



# Grade 1

# Math Curriculum

Oradell Public School District  
Oradell, NJ

2023

The Grade 1 Math Curriculum was developed by the Oradell Math Curriculum Team and aligned with the New Jersey Student Learning Standards (NJSLS).

# Oradell Public School District

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## **Board Policy**

This revision is aligned with the New Jersey Student Learning Standards for Mathematics, the New Jersey Student Learning Standards for Computer Science and Design Thinking, the New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills, and the inclusion of connections to Social-Emotional Learning Competencies.

## **Affirmative Action**

During the development of this course of study, particular attention was paid to the elimination or exclusion of any materials which might discriminate on the basis of race, color, national origin, ancestry, age, sex, affectional or sexual orientation, gender identity or expression, marital status, familial status, genetic information, mental or physical disabilities, or in educational opportunities. Every effort has been made to uphold both the letter and spirit of Affirmative Action mandates as applied to the content, the texts and the instruction inherent in this course.

## **Introduction to Teaching Mathematics**

For more than a decade, research studies of mathematics education in high-performing countries have concluded that mathematics education in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on this promise, the New Jersey Student Learning Standards (NJSLS) in Mathematics were designed to address the problem of a curriculum that is “a mile wide and an inch deep (Common Core State Standards Initiative, 2019).”

The new standards build on the best of high-quality math standards from states across the country. They also draw on the most important international models for mathematical practice, as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators, parents and students, and members of the public.

The math standards provide clarity and specificity rather than broad general statements. They follow a design that not only stresses conceptual understanding of key ideas but also the organizing principles such as place value and the laws of arithmetic to structure those ideas.

In addition, the sequence of topics and performances outlined in the body of math standards respects what is known about how students learn, namely, that developing sequenced obstacles and challenges for students, absent from the insights about meaning that derive from careful study, is unwise. Therefore, the development of the standards began with research-based learning progressions detailing what is known today about how students’ mathematical knowledge, skill, and understanding develop over time. The knowledge and skills students need to be prepared for mathematics in college, career, and life are woven throughout the mathematics standards.

These standards define what students should understand and be able to do in their study of mathematics. Additionally, this curriculum is written around the Standards for Mathematical Practice. These standards describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem-solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

Teachers are required to assess understanding by asking the student to justify, in a way that is appropriate to the student’s mathematical maturity, why a particular mathematical statement is true or where a mathematical rule comes from. Mathematical understanding and procedural skill are equally important, and both are assessed by using mathematical tasks of sufficient richness. The assessments contained in this curriculum document reflect the level of rigor represented in the state-level assessments and the NJ state Model Curriculum for Math. They serve as guideposts for teachers in determining the level of preparedness

students need to reach. This curriculum document will continue to evolve as teachers plan their lessons and gather more resources to teach the units.

## **All About the Mathematics Curriculum**

### **How was the curriculum developed?**

The Oradell Public School District's curriculum consists of units that have been inspired by the New Jersey Student Learning Standards — Mathematics. The main professional resource teachers use is *Go Math! by Houghton Mifflin Harcourt Publishing Company*. Teachers are encouraged to collaborate to create additional lessons and formative assessments for the whole group, small-group, and individual conferences.

Each unit contains enduring understandings and essential questions with corresponding teaching points. Enduring understandings are statements summarizing important ideas and core processes that are central to math and have lasting value beyond the classroom. They synthesize what students should understand—not just know or do—as a result of studying a particular unit. Moreover, they articulate what students should “revisit” over the course of their lifetimes in relationship to the content area. Essential questions are broad questions with many answers. They encourage transfer beyond the specific skill or topic students are studying and should recur over many years to promote curriculum coherence and real-world connections. In math, a teaching point addresses both the skill and strategy that will be practiced in a given math class. The teaching points in the math curriculum are meant to build student skills over the unit and are chosen based on the assessment of combined skills.

