

Branchburg Township Public Schools

Office of Curriculum and Instruction

Grade 1 Math Curriculum



Adopted by the Board of Education September 2023

This curriculum is aligned with the 2016 New Jersey Student Learning Standards in Mathematics

Curriculum Scope and Sequence

Content Area	Mathematics	Course Title/Grade Level:	First Grade
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	Topic/Unit Name	Suggested Pacing (Days)
<u>Topic/Unit #1</u>	Establish Routines/Math Practices & Readiness Understand Addition and Subtraction	20
<u>Topic/Unit #2</u>	Fluently Add and Subtract Within 10	11
<u>Topic/Unit #3</u>	Addition Facts to 20: Use Strategies	12
<u>Topic/Unit #4</u>	Subtraction Facts to 20: Use Strategies	11
<u>Topic/Unit #5</u>	Work with Addition and Subtraction Equations	10
<u>Topic/Unit #6</u>	Represent and Interpret Data	7
<u>Topic/Unit #7</u>	Extend the Counting Sequence	10
<u>Topic/Unit #8</u>	Understand Place Value	9
<u>Topic/Unit #9</u>	Compare Two-Digit Numbers	9
<u>Topic/Unit #10</u>	Use Models and Strategies to Add Tens and Ones	11
<u>Topic/Unit #11</u>	Use Models and Strategies to Subtract Tens	10
<u>Topic/Unit #12</u>	Measure Lengths	6
<u>Topic/Unit #13</u>	Time and Money	9
<u>Topic/Unit #14</u>	Reason with Shapes and Their Attributes	11
<u>Topic/Unit #15</u>	Equal Shares of Circles and Rectangles	7

Topic/Unit 1 Title	Establish Routines/Math Practices & Readiness Understand Addition and Subtraction	Approximate Pacing	20 days Early Sept. - Early Oct.
STANDARDS			
NJSLS (Math)			
<p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using objects, drawings, and equations, with a symbol for the unknown number to represent the problem.</p> <p>1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6=6$, $7=8-1$, $5+2=2+5$, $4+1=5+2$.)</p> <p>1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract $10-8$ by finding the number that makes 10 when added to 8.</p> <p>Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. 			
Interdisciplinary Connections:		CS & DT:	
<p>NGSS: 1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. (Example: STEM Theme Parents and Babies. Students share the kind of baby animals they have seen and describe them regarding size, color, and skin type. Students talk about how animals are the same and different.)</p> <p>Speaking and Listening SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. (Example: 3-Act Math task "Grab a</p>		<p>8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. (Example: Students choose a math game from the technology center).</p> <p>8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. Individuals develop and follow directions as part of daily life. (Example: Students use strategies such as counting on, making 10, etc. to add and subtract within 20.)</p>	

Bite” What do you notice about the video? What do you wonder?
Which question could we use mathematics to answer?)

Writing: W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed (Example: 3-Act Math Task “Grab a Bite” students develop a model to show how they can find the answer to the question “How many apples did they take?”)

CKLS:

9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). Brainstorming can create new, innovative ideas (Example: Lesson 1-6 Convince Me! Students participate in the conversation of how is finding how many fewer like finding how many more? In all careers you must communicate effectively not only what the answer is but how you obtained it.)

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 1-9 Problem Solving: Construct Arguments Students will be given a problem to solve where they will be asked to explain their choice of either addition or subtraction when solving.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Adding to is one interpretation of addition. Addition equations can be used to show add to addition situations.
- Putting two parts together to make a whole is one interpretation of addition. Addition equations can be used to show situations in which two parts are put together.
- Decomposing numbers can be used to solve addition word problems in which the total is known, but the parts are unknown.
- Taking away one part from a whole is one interpretation of subtraction. Subtraction equations can be used to show subtraction situations in which one part is taken from the whole.
- Comparing to find how many more is one interpretation of addition and subtraction. Subtraction or addition equations can be used to show situations in which two quantities are compared.
- Comparing two groups to find how many fewer objects are in one group than another group is one interpretation of addition and subtraction. Subtraction or addition equations can be used to show situations in which two quantities are compared.
- “Adding to” is one interpretation of addition. Addition equations can be used to show “add to” addition situations.
- Finding a missing part of a whole is an interpretation of both addition and subtraction. Addition or subtraction equations can be used to show situations involving a missing part.
- Good math thinkers use math to explain why they are right. They can talk about the math that others do, too.

Essential Questions:

- What are ways to think about addition and subtraction?
- How can you use an addition equation to solve a problem about adding to one part?
- How can you use an equation to solve a problem about putting two parts together?
- How can you use parts of numbers to solve problems in which both of the addends are unknown?
- How can you use a subtraction equation to show a situation in which one part is taken from the whole?
- How can you write an equation to compare two sets of objects?
- How can you use an addition equation to find a missing part of a whole?
- How can you use a model to find the missing part in a problem and write an addition or subtraction equation for this problem?
- How can you solve problems by making a math argument using addition and subtraction?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p><i>Students will know:</i></p> <ul style="list-style-type: none"> ● Add ● Plus ● Sum ● Equals ● Parts ● Whole ● Equation ● Subtract ● Minus ● Difference ● More ● Compare ● Fewer ● Addend 	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ● Solve addition problems involving situations of adding one part to another part. ● Solve addition problems involving situations of putting two parts together. ● Solve addition word problems by breaking apart a total number of objects. ● Solve subtraction problems involving taking from a group. ● Solve problems that involve comparing to find how many more objects are in one group than another group. ● Solve problems that involve comparing to find how many fewer objects are in one group than another group. ● Solve addition problems by finding a missing addend. ● Solve problems involving putting together or taking apart. ● Construct math arguments in order to solve addition and subtraction problems.

ASSESSMENT OF LEARNING

<p>Summative Assessment (Assessment at the end of the learning period)</p>	<p>Unit 1 Topic Assessment</p>
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<p>Formative Assessments (Ongoing assessments during the learning period to inform instruction)</p>	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
<p>Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<ul style="list-style-type: none"> ● 3-Act Math Task Recording Sheet ● Today’s Challenge ● Convince Me! ● Subitizing Task ● Addition Math Running Record ● Subtraction Math Running Record
<p>Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> ● enVision Mathematics Teacher’s Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1 ● Teacher’s Resource Masters Grade 1 Volume 1 ● Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> ● Launching Math Unit ● Additional Drive Resources ● Number Talks ● Hands on Standards K-2 ● https://gfletchy.com/3-act-lessons/ ● Math Running Records FB 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 2 Title	Fluently Add and Subtract Within 10	Approximate Pacing	11 days Mid Oct - End Oct.
STANDARDS			
NJSLS (Math)			
<p>1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=14$); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$).</p> <p>1.OA.B.3 Apply properties of operations as strategies to add and subtract. Commutative property of addition.) To add $2+6+4$, the second two numbers can be added to make a ten, so $2+6+4=2+10=12$. (Associative property of addition.) {Students need not use formal terms for these properties}</p> <p>1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract $10-8$ by finding the number that makes 10 when added to 8.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. (Example: STEM Theme:</p>		<p>8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and</p>	

