Grade: 1	Course: Math
Pacing: 10 weeks	
Unit: 1: Building Numbers and Making Sense of Math	**Big Idea:** **Chapter 1: Number Sense** **Chapter 2: Count by Tens and Ones** **Chapter 3: Compare Numbers** **Chapter 4: Addition Concepts** **Chapter 5: Subtraction Concepts**
Content Area NJSLS Performance Expectations Addressed	*Interdisciplinary Connections*
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. 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. 1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). 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.)* (Clarification: Students need not use formal terms for these properties.) 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. 1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or	**English Language Arts** - RI.CR.1.1: Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how). ● W.IW.1.2. With prompts and support, write informative/explanatory texts to examine a topic and convey ideas and information. - SL.PE.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. - L.VL.1.2. Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content. **Social Studies** 6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.

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.* ● 1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating to 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 = �.*
● 1.NBT.B.2 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.
● 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 >, =, and <.
● 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
  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).
● 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.
● 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.
● 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.

Standards for Mathematical Practice
- ● MP.1 Make sense of problems and persevere in solving them. ● MP.2 Reason abstractly and quantitatively.
- ● MP.3 Construct viable arguments and critique the reasoning of others.
- ● MP.4 Model with mathematics.
- ● MP.5 Use appropriate tools strategically.
- ● MP.6 Attend to precision.
- ● MP.7 Look for and make use of structure.
- ● MP.8 Look for and express regularity in repeated reasoning.

Computer Science and Design Thinking	*Career Readiness, Life Literacies, and Key Skills*
● 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. ● 8.1.2.AP.4: Break down a task into a sequence of steps. ● 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.	**21st Century Skills** ● 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). ● 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). **Technology** ● 9.4.2.DC.1: Explain differences between ownership and sharing of information. **Career Readiness, Life Literacies, and Key Skills Practices:** ● Use technology to enhance productivity, increase collaboration and communicate effectively. ● Demonstrate creativity and innovation.

Student Learning Objectives (SLO)

Students will be able to…
- ● add, using objects and drawings, to solve word problems involving situations of adding to and putting together. ● subtract, using objects and drawings, to solve world problems involving situations of taking from and taking apart.

- add and subtract, within 10, using properties of operations as strategies (commutative property).
- represent subtraction as an unknown addend problem.
- solve subtraction problems, <u>within 10</u>, using unknown addends
- count on to add.
- count back to subtract.
- determine if addition equations are true or false.
- determine if subtraction equations are true or false.
- determine the unknown number that makes an equation true.
- solve addition or subtraction equations by finding the missing whole number.
- count orally by ones <u>up to 100.</u>
- count up to 100 beginning at any number less than 100.
- read numerals up to 100.
- write numerals up to 100.
- represent a number of objects up to 100 with a written number.
- identify the value of the number in the tens or ones place.
- use the meaning of tens and ones digits to compare 2 two-digit numbers using >, =, and < symbols.

Academic Vocabulary
Symbol (unknowns), Commutative property/fact families, Unknown-addend problem, Counting, Add, Subtract, Equal sign, True and false statements, Expression, Number names and the count sequence up to 100, Greater than, Less than, Equal to

Essential Questions	Enduring Understandings
- How do pictures show adding to? - How do you model adding to a group? - How do you model putting together? - How do you solve addition problems by making a model? ● What happens when you add 0 to a number? - Why can you add addends in any order? - How can you show all the ways to make a number? - Why are some addition facts easy to add? - How can you show taking from with pictures? - How do you model taking from a group? - How do you model taking apart? - How do you solve subtraction problems by making a model?	- Pictures and models can help represent and solve addition problems by showing the combining of two or more groups. ● You can show adding to a group by using objects, drawings, or ten frames. - Putting together two groups is a way to understand and model addition. - Addends can be added in any order (commutative property), and the total stays the same. - You can show all the ways to make a number using different combinations of addends. - Numbers can be shown as groups of tens and ones.