### **Modifications**

The modifications section at the end of each bend is meant to help guide the differentiation of the units for students with IEPs, English Language Learners, Tier 2 At-Risk students (students in Basic Skills) and Gifted and Talented students. Carol Ann Tomlinson defines differentiation as tailoring instruction to meet individual needs. Whether teachers differentiate content, process, products, or the learning environment, the use of ongoing assessment and flexible grouping makes this a successful approach to instruction. At its most basic level, differentiation consists of the efforts of teachers to respond to variance among learners in the classroom. Whenever a teacher reaches out to an individual or small group to vary his or her teaching in order to create the best learning experience possible, that teacher is differentiating instruction (Tomlinson, 2000).

Teachers can differentiate at least four classroom elements based on student readiness, interest, or learning profile:

1. Content: what the student needs to learn or how the student will get access to the information
2. Process: activities in which the student engages in order to make sense of, or master the content
3. Products: culminating projects that ask the student to rehearse, apply, and extend what he or she has learned in a unit
4. Learning environment: the way the classroom works and feels

### **Our Math Philosophy**

We believe in a Guided Math approach to the teaching of math. We develop mathematicians to become thinkers and to develop strategies to become global citizens. We believe that students need access to real-world problems and experiences. We believe that students need time, choice, and feedback to be

successful. Partnered with explicit instruction in mathematics content, a strategy-based curriculum promotes math behaviors and skills that contribute to strategic thinking, accurate problem solving and extending mathematical learning to new situations.

## **What is the Guided Math Framework?**

To help teachers build capacity by expanding their repertoire of instructional strategies, many educational leaders may consider the implementation of Guided Math (Sammons, 2010 and 2013).

This framework offers a wide selection of instructional strategies from which teachers can choose - all of which engage students in challenging mathematical instruction. The flexibility of the framework permits teachers to adapt it to align with their own teaching styles and to meet the needs of their students. When implemented, Guided Math instruction may vary from week to week and from classroom to classroom (Sammons, 2013).

The components of a Guided Math approach are as follows:

- Math Warm-Ups
- Whole-Class Instruction
- Small-Group Instruction
- Math Workshop
- Math Conferences
- Assessment

## **Components Guided Math Workshop**

### **Math Warm-Ups**

While setting a mathematical tone for the day, Math Warm-Ups at the beginning of a day or a class period also provide valuable ongoing mathematical practice for students. Calendar board activities and Math Stretches may serve as brief Warm-Ups for students. Warm-Ups also provide opportunities for students to learn about current event connections to mathematics and to assume classroom responsibilities that reinforce mathematical skills.

### **Whole-Class Instruction**

This more traditional instructional mode is an option for teachers to deliver mini lessons, conduct math-related read-alouds, and model mathematical thinking. Whole-Class Instruction is also valuable for Math Huddle discussions as follow-ups to Math Stretch tasks. Additionally, this format can be used for review, class mathematical games, and activating strategies. Working together in these ways is important in establishing a sense of mathematical community.

### **Small-Group Instruction**

At the heart of the framework is Small-Group Instruction with groups in which the composition is fluid and based upon previously identified, specific instructional needs. These Small-Group lessons allow teachers to more easily differentiate instruction and to help students develop proficiency in the mathematical practices as described by the New Jersey State Learning Standards for Mathematics.

In addition, the intimate nature of Small-Group lessons enables teachers to maximize student engagement (both hands-on and minds-on), to conduct ongoing informal formative assessment, and to closely monitor understanding while students are working. Because teachers are able to respond immediately when misconceptions are observed or move forward with greater challenges when understanding is evident, instruction is more efficient than traditional whole-class lessons. In spite of the fact that these lessons are usually much shorter in duration, greater student understanding of concepts and skills is achieved.

### **Math Workshop**

During Math Workshop, students work independently on math workstation tasks that provide practice of previously mastered concepts and skills, promote computational fluency, or challenge students to engage in mathematical investigations. Playing math games is a common component of Math Workshop, but not the only option. Paper and pencil tasks may be included, as well as tasks that require documenting mathematical thinking in math journals. Students learn to assume responsibility for working independently during Math Workshop. This allows teachers to teach small-group lessons and conduct conferences with individual students.

### **Math Conferences**

These one-on-one conversations between a teacher and a student are important assessment and teaching tools. Students explain their mathematical thinking related to the work at hand while teachers ask clarifying questions, assess student understanding, and determine the students' next steps in learning. Specific, targeted, and brief teaching points are delivered during these conversations. Students practice mathematical communication skills as they are encouraged to self-assess their progress toward their own mathematical learning goals.

