blocks</li><li>• allow students to recreate problems in a concrete way</li><li>• give feedback on partner relationships and how students are able to work together</li><li>• chunk tasks into more manageable parts</li><li>• provide feedback and encouragement often</li><li>• discuss strategy efficiency and accuracy</li><li>• give access to base-ten blocks or connecting cubes to represent numbers they will add</li><li>• remind and encourage students to build a ten when they can</li><li>• check for understanding by having students explain in their own words</li><li>• provide choice</li><li>• remind students of strategies they have learned for addition and subtraction</li><li>• have students act out story problems using manipulatives</li><li>• provide a completed tape diagram for students to reference when completing problems</li><li>• have students talk through their strategy before working</li><li>• provide students with alternatives to writing on paper</li><li>• provide examples of appropriate comments and ways to agree or disagree before the gallery walk</li><li>• be sure students are ready for whole class discussion before beginning</li></ul>	<ul style="list-style-type: none"><li>• lead a discussion comparing, contrasting, and connecting different approaches</li><li>• create a visual display with mathematical language and encourage students to borrow language from the display as needed</li><li>• display sentence frames</li><li>• display sentence starters</li><li>• have students begin partner interactions by repeating the question</li><li>• have students explain their reasoning to a partner</li><li>• provide students with the opportunity to rehearse what they will say with a partner before sharing with the whole class</li></ul>

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Lesson #	Materials to Gather	Materials to Copy
1	<ul style="list-style-type: none"><li>• paper clips</li></ul>	<ul style="list-style-type: none"><li>• spin and find the missing number spinners (groups of 2)</li></ul>
2	<ul style="list-style-type: none"><li>• materials from a previous activity</li></ul>	<ul style="list-style-type: none"><li>• number cards 0-19 (groups of 2)</li><li>• number mix up (groups of 1)</li></ul>
3	<ul style="list-style-type: none"><li>• centimeter rulers</li></ul>	<ul style="list-style-type: none"><li>• measurement map (groups of 1)</li></ul>
4	<ul style="list-style-type: none"><li>• pencils</li><li>• centimeter rulers</li></ul>	
5	<ul style="list-style-type: none"><li>• base-ten blocks</li><li>• tools for creating a visual display</li></ul>	
6	<ul style="list-style-type: none"><li>• base-ten blocks</li></ul>	<ul style="list-style-type: none"><li>• match expression cards 2.9 (groups of 2)</li></ul>
7		
8	<ul style="list-style-type: none"><li>• materials from a previous activity</li><li>• materials from previous centers</li></ul>	<ul style="list-style-type: none"><li>• heads up- add and subtract within 100 number cards (groups of 2)</li></ul>
9		<ul style="list-style-type: none"><li>• card sort story problems (groups of 1)</li></ul>
10		



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Lesson #	Materials to Gather	Materials to Copy
11		<ul style="list-style-type: none"><li>• represent story problem cards (groups of 2)</li></ul>
12	<ul style="list-style-type: none"><li>• connecting cubes</li><li>• materials from a previous lesson</li></ul>	<ul style="list-style-type: none"><li>• story photos (groups of 2)</li></ul>
13	<ul style="list-style-type: none"><li>• chart paper</li><li>• colored pencils, crayons, or markers</li><li>• sticky notes</li></ul>	