- How can you use pictures to compare and subtract?
- How can you use models to compare and subtract?
- What happens when you subtract 0 from a number?
- How can you show all the ways to take apart a number? ● What happens if you change the order of the addends when you add?
- How do you count on 1, 2, or 3?
- How can you show a number as ten and ones?
- How can you model and name groups of ten?
- How can you group cubes to show a number as tens and ones? ● How can you show numbers to 100 as tens and ones? ● How can you compare two numbers to find which is greater? ● How can you compare two numbers to find which is less? ● How can you use symbols to show how numbers compare? ● How can making a model help you compare numbers?

- You can model numbers using base-ten blocks, linking cubes, ten frames, or drawings to understand place value.
- Grouping objects into tens helps you see patterns in numbers and understand their value more clearly
- Every two-digit number represents a certain number of tens and ones.
- Naming and modeling groups of ten helps build a foundation for understanding larger numbers.
- Naming and modeling groups of ten helps build a foundation for understanding larger numbers.
- Numbers up to 100 can be represented in multiple ways, but understanding tens and ones helps you compare, count, and organize them.
- Comparing numbers helps us decide which is greater or less based on how many tens and ones are in each number. ● You can use models, number lines, and drawings to compare two numbers more clearly.
- Symbols like >, <, and = help show how numbers relate to one another.
- Making a model helps you understand the value of each number, which makes comparing easier.
- When comparing two-digit numbers, look at the tens first; if the tens are the same, then compare the ones.

Core Instruction/Supplemental Materials	*Assessments*
● HMH Waggle Adaptive Learning Program ● Interactive Student Journal ● Student Journal from Go Math ● Reteach and Enrich resources from Go Math ● Vocabulary Cards	**Formative** ● Oral assessment ● Exit tickets **Summative** ● Skills assessment/Benchmarks

- Tabletop Flipchart
- "Math on the Spot" videos through HMH Go Math
- iTools from HMH Go Math
- HMH Go Math Supplemental Slides
- Math Readers from Go Math
- Boddle Math
- Reflex Math
- SumDog
- Prodigy
- Kahoot
- Quizizz
- Khan Academy
- iReady Learning Path and Lessons materials
- EnVision Math
- Teacher Created Materials
- 1.OA.A.1 Sharing Markers
- 1.OA.B.3 Domino Addition
- 1.OA.B.4 Cave Game Subtraction
- 1.OA.D.7 Equality Number Sentences
- 1.OA.D.8 Kiri's Mathematics Match Game
- 1.NBT.A.1 Hundred Chart Digit Game
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Alternative
- Centers/activities/games
- Performance assessment

Modifications/Differentiated Activities

Enrichment/Gifted and Talented
- Differentiated curriculum for the gifted learner.
- Regular classroom curricula and instruction that is adapted, modified, or replaced.
- Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials.
- Integrated G&T programming into the general education school day.
- Flexible groupings of students to facilitate differentiated instruction and curriculum. Learning Environments:

Multilingual Learners
- Alternate Responses
- Notes in Advance
- Extended Time
- Simplified Instruction (written and verbal)
- Online Dictionary
- Use lots of visuals
- Use physical activity; model, role-play
- Repeat/Rephrase often
- Use lower level materials when appropriate

- Extensive outside reading
- Active classroom discussion
- Innovative oral and written presentations
- Deductive and inductive reasoning
- Independent writing and research
- Divergent thinking
- Challenging problem solving situations
- Interactive, independent and interdisciplinary activities

Special Education
GENERAL MODIFICATIONS:
- Allow outlining, instead of writing for an essay or major project ● Computerized spell-check support
- Word bank of choices for answers to test questions
- Provision of calculator and/or number line for math tests ● Film or video supplements in place of reading text
- Reworded questions in simpler language
- Projects instead of written reports
- Highlighting important words or phrases in reading assignments ● Modified workload or length of assignments/tests
- Modified time demands
- Pass/no pass option
- Modified grades based on IEP

BEHAVIOR MODIFICATIONS:
- Breaks between tasks
- Cue expected behavior
- Daily feedback to student
- Use de-escalation strategies
- Use positive reinforcement
- Use proximity/touch control
- Use peer supports and mentoring
- Model expected behavior by adults
- Have parent sign homework/behavior chart
- Set and post class rules
- Chart progress and maintain data