<p>Protect Yourself Project Students are asked to think of things that help plants, animals, and humans survive.</p> <p>SL.1.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (Example: Lesson 2-6 Students represent their work by showing how many people are still on the bus)</p>	<p>preferences. (Example: Students choose math tools from the digital technology center to help solve problems.)</p> <p>8.1.2.DA.3: Identify and describe patterns in data visualizations (Example: Lesson 2-9 Problem Solving Look for and Use Structure. Students use a table to show the different possibilities of Ed eating only 7 pieces of fruit (strawberries and grapes).)</p>
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CKLS:

9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). (Example: Lesson 2-8 Solve Word Problems within 10. Students are provided word problems and are asked to demonstrate how they reached their answer (draw a picture, act it out, use a number line)

9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10). (Example: Lesson 2-9 Problem Solving Look for and Use Structure. Students use a table to help show all the ways the 10 total animals (bears and lions) can cross the sea on the boat.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Counting on to find the sum for addition facts. A number line can help you count on.
- Doubles facts have the same number for both addends and can be used to solve problems involving real-world situations.
- Basic addition facts that are near doubles can be found using a related doubles fact.
- Facts with sums 6 through 10 can be broken into 5 plus some more.
- Two numbers can be added in any order and the sum will stay the same.
- Counting back to find the difference for subtraction facts. A number line can help you count back.
- Addition and subtraction have an inverse relationship. This relationship can be used to solve subtraction facts; every subtraction fact has a related addition fact.
- Drawings and equations can help you solve different types of word problems.
- Good math thinkers look for patterns in math to help solve problems.

Essential Questions:

- What strategies can you use while adding and subtracting?
- How can you count on to add 1, 2, or 3 to a number?
- How do you know if an addition fact is a doubles fact?
- How can you use a doubles fact to solve a near doubles fact?

- How can you use a ten-frame to show an addition fact that has 5 as one of the addends?
- If the order of the addends is changed in an addition equation, does the sum change? Explain.
- How can you count back to subtract 0, 1, 2, or 3 from a number?
- How can you use an addition fact to solve a related subtraction fact?
- How can you draw a picture and use an equation to solve a problem?
- How can you use the structure of a table to identify patterns?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Students will know:

- Number line
- Doubles fact
- Near doubles fact
- Count back

Process/Skills/Procedures/Application of Key Knowledge

Students will be able to:

- Add by counting on from a number.
- Use doubles to solve problems.
- Solve problems using near doubles facts.
- Use a ten-frame to solve addition facts with 5 and 10.
- Use the same addends to write two different equations with the same sum.
- Count back to solve subtraction problems.
- Use addition facts to 10 to solve subtraction problems.
- Solve word problems by drawing pictures and writing equations.
- Use structure and identify patterns in order to solve problems.

ASSESSMENT OF LEARNING

Summative Assessment
(Assessment at the end of the learning period)

Unit 2 Topic Assessment

Formative Assessments
(Ongoing assessments during the learning period to inform instruction)

- **Anecdotal note-taking**
- **Analysis of student work**
- **Daily Review**
- **Vocabulary Review**
- **Math Practices Proficiency Rubric**
- **Topic performance tasks**

Alternative Assessments (Any learning activity or assessment)

- **My Fluency Progress Form**
- **Math Diagnosis and Intervention System Diagnostic Test**

<p>that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<ul style="list-style-type: none"> ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me! ● Subitizing Task ● Addition Math Running Record ● Subtraction Math Running Record
<p>Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> ● enVision Mathematics Teacher's Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1 ● Teacher's Resource Masters Grade 1 Volume 1 ● Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> ● Additional Drive Resources ● Number Talks ● Hands on Standards K-2 ● https://gfletchy.com/3-act-lessons/ ● Math Running Records FB 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 3 Title	Addition Facts to 20: Use Strategies	Approximate Pacing	12 days End Oct. - Mid Nov.
STANDARDS			
NJSLS (Math)			
<p>1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.B.3 Apply properties of operations as strategies to add and subtract. Commutative property of addition.) To add $2+6+4$, the second two numbers can be added to make a ten, so $2+6+4=2+10=12$. (Associative property of addition.) {Students need not use formal terms for these properties}</p> <p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=14$); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$).</p> <p>Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. 			
Interdisciplinary Connections:		CS & DT:	
<p>Reading: NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. (Example: Interactive Math Story Monkey Doubles. Students use their double fact knowledge to induce their ideas in the monkey story.)</p>		<p>8.1.2.AP.4: Break down a task into a sequence of steps. (Example: Lesson 3-4 Doubles Plus. Students use the strategy of doubles facts to help solve problems involving doubles-plus one.)</p>	

6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions. (Example: Lesson 3-9 Problem Solving: Critique Reasoning. Students are participating in conversations regarding critiquing how others solved problems by using pictures, words, or equations.)

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. (Example: Pick a Project. Students work in groups to Create an Animal Model involving 10 frogs, Make a Sailboat Model involving 10 sticks, or Make a Poster about Roller Coasters)

CKLS:

9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. (Example: 3-Act Math Task Go for a Spin. Video games, board games, and card games all need someone to test that the games are fun to play and that it is fair.)

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). (Example: Lesson 3-7 Convince Me! Students participate in the discussion of what strategy they could use to solve $7 + 8$ and why it is a good strategy.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- How to solve an addition problem by using a number line to count on.
- How to solve addition problems by counting on an open number line.
- Doubles facts have the same number for both addends and can be used to solve problems involving real-world situations.
- Basic addition facts that are near doubles can be found using a related doubles fact.
- Some addition facts can be solved by changing them to an equivalent fact with 10.
- There are different ways to solve addition facts. Certain strategies may be easier to use for different facts.
- Objects, drawings, and equations can help you solve different types of word problems.
- Good math thinkers use math to explain why they are right. They can talk about the math that others do, too.

Essential Questions:

- What strategies can you use for adding to 20?
- How can you use a number line to count on to solve an addition problem?
- How can you use an open number line to count on to add?
- How do you know if an addition fact is a doubles fact?
- How can you use a related doubles fact to solve a doubles-plus fact?
- How can you solve an addition fact by changing it to an equivalent fact with 10?
- How can different strategies help you solve addition facts?
- What are some strategies that you can use to solve comparison problems and other kinds of addition problems?

- What can you do to decide if you agree or disagree with someone’s thinking about the way he or she solved a problem?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> • Open number line • Doubles-plus facts • Make 10 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Count on to add using a number line. • Count on to add using an open number line. • Memorize doubles facts. • Use doubles facts to help solve doubles-plus facts. • Make 10 to add numbers to 20. • Solve addition problems using different strategies. • Solve different types of addition word problems. • Critique the reasoning of others by using known info about addition and subtraction.

ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	Unit 3 Topic Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review • Math Practices Proficiency Rubric • Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> • 3-Act Math Task Recording Sheet • Today’s Challenge • Convince Me! • Addition Math Running Record • Subtraction Math Running Record
Benchmark Assessments (used to establish baseline achievement data and measure progress towards	<ul style="list-style-type: none"> • Readiness Test • Progress Monitoring Assessments • Topics 1-4 Cumulative Benchmark Assessment • Topics 1-8 Cumulative Benchmark Assessment • Topics 1-12 Cumulative Benchmark Assessment

grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> • Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> • enVision Mathematics Teacher’s Edition Grade 1 Volume 1 • Student Workbook Grade 1 Volume 1 • Teacher’s Resource Masters Grade 1 Volume 1 • Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> • Additional Drive Resources • Number Talks • Hands on Standards K-2 • https://gfletchy.com/3-act-lessons/ • Math Running Records FB 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 4 Title	Subtraction Facts to 20: Use Strategies	Approximate Pacing	11 days End Nov. - Early Dec.
STANDARDS			
NJSLS (Math)			
<p>1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=14$); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$).</p> <p>1.OA.B.3 Apply properties of operations as strategies to add and subtract. Commutative property of addition.) To add $2+6+4$, the second two numbers can be added to make a ten, so $2+6+4=2+10=12$. (Associative property of addition.) {Students need not use formal terms for these properties}</p> <p>1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract $10-8$ by finding the number that makes 10 when added to 8.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted. (Example: STEM Theme: Pattern of</p>		<p>8.1.2.DA.4: Make predictions based on data using charts or graphs. (Example: STEM Activity: Pattern of Day and Night. Students use a</p>	

<p>Day and Night. Students discuss the patterns they notice regarding the earth's rotation and day and night.)</p> <p>1-ESS1-2 Make observations at different times of year to relate the amount of daylight to the time of year. (Example: STEM Theme: Pattern of Day and Night. Students draw pictures of the day and the night sky and discuss the changes they notice.)</p>	<p>table that shows how many hours of daylight Alaska has on certain days.)</p> <p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. (Lesson 4-8 Students work in pairs or groups to solve a math task involving subtraction).</p>
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CKLS:

9.1.2.FP.2: Differentiate between financial wants and needs. (Pick a Project. Project 4D Buy Classroom Items. Using 20 pennies and classroom items such as pencils, erasers, paper, markers, etc. students decide how much each item costs and take turns buying 2 items with a total of 20 pennies.)

9.1.2.PB.2: Explain why an individual would choose to save money. Saving money is a habit that can be developed.
(Example: Pick a Project will have students solving number stories using 20 pennies and classroom items. This will help students to understand prices for objects.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- When using a number line to subtract, you can count back the number of spaces you are subtracting or find the distance between the two numbers.
- Some subtraction facts can be simplified by making use of the numbers' relationships to 10.
- The inverse relationship between addition and subtraction can be used to find subtraction facts; every subtraction fact has at least one related addition fact.
- There are different ways to solve subtraction facts. Certain strategies may be easier to use for certain facts.
- Objects, drawings, and equations can help you solve different types of word problems.
- Good math thinkers know how to think about words and numbers to solve problems.

Essential Questions:

- What strategies can you use while subtracting?
- What are two ways you can use a number line to subtract?
- How can making 10 help you subtract?
- How can counting up to 10 make subtraction easier?
- How can fact families help you solve addition and subtraction problems?

- How can you use addition facts you know to help you solve subtraction facts?
- What are some different ways to solve subtraction facts? How do you decide which strategy to use?
- How can objects, drawings, and equations help you solve different types of word problems?
- How can you write a word problem for an equation?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> • Related facts • Fact family 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Use a number line to subtract by counting on or counting back. • Make subtraction easier by making 10 to subtract. • Count on to subtract using 10 as a landmark. • Make addition and subtraction facts using the same three numbers. • Use addition facts to find subtraction facts. • Explain strategies used to solve subtraction problems. • Solve different types of addition and subtraction problems with unknowns in different positions. • Use reasoning to write and solve number stories.

ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	<ul style="list-style-type: none"> • Unit 4 Topic Assessment • Topics 1-4 Cumulative Benchmark Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review • Math Practices Proficiency Rubric • Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> • Fluency Worksheet • 3-Act Math Task Recording Sheet • Today's Challenge • Convince Me! • Addition Math Running Record

<p>Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	<ul style="list-style-type: none"> ● Subtraction Math Running Record ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> ● enVision Mathematics Teacher’s Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1 ● Teacher’s Resource Masters Grade 1 Volume 1 ● Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> ● Additional Drive Resources ● Number Talks ● Hands on Standards K-2 ● https://gfletchy.com/3-act-lessons/ ● Math Running Records FB 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 5 Title	Work with Addition and Subtraction Equations	Approximate Pacing	10 days December
STANDARDS			
NJSLS (Math)			
<p>1.OA.D.8 Determine the unknown whole number in an addition or subtraction equations relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8+?=11$, $5= _ -3$, $6+6= _$.</p> <p>1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=14$); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$).</p> <p>1.OA.D. 7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6=6$, $7=8-1$, $5+2=2+5$, $4+1=5+2$.</p> <p>1.OA.B.3 Apply properties of operations as strategies to add and subtract. Examples: If $8+3=11$ is known, then $3+8=11$ is also known. (Commutative property of addition.) To add $2+6+4$, the second two numbers can be added to make a ten, so $2+6+4=2+10=12$. (Associative property of addition.)</p> <p>1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. 			
Interdisciplinary Connections:		CS & DT:	

<p>1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. (STEM Theme: Underwater Communication. Students learn about how dolphins use sonar to communicate.)</p> <p>SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups B. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. (Example: Lesson 5-2. Students solve equations and discuss why they are true or false.)</p>	<p>8.1.2.AP.4: Break down a task into a sequence of steps. (Example: Lesson 5-4 Add Three Numbers. Students use the associative property so solve for three numbers $2 + 6 + 4 = ?$ $2 + 6 + 4 = 2 + 10$.)</p> <p>8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together. (Example: 3-Act Math Task Weighted Down. Students are to develop a model to represent balancing and describe the ways to balance the two sides of the scale at least 2 ways.)</p>
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CKLS:

9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 5-7 Problem Solving: Precision. Students attend to precision by using the math symbols correctly when making equations true).

9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). (Example: Pick a Project! Students share their completed projects to either a partner, small group, or whole class).

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Models and the relationship between addition and subtraction can be used to solve equations with an unknown part.
- An addition or subtraction equation is true if the values on each side of the equal sign are the same. An addition or subtraction equation is false if the values on each side of the equal sign are not the same.
- An addition or subtraction equation is true if the values on each side of the equal sign are the same. Models, addition facts, and subtraction facts can be used to solve equations with an unknown part.
- Three numbers can be grouped and added in any order.
- Numbers can be grouped in different ways to solve word problems with three addends.
- Objects, drawings, models, and equations can help you solve different types of word problems.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

Essential Questions:

- How can adding and subtracting help you solve or complete equations?
- How can you use models or the relationship between addition and subtraction to solve equations with an unknown part?

- How can you decide if an equation is true or false?
- How can you find the missing number in an equation in order to make the equation true?
- What are some strategies that you can use to help you add three numbers?
- Why can you group numbers in different ways in order to solve a word problem with three addends?
- How can you solve comparison problems?
- How can you use precision in order to find the missing number or symbol that will make an equation true?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Students will know:

- Unknown numbers
- Equations
- Addend
- True
- False
- Equals
- Sum
- More
- Fewer

Process/Skills/Procedures/Application of Key Knowledge

Students will be able to:

- Find the unknown number in an equation.
- Determine if addition and subtraction equations are true or false.
- Find the missing numbers in the equations to make them true.
- Use different strategies to add three numbers.
- Use different strategies to solve word problems with three addends.
- Solve word problems involving comparisons.
- Use precision to determine the missing number or symbol in an equation.