### **Assessment**

Essential to the Guided Math framework is balanced and timely assessment, especially formative assessment. Knowing students' learning needs allows teachers to plan lessons so that students receive "just right" instruction. That may require instruction that fills gaps in knowledge and skills for some students or provides additional challenges for others. Only by knowing specific needs when learning is occurring can teachers maximize their effectiveness.

Born on Date: July 2017

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## Suggested Pacing Guide for Math Grade 1

| Unit | Approximate Months   | Unit  | Skills  |
|------|----------------------|---|---|
| 1    | 2 months<br>Sept-Oct | <a href="#">Addition and Subtraction Concepts</a>                     | Model addition and subtraction within 10.   |
| 2    | 2 months<br>Nov-Dec  | <a href="#">Addition and Subtraction Strategies and Relationships</a> | Solve addition and subtraction within 20.<br>Relate addition and subtraction facts.                           |
| 3    | 2 months<br>Jan-Feb  | <a href="#">Numbers and Operations in Base 10</a>                     | Count and Model Numbers<br>Compare Numbers using Place Value<br>Two-Digit Addition and Subtraction within 100 |
| 4    | 2 months<br>Mar-Apr  | <a href="#">Measurement and Data</a>                                  | Measure Length<br>Tell Time to the Hour and Half Hour<br>Represent Data                                       |
| 5    | 2 months<br>May-Jun  | <a href="#">Geometry</a>  | Identify and Describe Three-Dimensional Shapes<br>Identify and Describe Two-Dimensional Shapes                |



# 1st Grade Math Curriculum

## Unit 1: Number Sense and Place Value

Refer to Go Math! Chapters 1-2

### Unit Overview

In this unit, students will extend understanding of base-ten notation by using place value to find the values of numbers and describe numbers in different ways. Teachers will begin modeling a 2-digit number with base-ten blocks to build understanding that a 2-digit number can be named in its expanded form as the sum of its tens and ones.

### Enduring Understandings

- Adding to and putting together are two situations that involve addition.
- Taking from, taking apart and comparing are three situations that involve subtraction.
- Unknowns can be used in all positions when solving problems (i.e. the start, the addend or change, or the sum or difference might be unknown).
- Sums and differences can be found using models (i.e. tens frames, base ten blocks). • Three numbers can be added in any order and the sum will be the same.
- Situations in word problems can be represented in equations that include an equal sign and a symbol for an unknown.

### Essential Questions

- What are some ways to think about representing addition and subtraction problems?
- What are ways to distinguish between addition and subtraction problems?
- What strategies can be used to solve addition and subtraction problems?

### Assessments

| Possible Formative Assessments   |
|--|
| <ul style="list-style-type: none"><li>• Teacher Observation</li><li>• Student Participation</li><li>• One-to-One Conferring</li><li>• Small Strategy Groups</li><li>• LinkIt! Progress Reports</li><li>• DreamBox Progress Reports</li></ul> |
| Summative Assessments  |
| <ul style="list-style-type: none"><li>• Chapter Quizzes &amp; Tests</li><li>• Student Self-Reflection by Chapter</li><li>• Chapter Performance Tasks (as appropriate)</li><li>• Online Math Activity Scores</li></ul>                        |
| Benchmark Assessments  |
| <ul style="list-style-type: none"><li>• Go Math Gr. 1 Beginning of the Year Assessment</li></ul>   |

## Alternative Assessments

- Modified Unit Assessment
- Modified Chapter Assessment

## Standards (NJSLs) Addressed in this Unit

### Operations and Algebraic Thinking 2.OA

#### A. Represent and solve problems involving addition and subtraction.

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.

#### B. Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.3 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.) {Students need not use formal terms for these properties}

#### C. Add and subtract within 20.

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  $6 + 6 + 1 = 12 + 1 = 13$ ).

#### D. Work with addition and subtraction equations.

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  $8 + ? = 11$ ,  $5 = \diamond - 3$ ,  $6 + 6 = \diamond$ .