At Risk (Intervention)
- Maximize use of community resources
- Connect family to school and school activities
- Support through transition
- Help develop compensating strategies
- Increase opportunity for positive peer group influences ● Supplemental courses
- Placement in small and interactive groups

| **Grade: 1** | **Course: Math** |

Pacing: 10 weeks	
Unit: 2: Addition and Subtraction Strategies and Relationships	**Big Idea:** **Chapter 6: Addition Strategies** **Chapter 7: Subtraction Strategies** **Chapter 8: More Addition Strategies** **Chapter 9: Addition and Subtraction** **Relationships Chapter 10: Two Digit Addition** **and Subtraction**
Content Area NJSLS Performance Expectations Addressed	*Interdisciplinary Connections*

● 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.
● 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.*
● 1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating to 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 = ◆.*
● 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.)* (Clarification: Students need not use formal terms for these properties.)
● 1.OA.C.6 Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 =
	English Language Arts
	  ● RI.CR.1.1: Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how). ● SL.PE.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
	  ● L.VL.1.2. Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content.
	Science
	  ● 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.

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).
- 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.
- 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.

Standards for Mathematical Practice
- MP.1 Make sense of problems and persevere in solving them. ● MP.2 Reason abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Computer Science and Design Thinking	*Career Readiness, Life Literacies, and Key Skills*

● 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
● 8.1.2.AP.4: Break down a task into a sequence of steps. ●
8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.
	21st Century Skills
	  ● 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).
	  ● 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
	Technology
	  ● 9.4.2.DC.1: Explain differences between ownership and sharing of information.
	Career Readiness, Life Literacies, and Key Skills Practices:

	● Use technology to enhance productivity, increase collaboration and communicate effectively. ● Demonstrate creativity and innovation.

Student Learning Objectives (SLO)

Students will be able to…
- add, using drawings and equations, to solve word problems involving situations of adding to and putting together. ● subtract, using drawings and equations, to solve world problems involving situations of taking from and taking apart.
- determine if addition equations are true or false
- determine if subtraction equations are true or false
- determine the unknown number that makes an equation true.
- solve addition or subtraction equations by finding the missing whole number.
- add and subtract, within 20, using properties of operations as strategies. (Associative Property)
- add and subtract within 20, using the following strategies:
  - counting on;
  - making ten;
  - composing numbers;
  - decomposing numbers leading to a ten;
  - relationship between addition and subtraction, and
  - creating equivalent but easier or known sums.
- fluently add or subtract whole numbers within 20.
- use *objects and drawings* to represent word problems that call for less than or equal to 20.
- organize objects, representing data, in up to three categories.
- represent data with objects, drawings, or numerals, in up to three categories.
- ask and answer questions about:
  - the total number of data points;
  - the number of data points in each category, and
  - how many more or less are in one category than in another.
- compose numbers to 20.
- decompose numbers to 20.
- count orally by ones up to 120.

- count up to 120 beginning at any number less than 120.
- read numerals up to 120.
- write numerals up to 120.
- represent a number of objects up to 120 with a written number.
- compose tens to make numbers up to 90.
- decompose numbers up to 90, into tens.
- identify the value of the number in the tens or ones place.
- use concrete models and drawings with a strategy based on place value to add a two-digit number and a one-digit number. ● use concrete models and drawings with properties of operations to add a two-digit number and a one-digit number. ● use concrete models and drawings with a strategy based on place value to add a two-digit number and a multiple of 10. ● use concrete models and drawings with properties of operations to add a two-digit number and a multiple of 10. ● explain or show how the model relates to the strategy.
- given a two-digit number, find 10 more than the number without counting.
- given a two-digit number, find 10 less than the number without counting.
- explain, given a two-digit number, how to find 10 more or ten less than the number without counting.
- use concrete models and drawings with a strategy based on place value to subtract a multiple of 10 from a multiple of 10 (both within the range 10-90).
- use concrete models and drawings with properties of operations to subtract a multiple of 10 from a multiple of 10 (both within the range 10-90).
- explain or show how the model relates to the strategy.