ASSESSMENT OF LEARNING

Summative Assessment
(Assessment at the end of the learning period)

Unit 5 Topic Assessment

Formative Assessments
(Ongoing assessments during the learning period to inform instruction)

- **Anecdotal note-taking**
- **Analysis of student work**
- **Daily Review**
- **Vocabulary Review**
- **Math Practices Proficiency Rubric**
- **Topic performance tasks**

Alternative Assessments (Any learning activity or assessment)

- **Fluency Worksheet**
- **3-Act Math Task Recording Sheet**

<p>that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<ul style="list-style-type: none"> ● Today's Challenge ● Convince Me! ● Addition Math Running Record ● Subtraction Math Running Record
<p>Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> ● enVision Mathematics Teacher's Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1 ● Teacher's Resource Masters Grade 1 Volume 1 ● Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> ● Additional Drive Resources ● Number Talks ● Hands on Standards K-2 ● https://gfletchy.com/3-act-lessons/ ● Math Running Records FB 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 6 Title	Represent and Interpret Data	Approximate Pacing	7 days Early Jan.
STANDARDS			
NJSLS (Math)			
<p>1.MD.C.4 Organize, represent and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p> <p>1.OA.C.5 Relate counting to addition and subtraction (e.g. by counting on 2 to add 2).</p> <p>1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using objects, drawings, and equations, with a symbol for the unknown number to represent the problem.</p> <p>1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>RI.1.1. Ask and answer questions about key details in a text. (Example: Students will be able to answer questions using the data from the picture graph lessons 6-3 and 6-4.</p> <p>1-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. (Example: STEM Theme: Different Types of Phones. Students are asked to discuss how phones have changed in their lifetimes.</p>		<p>8.1.2.DA.3: Identify and describe patterns in data visualizations. Data can be used to make predictions about the world. (Example: Students use tally charts and bar graphs to ask and answer questions about data.)</p> <p>8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world. (Example: STEM Theme: Different Types of Phones. Students discuss the different types of technology they have used.)</p>	

CKLS:

9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10). (Example: Students will analyze the data from lesson 6-2 and be able to ask and answer questions.)

9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. (Example: Pick a Project. Students pick a project based on their interests. Jobs include creating and designing, building and modeling, or surveying and collecting data.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Tally charts are useful for recording and organizing some kinds of data.
- A picture graph uses pictures to show and organize data.
- Some problems can be solved by making, reading, and analyzing a tally chart or picture graph.
- Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck.

Essential Questions:

- What are some ways you can collect, show, and understand data?
- How can you use a tally chart to record different types of data?
- How can you use the data collected in a tally chart to make a picture graph?
- How can you use the information in a tally chart or picture graph to answer questions?
- How can you use a tally chart or a picture graph to solve a word problem?
- How can you make sense of a problem about data and use perseverance to solve it?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Students will know:

- Tally marks
- Data
- Tally chart
- Picture graph
- Survey

Process/Skills/Procedures/Application of Key Knowledge

Students will be able to:

- Organize data into categories.
- Collect and organize information using a picture graph.
- Interpret organized data.
- Use a picture graph to interpret data.
- Use perseverance to solve problems about sets of data.

ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	Unit 6 Topic Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
Core instructional materials: <ul style="list-style-type: none"> ● enVision Mathematics Teacher's Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1 ● Teacher's Resource Masters Grade 1 Volume 1 ● Online access 	
Supplemental materials: <ul style="list-style-type: none"> ● Additional Drive Resources ● Number Talks ● Hands on Standards K-2 ● https://gfletchy.com/3-act-lessons/ 	
Modifications for Learners	
See appendix	

Topic/Unit 7 Title	Extend the Counting Sequence	Approximate Pacing	10 days January
STANDARDS			
NJSLS (Math)			
<p>1.NBT.B.2.a, c Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten." c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. (Example: STEM Theme: Parents and Babies. Students use journals to draw how animal parents protect babies and how they communicate with parents.)</p> <p>Reading: NJLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. (Example: 3-Act Math Task: Super Selfie. Students can count by 10s to 120 and/or count an open number line. Students infer and draw conclusions about the task at hand.)</p>		<p>8.1.2.DA.3: Identify and describe patterns in data visualizations. Data can be used to make predictions about the world. (Example: Today's Challenge. Students use a graph to ask and answer questions about data.)</p> <p>8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. Individuals develop and follow directions as part of daily life. (Example: Convince Me! Students explain how numbers in a number chart change by identifying different patterns.)</p>	

CKLS:

9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). In all careers you must communicate effectively not only what the answer is but how you obtained it. (Example: 3-Act Math Task: Super Selfie. Students share and explain their model for the question “how many pages are in the big selfie”.)

9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 7-6. Students are given the task to look at a group of oranges and find how many in all. Students can use grouping of 1’s, 2’s, 5’s, 10’s to count. Students explain the counting sequence they use and why they used that sequence.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- The decade numbers are built on groups of 10. The oral names are similar, but not the same as the number of tens counted.
- Counting forward by 1s to 120 follows the same place-value counting rules as counting forward by 1s to two-digit numbers.
- Counting and place-value patterns can be seen on a number chart.
- An open number line can be used to show counting by tens and ones.
- The number of objects in a group is determined by the last number said when they are counted. A written numeral represents the number of objects in a group. Counting objects by tens and then ones can help you count objects faster than counting by just ones.
- Good math thinkers look for things that repeat in a problem. They use what they learn from one problem to help them solve other problems.

Essential Questions:

- How can you use what you already know about counting to count past 100?
- How can you use patterns to count by 10s?
- How is counting forward from 100 to 120 like counting forward to a two-digit number? How is it different?
- What number is 1 more than a number at the end of a row?
- What patterns do you see on a number chart when you count by 10s and 1s?
- How can you use an open number line to count on by 1s and 10s?
- How can you write a number to show how many objects are in a group?
- How can you use what you learned from one problem to solve another problem?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Process/Skills/Procedures/Application of Key Knowledge

<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> ● Hundred chart ● Tens digit ● Row ● Ones digit ● Column 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ● Count by 10s to 120. ● Count by 1s to 120. ● Count on a number chart to 120. ● Find number patterns on a number chart. ● Count to 120 using an open number line. ● Write numerals to show how many objects are in a group. ● Find better and faster ways to solve problems.
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ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	Unit 7 Topic Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment

RESOURCES

<p>Core instructional materials:</p> <ul style="list-style-type: none"> ● enVision Mathematics Teacher's Edition Grade 1 Volume 1 ● Student Workbook Grade 1 Volume 1
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- Teacher's Resource Masters Grade 1 Volume 1
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
- Number Talks
- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 8 Title	Understand Place Value	Approximate Pacing	9 days Early Feb.
STANDARDS			
NJSLS (Math)			
<p>1.NBT.B.2.a, b, c Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. 			
Interdisciplinary Connections:		CS & DT:	
<p>1-ESS1-2 Make observations at different times of year to relate the amount of daylight to the time of year. (Example: STEM Theme: Daylight Throughout the Year. Students find our information about the changes in daylight each season.)</p> <p>Writing: W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed. (Example: Lesson 8-6 Different Name for the Same Number. Students use cubes to show different ways to make numbers and are challenged to find a new one to discuss and compare.)</p>		<p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. (Example: Pick a Project. Students work in pairs or groups to group objects to show bundles of 10 and to extend counting sequences from any given number.)</p> <p>8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. (Example: Students choose math tools from the digital technology center to help solve problems.)</p>	

CKLS:

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 8-4. Students estimate how many cubes there are in the bag. Students then count the cubes, write the total number, and explain the counting pattern they used. Students not only need to be able to answer questions but also solve real world problems such as equal distribution and counting to make sure they have what they think they do.)