Academic Vocabulary

Addition, Sum, Equation, Subtraction, Difference, Equation, Unknown, Associative property, Equivalent, Compose, Decompose,

Essential Questions	Enduring Understandings
● What are doubles facts? ● How can you use doubles to help you add? ● How can you use what you know about doubles to find other sums? ● What strategies can you use to solve addition fact problems? ● How can you use a ten frame to add 10 and some more?	● Some addition facts are easier to solve because of patterns (e.g., doubles, making ten). ● Counting on from the greater number helps solve addition problems more efficiently. ● Doubles facts (like 4 + 4) are useful tools for solving other addition facts (e.g., 4 + 5 is one more than 4 + 4).

- How do you use the make a ten strategy to add?
- How can you make a ten to help you add?
- How can you add three addends?
- How can you group numbers to add three addends?
- How do you solve addition word problems by drawing a picture? ● How can you count back 1, 2, or 3?
- How can you use an addition fact to find the answer to a subtraction fact?
- How can you use addition to help you find the answer to a subtraction fact?
- How can you make a ten to help you subtract?
- How do you break apart a number to subtract?
- How can acting out a problem help you solve the problem? ● How can making a model help you solve a problem?
- How do related facts help you find missing numbers?
- How do you choose when to add and when to subtract to solve a problem?
- How can you add and subtract in different ways to make the same number?
- How can you decide if a number sentence is true or false? ● How can you use different ways to write a number as ten and ones?

- You can group numbers in different ways to add three addends.
- A ten frame helps you add by visualizing how to make ten and add more.
- The "make a ten" strategy helps when solving facts like 8 + 5 by breaking them into parts that form 10 first.
- Drawing a picture can help solve word problems by organizing the information visually
- You can solve the same addition problem in different ways using different strategies.
- Subtraction can be shown using pictures by taking away from a group.
- You can model taking apart a number to show subtraction. ● Subtracting zero does not change the number.
- Subtraction helps compare two amounts by finding how many more or how many fewer.
- Models like counters, drawings, and number lines can help you subtract and compare numbers.
- There are many ways to break apart numbers to show subtraction.
- Counting back 1, 2, or 3 is a strategy for solving simple subtraction facts
- Related facts (like fact families) help you use addition to find missing numbers in subtraction problems.
- You can use addition to solve subtraction problems when one part is missing.
- Making a ten can also help when subtracting numbers close to 10.
- Acting out a story or using objects can make a subtraction problem easier to understand.
- Making a model, drawing, or using manipulatives helps solve both addition and subtraction problems.
- Related facts (fact families) show how addition and subtraction are connected.
- You decide whether to add or subtract by understanding what the problem is asking.

	● There is more than one way to add or subtract to get the same result. ● Number sentences can be true or false, and you can test them by solving or modeling the problem.
Core Instruction/Supplemental Materials	***Assessments***

● HMH Waggle Adaptive Learning Program
● Interactive Student Journal
● Student Journal from Go Math
● Reteach and Enrich resources from Go Math
● Vocabulary Cards
● Tabletop Flipchart
● "Math on the Spot" videos through HMH Go Math
● iTools from HMH Go Math
● HMH Go Math Supplemental Slides
● Math Readers from Go Math
● Boddle Math
● Reflex Math
● SumDog
● Prodigy
● Kahoot
● Quizizz
● Khan Academy
● iReady Learning Path and Lessons materials
● EnVision Math
● Teacher Created Materials
● 1.OA.A.1 School Supplies
● 1.OA.D.7 Valid Equalities?
● 1.OA.D.8 Find the Missing Number
● 1.OA.B.3 Doubles?
● 1.OA.C.6 $20 Dot Map
● 1.OA.A.2 Daisies in vases
● 1.NBT.B.2 Roll & Build
	Formative
	   ● Oral assessment
	   ● Exit tickets
	   ● Quizzes
	Summative
	   ● Tests
	   ● Skills assessment/Benchmarks
	Alternative
	   ● Centers/activities/games
	   ● Performance assessments

- [1.NBT.B.3 Ordering Numbers](#)
- [1.NBT.A.1 Start/Stop Counting 2](#)

Modifications/Differentiated Activities

Enrichment/Gifted and Talented
- Differentiated curriculum for the gifted learner.
- Regular classroom curricula and instruction that is adapted, modified, or replaced.
- Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials.
- Integrated G&T programming into the general education school day.
- Flexible groupings of students to facilitate differentiated instruction and curriculum.

Learning Environments:
- Extensive outside reading
- Active classroom discussion
- Innovative oral and written presentations
- Deductive and inductive reasoning
- Independent writing and research
- Divergent thinking
- Challenging problem solving situations
- Interactive, independent and interdisciplinary activities

Multilingual Learners
- Alternate Responses
- Notes in Advance
- Extended Time
- Simplified Instruction (written and verbal)
- Online Dictionary
- Use lots of visuals
- Use physical activity; model, role-play
- Repeat/Rephrase often
- Use lower level materials when appropriate

Special Education
GENERAL MODIFICATIONS:
- Allow outlining, instead of writing for an essay or major project ● Computerized spell-check support
- Word bank of choices for answers to test questions
- Provision of calculator and/or number line for math tests ● Film or video supplements in place of reading text
- Reworded questions in simpler language
- Projects instead of written reports
- Highlighting important words or phrases in reading assignments

At Risk (Intervention)
- Maximize use of community resources
- Connect family to school and school activities
- Support through transition
- Help develop compensating strategies
- Increase opportunity for positive peer group influences ● Supplemental courses
- Placement in small and interactive groups

● Modified workload or length of assignments/tests
● Modified time demands
● Pass/no pass option
● Modified grades based on IEP
BEHAVIOR MODIFICATIONS:
    ● Breaks between tasks
    ● Cue expected behavior
    ● Daily feedback to student
    ● Use de-escalation strategies
    ● Use positive reinforcement
    ● Use proximity/touch control
    ● Use peer supports and mentoring
    ● Model expected behavior by adults
    ● Have parent sign homework/behavior chart
    ● Set and post class rules
    ● Chart progress and maintain data	

Grade: 1	**Course: Math**
Pacing: 6 weeks	
Unit: 3: Measurement and Data	**Big Idea:** **Chapter 11: Money** **Chapter 15: Measurement** **Chapter 16: Time** **Chapter 17: Graphing Data**
Content Area NJSLS Performance Expectations Addressed	*Interdisciplinary Connections*

- 1.M.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- 1.M.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.
- 1.M.B.3 Tell and write time in hours and half-hours using analog and digital clocks.
- 1.M.C.4 Know the comparative values of coins and all dollar bills (e.g., a dime is of greater value than a nickel). Use appropriate notation (e.g., 69¢, $10).
- 1.M.C.5 Use dollars in the solutions of problems up to $20. Find equivalent monetary values (e.g., a nickel is equivalent in value to five pennies). Show monetary values in multiple ways. For example, show 25¢ as two dimes and one nickel, and as five nickels. Show $20 as two tens and as 20 ones.
- 1.OA.C.6 Add and subtract within 20, demonstrating accuracy and efficiency 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 -

English Language Arts
- RI.CR.1.1: Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how). ● SL.PE.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- L.VL.1.2. Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content.

Science
- 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.

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).
- 1.DL.A.1 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.

Standards for Mathematical Practice
- MP.2 Reason abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Computer Science and Design Thinking	*Career Readiness, Life Literacies, and Key Skills*

● 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
● 8.1.2.AP.4: Break down a task into a sequence of steps. ● 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.
	21st Century Skills
	  ● 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).
	  ● 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
	Technology
	  ● 9.4.2.DC.1: Explain differences between ownership and sharing of information.
	  Career Readiness, Life Literacies, and Key Skills Practices: ● Use technology to enhance productivity, increase collaboration and communicate effectively.
	  ● Demonstrate creativity and innovation.