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2) Brainstorming can create new, innovative ideas. (Example: Students will participate in class discussions sharing various counting strategies and making connections daily. Actively listening and participating is a skill needed for all jobs and careers.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Numbers can be used to tell how many. Numbers 11 through 19 can be shown as a group of 10 and up to 9 more; they can be written as a number word.
- The decade numbers to 100 are built on groups of ten. When there are only tens, counting by 10s can be used to find how many there are in all.
- When objects are grouped in sets of tens and leftovers (ones), counting the groups of tens and adding ones tells how many there are in all. Numbers can be used to tell how many. In a standard numeral, the tens are written to the left of the ones.
- In a standard numeral, the tens are written to the left of the ones. A drawing can show how many tens and ones are in a number.
- Numbers can be named in many ways.
- Good math thinkers look for patterns in math to help solve problems.

Essential Questions:

- How can you count and add using tens and ones?
- How would you show thirteen as a ten and ones?
- How would you count 5 groups of connecting cubes that have 10 cubes in each group?
- How do you know how many tens and how many leftovers are in a number?
- What do the digits on the left and right sides of a two-digit number tell you?
- How can you use a drawing to show how many tens and ones are in a number?
- How can you make a two-digit number with different numbers of tens and ones?
- How can you use a pattern to find all of the ways to make a number by using tens and ones?

STUDENT LEARNING OBJECTIVES

Key Knowledge		Process/Skills/Procedures/Application of Key Knowledge	
<p><i>Students will know:</i></p> <ul style="list-style-type: none"> • Tens • Ones • Break apart 		<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Read and write numbers 11 to 19. • Show groups of 10 with connecting cubes. • Group tens to solve problems. • Count tens and ones to find a two-digit number. • Use drawings to solve problems with tens and ones. • Decompose numbers in multiple ways. • Use tens and ones to make numbers in different ways. 	
ASSESSMENT OF LEARNING			
Summative Assessment (Assessment at the end of the learning period)		Unit 8 Topic Assessment	
Formative Assessments (Ongoing assessments during the learning period to inform instruction)		<ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review • Math Practices Proficiency Rubric • Topic performance tasks 	
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)		<ul style="list-style-type: none"> • Fluency Worksheet • 3-Act Math Task Recording Sheet • Today's Challenge • Convince Me! 	
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)		<ul style="list-style-type: none"> • Readiness Test • Progress Monitoring Assessments • Topics 1-4 Cumulative Benchmark Assessment • Topics 1-8 Cumulative Benchmark Assessment • Topics 1-12 Cumulative Benchmark Assessment • Topics 1-15 Cumulative Benchmark Assessment 	
RESOURCES			
<p>Core instructional materials:</p> <ul style="list-style-type: none"> • enVision Mathematics Teacher's Edition Grade 1 Volume 2 • Student Workbook Grade 1 Volume 2 			

- Teacher's Resource Masters Grade 1 Volume 2
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
- Number Talks
- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 9 Title	Compare Two-Digit Numbers	Approximate Pacing	9 days Mid Feb. - End Feb.
STANDARDS			
NJSLS (Math)			
<p>1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $<$, $=$</p> <p>1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-PS4-3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. (Example: STEM Theme: Light and Objects. Students discuss how light changes when it shines on different kinds of objects. Students compare the number of objects.)</p> <p>SL.1.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (Example: Lesson 9-1. Students use drawings to show 1-more, 1-less, 10-more, 10-less than a given number).</p>		<p>8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. Individuals develop and follow directions as part of daily life. (Example: Lesson 9-6 Problem Solving: Make Sense and Persevere. Students use strategies for solving and comparing number riddles.)</p> <p>8.1.2.AP.4: Break down a task into a sequence of steps. (Example: 3-Act Math Task Digit Flip. Students use models to solve a problem that involves comparing two-digit numbers.</p>	
CKLS:			

9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10). (Example: Pick a Project. During the temperature check pick a project, students collect data regarding the temperature. Using a given number, students talk about 1-more, 1-less, 10-more, 10-less.)

9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. (Example: Interactive Math Story: The Store Needs More. Students must have an understanding of how many more or less when ordering inventory for a store.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- 1 more, 1 less, 10 more, and 10 less express a relationship between two numbers.
- Place-value relationships can be represented on a hundred chart.
- For 2 two-digit numbers, the number with more tens is greater. If two numbers have an equal number of tens, then the number with more ones is greater.
- For any two-digit number shown on a number line, the numbers to its left are less than the number and the numbers to its right are greater than the number.
- Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck.

Essential Questions:

- What are ways to compare numbers to 120?
- How does a number change when you find the number that is 1 more, 1 less, 10 more, and 10 less than that number?
- How do you find the number that is 1 more, 1 less, 10 more, and 10 less than a number on a hundred chart?
- How can you compare 2 two-digit numbers to tell which one is greater?
- How would you compare two numbers using symbols?
- How can you use a number line to compare two numbers?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> ● Less ● More ● Compare ● Greater than (>) ● Less than (<) 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ● Find numbers that are more or less than a given number. ● Use a hundred chart to find 1 more, 1 less, and 10 more, 10 less. ● Use place value blocks to compare 2 two-digit numbers. ● Compare two numbers using a greater than, a less than, or an equal to sign.

- Compare and write two-digit numbers that are greater than or less than other two-digit numbers.
- Make sense of a problem and find the best way to solve it.

ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	Unit 9 Topic Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review • Math Practices Proficiency Rubric • Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> • Fluency Worksheet • 3-Act Math Task Recording Sheet • Today's Challenge • Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> • Readiness Test • Progress Monitoring Assessments • Topics 1-4 Cumulative Benchmark Assessment • Topics 1-8 Cumulative Benchmark Assessment • Topics 1-12 Cumulative Benchmark Assessment • Topics 1-15 Cumulative Benchmark Assessment

RESOURCES

Core instructional materials:

- enVision Mathematics Teacher's Edition Grade 1 Volume 2
- Student Workbook Grade 1 Volume 2
- Teacher's Resource Masters Grade 1 Volume 2
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
- Number Talks

- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 10 Title	Use Models and Strategies to Add Tens and Ones	Approximate Pacing	11 days Early March - mid March
STANDARDS			
NJSLS (Math)			
<p>1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.B.2.a, b, c Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted. (Example: STEM Theme: Watch the Stars. Students draw patterns of stars in their journals. Students discuss why the stars change from night to night.)</p> <p>RI.1.1. Ask and answer questions about key details in a text. (Example: Students will be able to answer questions using the data from the graph about the Rocky Ridge Basketball Program.)</p>		<p>8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. Individuals develop and follow directions as part of daily life. (Example: Lesson 10-8. Students use place value strategies to add 2-digit numbers).</p> <p>8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a</p>	

network. (Example: Students use a math game from the technology center to practice their math skills).

CKLS:

9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). Brainstorming can create new, innovative ideas (Example: Convince Me! Students explain the different ways they can use a hundred chart to find the sum of numbers.)

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 10-8 Students use place value strategies to solve 2-digit addition problems.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Adding groups of 10 is similar to adding numbers less than 10.
- When adding tens to a two-digit number, the tens digit changes. The ones digit remains unchanged.
- When a two-digit number is added to a one-digit number, the ones are added to the ones. When a two-digit number is added to a multiple of ten, the tens are added to the tens.
- When a two-digit number is added to a one-digit number, the ones are added to the ones and sometimes it is necessary to compose a ten.
- When a two-digit number is added to another two-digit number, the ones are added to the ones and sometimes it is necessary to compose a ten. The tens are added to the tens.
- You can use different strategies to solve addition problems.
- Good math thinkers use math they know to show and solve problems.

Essential Questions:

- What are ways to use tens and ones to add?
- How is adding groups of ten like adding numbers less than 10?
- How can you mentally add 10 to a number?
- How do you use a hundred chart to add a two-digit number to a one-digit number and a two-digit number to a multiple of 10?
- How do you use a number line to add a two-digit number to a one-digit number and a two-digit number to a multiple of 10?
- How do you use blocks to add a two-digit number to a one-digit number and a two-digit number to a multiple of 10?
- How does making a ten help you add?
- How can you use drawings of place-value blocks to add 2 two-digit numbers?
- What are some different tools or strategies that you could use to solve an addition problem?

- How does showing the problem help you solve the problem?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Students will know:

- Tens
- Ones
- Add
- More
- In all
- Hundred chart
- Open number line
- Make 10

Process/Skills/Procedures/Application of Key Knowledge

Students will be able to:

- Add 2 multiples of 10.
- Use mental math to add tens to two-digit numbers.
- Use a hundred chart to add tens and ones.
- Use a number line to solve addition problems.
- Solve addition problems by using blocks or drawings.
- Make a ten to help solve addition problems.
- Add 2 two-digit numbers.
- Solve addition problems using different strategies.
- Model and solve problems by drawing a picture and writing an equation.

ASSESSMENT OF LEARNING

Summative Assessment

(Assessment at the end of the learning period)

Unit 10 Topic Assessment

Formative Assessments

(Ongoing assessments during the learning period to inform instruction)

- Anecdotal note-taking
- Analysis of student work
- Daily Review
- Vocabulary Review
- Math Practices Proficiency Rubric
- Topic performance tasks

Alternative Assessments (Any learning activity or assessment that asks students to *perform* to demonstrate their knowledge, understanding and proficiency)

- Fluency Worksheet
- 3-Act Math Task Recording Sheet
- Today's Challenge
- Convince Me!

Benchmark Assessments

(used to establish baseline achievement data and measure progress towards

- Readiness Test
- Progress Monitoring Assessments
- Topics 1-4 Cumulative Benchmark Assessment
- Topics 1-8 Cumulative Benchmark Assessment

grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> • Topics 1-12 Cumulative Benchmark Assessment • Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
<p>Core instructional materials:</p> <ul style="list-style-type: none"> • enVision Mathematics Teacher’s Edition Grade 1 Volume 2 • Student Workbook Grade 1 Volume 2 • Teacher’s Resource Masters Grade 1 Volume 2 • Online access 	
<p>Supplemental materials:</p> <ul style="list-style-type: none"> • Additional Drive Resources • Number Talks • Hands on Standards K-2 • https://gfletchy.com/3-act-lessons/ 	
Modifications for Learners	
<p>See appendix</p>	

Topic/Unit 11 Title	Use Models and Strategies to Subtract Tens	Approximate Pacing	10 days Mid March - End March
STANDARDS			
NJSLS (Math)			
<p>1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p>1.NBT.B.2.a, b, c Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. (Example: STEM Theme: Tools to Solve Problems. Students discuss different tools they use in their everyday lives.)</p> <p>K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (Example: STEM Theme: Tools to Solve</p>		<p>8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. Individuals develop and follow directions as part of daily life. (Example: 3-Act Math Task So Many Colors. Students use tools and models to answer the question "how many crayons are in the first container.)</p> <p>8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. (Example: Students choose math tools from the digital technology center to help solve problems.)</p>	

Problems. In their journal, students draw tools that can solve simple problems.)

CKLS:

9.1.2.PB.2: Explain why an individual would choose to save money. Saving money is a habit that can be developed. (Example: Today's Challenge. Students will discuss which item costs more or less and tell how much more or less.)

9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 11-7 Problem Solving: Model with Math. Students will use different models to solve problems involving subtractino of multiples of 10.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Subtracting a multiple of 10 from another multiple of 10 is similar to subtracting numbers less than 10.
- Subtracting multiples of 10 is like counting back by 10s. You can show how to subtract a multiple of 10 from another multiple of 10 on a hundred chart.
- Subtracting multiples of 10 is like counting back by 10s. You can show how to subtract a multiple of 10 from another multiple of 10 on an open number line.
- Addition and subtraction have an inverse relationship. The relationship can be used to solve subtraction equations; every subtraction equation has a related addition equation.
- When subtracting ten from a two-digit number, the tens digit changes. The ones digit remains unchanged.
- You can use different strategies to solve subtraction problems.
- Good math thinkers use math they know to show and solve problems.

Essential Questions:

- How can I use what I know about subtraction to subtract tens?
- How is subtracting groups of ten like subtracting numbers less than 10?
- How can you use a hundred chart to subtract by tens from numbers that end in zero?
- How is subtracting 70-30 like subtracting 7-3?
- How can you use addition to help you solve subtraction problems?
- How can you mentally subtract 10 from a two-digit number?
- What are some different strategies that you could use to solve a subtraction problem?
- How does modeling your thinking help you to solve a word problem?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> ● Tens ● Subtract ● Equation ● Hundred chart ● Open number line ● Count back ● Related fact ● Think addition 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ● Use models to subtract tens. ● Use a hundred chart to subtract a multiple of 10 from another multiple of 10. ● Use an open number line to solve subtraction problems. ● Use addition to subtract tens. ● Use mental math to subtract ten from a two-digit number. ● Use different strategies to subtract. ● Model thinking to solve problems.
ASSESSMENT OF LEARNING	
Summative Assessment (Assessment at the end of the learning period)	Unit 11 Topic Assessment
Formative Assessments (Ongoing assessments during the learning period to inform instruction)	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
Core instructional materials:	