Student Learning Objectives (SLO)

Students will be able to…
- compare the length of two objects.
- compare the length of two objects by using a third object as a measuring tool.
- order three objects by length.
- lay multiple copies of a shorter object (the length unit) end to end.
- use a shorter object to express the length of a longer object.
- tell and write time in hours using analog and digital clocks.
- tell and write time in half-hours using analog and digital clocks.
- use the term *o'clock* in reporting time to the hour.
- recognize and state the values of pennies, nickels, dimes, quarters, and dollar bills up to $20.
- compare the values of different coins and dollar bills.
- use appropriate notation when describing the value of money.
- show the same monetary value in multiple ways.
- add and subtract within 20 (including problems involving money), using the following strategies:
  - counting on;
  - making ten;
  - composing numbers;
  - decomposing numbers;
  - relationship between addition and subtraction, and
  - creating equivalent but easier or known sums.
- fluently add or subtract whole numbers within 20.

Academic Vocabulary
Compose, Decompose, Place value, Addition, Subtraction, Equivalent, Hour, One-digit, Two-digit

Essential Questions	Enduring Understandings
● How do you order objects by length? ● How can you compare lengths of three objects to put them in order? ● How do you measure length using nonstandard units? ● How do you use a nonstandard measuring tool to measure length?	● Objects can be compared and ordered by length using appropriate vocabulary such as shorter, longer, and taller. ● Length can be measured using nonstandard units when standard units are not available, and tools must be used consistently for accuracy.

● How can acting it out help you solve measurement problems? ● How do you tell time to the hour on a clock that only has an hour hand? ● How do you tell time to the half hour on a clock that has only an hour hand? ● How are the minute hand and hour hand different for time to the hour and time to the half hour? ● How do you know whether to draw and write time to the hour or half hour? ● What do the pictures in a picture graph show? How do you make a picture graph to answer a question? ● How can you read a bar graph to find the numbers that a bar shows? ● How does a bar graph help you compare information? ● How do you count the tallies on a tally chart? ● Why is a tally chart a good way to show information that you have collected? ● How can showing information in a graph help you solve problems?	● Measuring involves aligning the tool correctly and avoiding gaps or overlaps. ● Acting out measurement problems helps visualize and understand comparison and ordering concepts. ● Comparing the lengths of three or more objects involves understanding and applying the concept of transitivity (if A > B and B > C, then A > C). ● Time can be shown on a clock face using hour and minute hands, which serve different purposes. ● The hour hand helps tell time to the hour and half hour, even when no minute hand is present. ● Understanding the placement and movement of the hands helps distinguish between time to the hour and time to the half hour. ● Drawing and writing time involves matching visual clock representations with written time expressions. ● Picture graphs and bar graphs represent data visually and help answer questions about quantities. ● Each picture or bar in a graph corresponds to a certain number of items, which can be counted and compared. ● Tally charts are an efficient way to organize and count data using groups of five. ● Graphs and charts help compare data, reveal patterns, and solve problems based on collected information.
Core Instruction/Supplemental Materials	*Assessments*
● HMH Waggle Adaptive Learning Program ● Interactive Student Journal ● Student Journal from Go Math ● Reteach and Enrich resources from Go Math ● Vocabulary Cards ● Tabletop Flipchart ● "Math on the Spot" videos through HMH Go Math ● iTools from HMH Go Math	**Formative** ● Oral assessment ● Exit tickets ● Quizzes **Summative** ● Tests ● Skills assessment/Benchmarks **Alternative**

- HMH Go Math Supplemental Slides - Math Readers from Go Math - Boddle Math - Reflex Math - SumDog - Prodigy - Kahoot - Quizizz - Khan Academy - iReady Learning Path and Lessons materials - EnVision Math - Teacher Created Materials 1.NBT.C.4 Ford and Logan Add 45+36 1.NBT.C.5 Number Square 1.M.A.2 Measure Me! 1.M.A.2 Measuring Blocks 1.M.A.2 Growing Bean Plants 1.M.B.3 Making a clock 1.OA.C.6 Making a ten ○	- Centers/activities/games - Performance assessments

Modifications/Differentiated Activities

Enrichment/Gifted and Talented - Differentiated curriculum for the gifted learner. - Regular classroom curricula and instruction that is adapted, modified, or replaced. - Educational opportunities consisting of a continuum of differentiated curricular options, instructional approaches and materials. - Integrated G&T programming into the general education school day. - Flexible groupings of students to facilitate differentiated instruction and curriculum. Learning Environments:	**Multilingual Learners** - Alternate Responses - Notes in Advance - Extended Time - Simplified Instruction (written and verbal) - Online Dictionary - Use lots of visuals - Use physical activity; model, role-play - Repeat/Rephrase often - Use lower level materials when appropriate

- Extensive outside reading
- Active classroom discussion
- Innovative oral and written presentations
- Deductive and inductive reasoning
- Independent writing and research
- Divergent thinking
- Challenging problem solving situations
- Interactive, independent and interdisciplinary activities

Special Education
GENERAL MODIFICATIONS:
- Allow outlining, instead of writing for an essay or major project ● Computerized spell-check support
- Word bank of choices for answers to test questions
- Provision of calculator and/or number line for math tests ● Film or video supplements in place of reading text
- Reworded questions in simpler language
- Projects instead of written reports
- Highlighting important words or phrases in reading assignments ● Modified workload or length of assignments/tests
- Modified time demands
- Pass/no pass option
- Modified grades based on IEP

BEHAVIOR MODIFICATIONS:
- Breaks between tasks
- Cue expected behavior
- Daily feedback to student
- Use de-escalation strategies
- Use positive reinforcement
- Use proximity/touch control
- Use peer supports and mentoring
- Model expected behavior by adults
- Have parent sign homework/behavior chart
- Set and post class rules
- Chart progress and maintain data

At Risk (Intervention)
- Maximize use of community resources
- Connect family to school and school activities
- Support through transition
- Help develop compensating strategies
- Increase opportunity for positive peer group influences ● Supplemental courses
- Placement in small and interactive groups

| Grade: 1 | Course: Math |

Pacing: 6 weeks	
Unit: 4: Geometry and Fraction Concepts	**Big Idea:** **Chapter 12: 2 Dimensional Solids** **Chapter 13: 2 Dimensional Shapes** **Chapter 14: Fraction Concepts**
Content Area NJSLS Performance Expectations Addressed	*Interdisciplinary Connections*

● 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.
   ● 1.G.A.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and 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. (Clarification: Students do not need to learn formal names such as "right rectangular prism.")
● 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
● 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.
   ● 1.OA.C.6 Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies
	English Language Arts
	   ● RI.CR.1.1: Ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how). ● SL.PE.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
	   ● L.VL.1.2. Ask and answer questions to determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content.
	Social Studies
	   ● 6.1.2.CivicsPD.1: Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.

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).
- 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.
- 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.

Standards for Mathematical Practice
- MP.1 Make sense of problems and persevere in solving them. ● MP.2 Reason abstractly and quantitatively.
- MP.3 Construct viable arguments and critique the reasoning of others.
- MP.4 Model with mathematics.
- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

Computer Science and Design Thinking	*Career Readiness, Life Literacies, and Key Skills*
● 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. ● 8.1.2.AP.4: Break down a task into a sequence of steps.	**21st Century Skills** ● 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).

● 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.	● 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). **Technology** ● 9.4.2.DC.1: Explain differences between ownership and sharing of information. **Career Readiness, Life Literacies, and Key Skills Practices:** ● Use technology to enhance productivity, increase collaboration and communicate effectively. ● Demonstrate creativity and innovation.

Student Learning Objectives (SLO)

Students will be able to…
- name attributes that define two-dimensional shapes (square, triangle, rectangle, regular hexagon).
- name attributes that do define not two-dimensional shapes.
- build and draw shapes when given defining attributes.
- create a composite shape using two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles). ● create a composite shape using three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders).
- compose *new* shapes from the *composite* shapes.
- partition circles and rectangles into two or four equal shares.
- distinguish equal shares from those that are not equal.
- describe shares using the words halves, fourths, and quarters.
- describe the relationship between the whole and the share using the phrases *half of*, *fourth of*, and *quarter of*. ● describe the whole as *two of*, or *four of* the shares.
- decompose a whole into a greater number of equal shares and identify the new shares as smaller.
- add, using objects and drawings, to solve word problems involving situations of adding to and putting together. ● subtract, using objects and drawings, to solve world problems involving situations of taking from and taking apart.
- add and subtract <u>within 20</u>, using the following strategies:
    − counting on;
    − making ten;
    − composing numbers;
    − decomposing numbers;