- enVision Mathematics Teacher’s Edition Grade 1 Volume 2
- Student Workbook Grade 1 Volume 2
- Teacher’s Resource Masters Grade 1 Volume 2
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
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- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 12 Title	Measure Lengths	Approximate Pacing	6 days Early April - Mid April
STANDARDS			
NJSLS (Math)			
<p>1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p> <p>1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-PS4-2 Make observations to construct an evidence-based account that objects can be seen only when illuminated. (Example: STEM Theme: Now You See Me, Now You Don't. Students discuss how animals can be seen in the dark. Students record in journals the different animals that can be seen in the dark through drawing and writing.)</p> <p>6.1.2.Geo.SV.1: Use maps to identify physical features (e.g., continents, oceans, rivers, lakes, mountains). (Example: Pick a Project: Let's Go Camping! Students draw a map of a campsite that includes lakes, hills, and hiking trails)</p>		<p>8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. (Example: Students use a math game from the technology center to practice their math skills).</p>	
CKLS:			
<p>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2) Brainstorming can create new, innovative ideas. (Example: Lesson 12-4 Problem Solving: Use Appropriate Tools. Students use different objects to measure the length</p>			

of items. Students discuss the appropriate tool to use to measure that item.)

9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job.

(Example: Learning about measurement can be used in many different careers, such as carpentry, pharmaceuticals, interior design, etc.)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- Objects can be compared and ordered by length
- Two objects can be compared indirectly by comparing both to a third object.
- Measurement is a process of comparing a unit to the object being measured. The length of any object can be used as a measurement unit for length.
- Choose an appropriate tool and use it to measure the length of a given object.

Essential Questions:

- What are ways to measure how long an object is?
- How can you put three objects in order from shortest to longest?
- How can you compare the lengths of 2 objects by using a third object?
- How can you measure the length of an object?
- How do you use tools to measure the length of a curvy object?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<i>Students will know:</i>	<i>Students will be able to:</i>
<ul style="list-style-type: none"> ● Length ● Longer ● Longest ● Shorter ● Shortest ● Measure 	<ul style="list-style-type: none"> ● Order objects by length. ● Indirectly compare objects by length. ● Use small same-size objects to measure length. ● Choose an appropriate tool and use it to measure the length of a given object.

ASSESSMENT OF LEARNING

Summative Assessment (Assessment at the end of the learning period)	Unit 12 Topic Assessment
Formative Assessments (Ongoing assessments during	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work

the learning period to inform instruction)	<ul style="list-style-type: none"> ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment

RESOURCES

Core instructional materials:

- enVision Mathematics Teacher's Edition Grade 1 Volume 2
- Student Workbook Grade 1 Volume 2
- Teacher's Resource Masters Grade 1 Volume 2
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
- Number Talks
- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 13 Title	Time and Money	Approximate Pacing	9 days End April - Early May
STANDARDS			
NJSLS (Math)			
<p>1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>1.NBT.B.2. Understand that the two digits of a two-digit number represents amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten". b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90, refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.MD.B.3 Tell and Write time in hours and half-hours using analog and digital clocks.</p> <p>1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. (Example: STEM Theme: The Sound of Vibration. Students discuss the different sounds that come from different musical instruments.)</p> <p>W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed (Lesson 13-2 Using 1 dime and 2 pennies, students determine how many beads Julia can buy. Children discuss explanations and revise their work.)</p>		<p>8.1.2.DA.3: Identify and describe patterns in data visualizations. Data can be used to make predictions about the world. (Example: 3-Act Math Task Drip Dry. Students use the information time 8:30 water level 14cups, time 9:00 water level 12cups, and time 9:30 water level 10cups to make predictions on what time the cup will be empty.)</p> <p>8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world. (Example:</p>	

STEM Theme: Different Types of Phones. Students discuss the different types of technology they have used.)

CKLS:

9.1.2.PB.2: Explain why an individual would choose to save money. Saving money is a habit that can be developed. (Example: Pick a Project: Let's Go Shopping! Students set up a small store with items and make price tags for each item. students use dimes and pennies to purchase items.)

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Lesson 13-2 Students use different counting strategies they know to find the value of a group of coins)

UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS

Students will understand:

- The value of each coin varies. Each coin has a different value. The different values mean that it takes a different combination of each coin to make one dollar.
- The value of a group of pennies and dimes can be found by counting on by 10s and 1s.
- The hour hand tells the hour, and the minute hand tells the number of minutes before or after the hour when telling time on a clock.
- Time to the hour can be shown on an analog clock or on a digital clock and can be written in two ways: ___ o'clock or ___:00.
- Time can be given to the half hour.
- Good math thinkers know how to think about words and numbers to solve problems.

Essential Questions:

- What are the values of coins, and what are some different ways to tell time?
- What is the value of each kind of coin?
- How can you find the value of a group of coins?
- How do the hands on a clock show you that it is 5 o'clock?
- How do the two different types of clocks show the time to the hour?
- How can you show time to the half hour on two different types of clocks?
- How do you use reasoning to solve problems about a schedule?

STUDENT LEARNING OBJECTIVES

Key Knowledge

Process/Skills/Procedures/Application of Key Knowledge

<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> ● Cent ● Dime ● Dollar ● Nickel ● Quarter ● Penny ● Hour ● Hour hand ● Minute ● Minute hand ● O'clock ● Half hour 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ● Tell the value of a penny, nickel, dime, and quarter. ● Tell how much a group of coins is worth. ● Tell time to the hour. ● Tell time to the hour using analog and digital clocks. ● Tell time to the half hour. ● Use reasoning to tell and write time.
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ASSESSMENT OF LEARNING

<p>Summative Assessment (Assessment at the end of the learning period)</p>	<p>Unit 13 Topic Assessment</p>
<p>Formative Assessments (Ongoing assessments during the learning period to inform instruction)</p>	<ul style="list-style-type: none"> ● Anecdotal note-taking ● Analysis of student work ● Daily Review ● Vocabulary Review ● Math Practices Proficiency Rubric ● Topic performance tasks
<p>Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
<p>Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	<ul style="list-style-type: none"> ● Readiness Test ● Progress Monitoring Assessments ● Topics 1-4 Cumulative Benchmark Assessment ● Topics 1-8 Cumulative Benchmark Assessment ● Topics 1-12 Cumulative Benchmark Assessment ● Topics 1-15 Cumulative Benchmark Assessment

RESOURCES

Core instructional materials:

- enVision Mathematics Teacher's Edition Grade 1 Volume 2
- Student Workbook Grade 1 Volume 2
- Teacher's Resource Masters Grade 1 Volume 2
- [Online access](#)

Supplemental materials:

- [Additional Drive Resources](#)
- Number Talks
- Hands on Standards K-2
- <https://gfletchy.com/3-act-lessons/>

Modifications for Learners

[See appendix](#)

Topic/Unit 14 Title	Reason with Shapes and Their Attributes	Approximate Pacing	11 days May
STANDARDS			
NJSLS (Math)			
<p>1.G.A.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.</p> <p>1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p> <p>1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>1.G.A.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</p> <p>1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.NBT.B.2 a,b,c Understand that the two digits of a two-digit number represents amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones - called a "ten". b. The numbers from 11 to 19 are composed a ten and one, two , three, four, five, six, seven, eight, or nine tens (and 0 ones). c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two , three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>Standards for Mathematical Practice</p> <p>1 Make sense of problems and persevere in solving them.</p> <p>2 Reason abstractly and quantitatively.</p> <p>3 Construct viable arguments and critique the reasoning of others.</p> <p>4 Model with mathematics.</p> <p>5 Use appropriate tools strategically.</p> <p>6 Attend to precision.</p> <p>7 Look for and make use of structure.</p> <p>8 Look for and express regularity in repeated reasoning.</p>			
Interdisciplinary Connections:		CS & DT:	

<p>K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (Example: STEM Theme: Use Shapes to Build. In their journals, students draw different structures or buildings using shapes. Students discuss how the shape is important in its use.)</p> <p>6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions. (Example: Problem Solving Reading Mats: In the Park. Students discuss the different shapes they may see at the park.)</p>	<p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. (Example: Pick a Project. Students work in pairs or groups to design a strong tower out of shapes.)</p> <p>8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks (Example: Students code Botley to move in certain directions).</p>
CKLS:	
<p>9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (Example: Pick a Project. Students work in pairs or groups to design and build a robot.)</p> <p>9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. (Example: Pick a Project!. Students discuss different jobs that involve building, modeling, and designing.)</p>	
UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS	
<p><i>Students will understand:</i></p> <ul style="list-style-type: none"> ● Two-dimensional shapes have attributes that define them and make them different from one another. ● Two-dimensional shapes have attributes that define them and make them different from one another. These properties can be used to create shapes. ● Two-dimensional shapes can be combined to make new two-dimensional shapes. ● Three-dimensional shapes have attributes that define them and make them different from one another. ● Three-dimensional shapes can be combined to form other three-dimensional shapes or the shapes of common, everyday objects. ● Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck. <p><i>Essential Questions:</i></p> <ul style="list-style-type: none"> ● How can you define shapes and compose new shapes? ● How can you define a two-dimensional shape? ● What attributes do and do not define a shape? ● What information can help you to make a shape? ● How can you make a new shape by using other shapes? 	

- How can you use shapes to make a picture of an object?
- How do you define three-dimensional shapes?
- What attributes do and do not define a three-dimensional shape?
- How can you put 3-D shapes together to make another 3-D shape?
- How can you find the differences among various shapes?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> • Triangle • Hexagon • 2-D shapes • Attributes • Sides • Vertices • Rectangle • Square • Three-dimensional (3-D) shapes • Flat surfaces • Cylinder • Cone • Cube • Rectangular prism • Edges • Faces • Sphere 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Use attributes to describe shapes. • Define 2-D shapes by their attributes. • Use different materials to make shapes. • Put shapes together to make another shape. • Use shapes to make different shapes. • Define 3-D shapes by their number of edges, vertices, and faces or flat surfaces. • Choose the defining attributes of 3-D shapes. • Put 3-D shapes together to make another 3-D shape. • Find differences among various shapes.

ASSESSMENT OF LEARNING

<p>Summative Assessment (Assessment at the end of the learning period)</p>	<p>Unit 14 Topic Assessment</p>
<p>Formative Assessments (Ongoing assessments during the learning period to inform instruction)</p>	<ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review

	<ul style="list-style-type: none"> • Math Practices Proficiency Rubric • Topic performance tasks
Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	<ul style="list-style-type: none"> • Fluency Worksheet • 3-Act Math Task Recording Sheet • Today's Challenge • Convince Me!
Benchmark Assessments (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	<ul style="list-style-type: none"> • Readiness Test • Progress Monitoring Assessments • Topics 1-4 Cumulative Benchmark Assessment • Topics 1-8 Cumulative Benchmark Assessment • Topics 1-12 Cumulative Benchmark Assessment • Topics 1-15 Cumulative Benchmark Assessment
RESOURCES	
Core instructional materials:	
<ul style="list-style-type: none"> • enVision Mathematics Teacher's Edition Grade 1 Volume 2 • Student Workbook Grade 1 Volume 2 • Teacher's Resource Masters Grade 1 Volume 2 • Online access 	
Supplemental materials:	
<ul style="list-style-type: none"> • Additional Drive Resources • Number Talks • Hands on Standards K-2 • https://gfletchy.com/3-act-lessons/ • Botley the Robot 	
Modifications for Learners	
See appendix	

Topic/Unit 15 Title	Equal Shares of Circles and Rectangles	Approximate Pacing	7 days June
STANDARDS			
NJSLS (Math)			
<p>1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p> <p>Standards for Mathematical Practice. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 6 Attend to precision. 7 Look for and make use of structure.</p>			
Interdisciplinary Connections:		CS & DT:	
<p>K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (Example: STEM Theme: Wheels and Shapes. In their journals, students draw different objects that have wheels and describe the shapes they see.)</p> <p>Writing: W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers and add details to strengthen writing as needed (3-Act Math Task: Pieced Out. Students are asked to split a square into 4 right triangles. Students construct a model to show what the design would look like.)</p>		<p>8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. (Example: Students choose appropriate tools to help solve problems).</p>	
CKLS:			
<p>9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive). Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem. (3-Act Math Task: Pieced Out. Students are asked the following questions: what shapes can you use to make a square? Can you find another way to use shapes to make a square? and What kinds of designs can you make?)</p>			
UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS			

Students will understand:

- A shape can be divided into equal-sized shares in different ways.
- Shapes can be divided into equal parts called halves and quarters, or fourths.
- When dividing a whole into equal pieces, the smaller the pieces, the greater the number of pieces; the larger the pieces, the fewer the number of pieces.
- Good math thinkers use math they know to show and solve problems.

Essential Questions:

- What are some different names for equal shares?
- How do you know when a shape is divided into equal shares?
- When you divide a shape into 2 or 4 equal shares, how do you describe the shares?
- What can you say about the number of equal shares and the size of the equal shares of the same whole?
- How can drawing a picture help you solve a problem about equal shares?

STUDENT LEARNING OBJECTIVES

Key Knowledge	Process/Skills/Procedures/Application of Key Knowledge
<p style="text-align: center;"><i>Students will know:</i></p> <ul style="list-style-type: none"> • Equal shares • Halves • Fourths • Quarters 	<p style="text-align: center;"><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Determine whether shapes are divided into equal shares. • Divide shapes into 2 and 4 equal shares and use words to describe those shares. • Understand that more equal shares of the same whole create smaller shares. • Make a drawing or diagram to show a problem about equal shares.

ASSESSMENT OF LEARNING

<p>Summative Assessment (Assessment at the end of the learning period)</p>	<p>Unit 15 Topic Assessment</p> <ul style="list-style-type: none"> • Anecdotal note-taking • Analysis of student work • Daily Review • Vocabulary Review • Math Practices Proficiency Rubric • Topic performance tasks
<p>Formative Assessments (Ongoing assessments during the learning period to inform instruction)</p>	

<p>Alternative Assessments (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<ul style="list-style-type: none"> ● Fluency Worksheet ● 3-Act Math Task Recording Sheet ● Today's Challenge ● Convince Me!
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Modifications for Learners	
<p>See appendix</p>	