- − relationship between addition and subtraction, and
- − creating equivalent but easier or known sums.
- ● fluently add or subtract whole numbers within 20.
- ● count orally by ones up to 120.
- ● count up to 120 beginning at any number less than 120.
- ● read numerals up to 120.
- ● write numerals up to 120.
- ● represent a number of objects up to 120 with a written number.
- ● use concrete models and drawings with a strategy based on place value to add a two-digit number and a one-digit number. ● use concrete models and drawings with properties of operations to add a two-digit number and a one-digit number. ● use concrete models and drawings with a strategy based on place value to add a two-digit number and a multiple of 10. ● use concrete models and drawings with properties of operations to add a two-digit number and a multiple of 10. ● explain or show how the model relates to the strategy.

Academic Vocabulary

Square, Triangle, Rectangle, Hexagon, Two-dimensional, Trapezoid, Circle, Cube, Prism, Cone, Cylinder, Three-dimensional, Compose, Halves, Fourths, Quarters, Addition, Subtraction, Decompose, Sum, Difference, Place value

Essential Questions	Enduring Understandings
● How can you identify and describe three dimensional shapes? ● How can you combine three-dimensional shapes to make new shapes? ● How can you use a combined shape to build new shapes? ● How can acting it out help you take apart combined shapes? ● What two-dimensional shapes do you see on the flat surfaces of three-dimensional shapes? ● How can you use attributes to classify and sort two-dimensional shapes? ● What attributes can you use to describe two-dimensional shapes? ● How can you put two-dimensional shapes together to make new two-dimensional shapes?	● Three-dimensional shapes have faces, edges, and vertices that help us describe and identify them. ● Three-dimensional shapes can be combined to form new shapes or structures. ● Two-dimensional shapes can be seen on the flat faces of three-dimensional shapes. ● Two-dimensional shapes have defining attributes such as the number of sides and corners. We can combine or take apart shapes in different ways to create new shapes or figures. ● Acting out or modeling shapes helps us better understand how shapes are formed, changed, or taken apart.

• How can you combine two-dimensional shapes to make new shapes? How can acting it out help you make new shapes from combined shapes? • How can you find shapes in other shapes? • How can you take apart two-dimensional shapes? • How can you identify equal and unequal parts in two-dimensional shapes? • How can a shape be separated into two equal shares? • How can a shape be separated into four equal shares?	• Sorting and classifying shapes by their attributes helps us understand how they are alike and different. • Shapes can be built and changed by putting smaller shapes together or taking them apart. • We can find shapes hidden within other shapes by closely observing and analyzing their parts. • Equal parts mean the parts are the same size, and this helps us begin to understand fractions • A shape can be divided into halves (2 equal parts) or fourths/quarters (4 equal parts). • We can describe parts of a whole using words like half, fourth, and quarter, even when we don't use numbers.
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• iTools from HMH Go Math
• HMH Go Math Supplemental Slides
• Math Readers from Go Math
• Boddle Math
• Reflex Math
• SumDog
• Prodigy
• Kahoot
• Quizizz
• Khan Academy
• iReady Learning Path and Lessons materials
• EnVision Math
• Teacher Created Materials
• 1.G.A.1 All vs. Only some
	Formative
	  • Oral assessment
	  • Exit tickets
	  • Quizzes
	Summative
	  • Tests
	  • Skills assessment/Benchmarks
	Alternative
	  • Centers/activities/games
	  • Performance assessments

- [1.G.A.1 3-D Shape Sort](#)
- [1.G.A.2 Make Your Own Puzzle](#)
- [1.G.A.2 Overlapping Rectangles](#)
- [1.G.A.3 Equal Shares](#)
- [1.OA.A.1 Twenty Tickets](#)
- [1.NBT.A.1 Where Do I Go?](#)

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- Regular classroom curricula and instruction that is adapted, modified, or replaced.
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