### Computer Science and Design Thinking

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. (Creating passwords and using DreamBox )

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

### Career Readiness, Life Literacies, and Key Skills

#### LIFE LITERACIES AND KEY 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)

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).

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).

#### PRACTICES

- CLKSP1 Act as a responsible and contributing community member and employee.
- CLKSP4 Demonstrate creativity and innovation.
- CLKSP5 Utilize critical thinking to make sense of problems and persevere in solving them.
- CLKSP8 Use technology to enhance productivity, increase collaboration, and communicate effectively.

### Interdisciplinary Connections:

#### English Language Arts

##### **Reading**

- **RL.1.1** Ask and answer questions about key details in a text.

##### **Writing**

- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

##### **Speaking and Listening**

- **SL.1.1** Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups.

##### **Science**

- **1-LS3-1** Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.

### 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 & 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.

## Unit 1: Number Sense and Place Value

### Addition Concepts

- Use pictures to “add to” and find sums.
- Use concrete objects to solve “adding to” addition problems.
- Use concrete objects to solve “putting together” addition problems.
- Solve adding to and putting together situations using the strategy to make *a model*.
- Understand and apply the Additive Identity Property for Addition.
- Explore the Commutative Property of Addition.
- Model and record all the ways to put together numbers within 10.
- Build fluency for addition within 10.
- Learn how to log into Dreambox and navigate between the different games and lessons.

## Subtraction Concepts

- Use pictures to show “taking from” and find differences.
- Use concrete objects to solve “taking from” subtraction problems.
- Use concrete objects to solve “taking apart” subtraction problems.
- Solve taking from and taking apart subtraction problems using the strategy *make a model*.
- Compare pictorial groups to understand subtraction.
- Model and compare groups to show the meaning of subtraction.
- Identify how many are left when subtracting all or 0.
- Model and record all of the ways to take apart numbers within 10.
- Build fluency for subtraction within 10.

## Unit Specific Vocabulary

Addition sentence  
is equal to  
plus  
sum  
add  
zero  
addends  
orders

minus  
difference  
subtraction sentence  
subtract  
compare  
fewer  
more

## Suggested Modifications and Accommodations

*These strategies can be adapted to scaffold for students needing more support or extend the learning for higher level students. Differentiation is accomplished through content, process, product, and learning environment.*

## Instructional Materials and Learning Activities

### Core Instructional Materials:

- *Go Math 1* © 2015 - Houghton Mifflin Harcourt
  - Teacher Edition, Student Workbooks, Unit Assessments, Student Reference Book, Activity Cards, Blackline Masters

### Supplemental Materials:

- Digital Resources:
  - *Think Central*® Digital (<https://www-k6.thinkcentral.com>)
    - ebooks, eToolkit, eTeacher’s Manual, eStudent Books, online resources
  - Online Practice Assignments (Includes but not limited to: IXL, Xtra Math)
  - [Grade 1 - eGlossary](#)
  - DreamBox

## Special Education Students

- Use various methods to understand a student's learning style, i.e.- observation, surveys, conferring.
- Ask students to recall what they have already learned in ways that activate prior knowledge and build on that knowledge.
- Model problem-solving processes.
- Model productive and engaging partner talk.
- Provide direct instruction and/or think aloud for clarity.
- Build and/or use anchor charts with students and continually refer to them while teaching.
- Provide opportunities for students to turn and talk.
- Use modeling and manipulatives.
- Provide graphic organizers and graph paper.
- Use step-by-step how-to sheets to guide student problem-solving.
- Refer to student IEP goals and modifications.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Provide frequent breaks.
- Use a problem [solving plan](#) to organize mathematical thinking.
- Incorporate [place value charts](#) into small group lessons.

## Students at Risk

- Use the reteach component of Go Math! lesson in small group settings.
- Shorten assignments.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Allow student to orally construct their response.
- Provide frequent breaks.
- [Making a Ten - BrainPop Jr.](#)
- [Basic Adding - BrainPop Jr.](#)
- [Basic Subtraction - BrainPop Jr.](#)

## English Language Learners

- [Grade 1 - eGlossary](#)
- Allow use of a bilingual dictionary.
- Allow use of handheld translator.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.

- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.

### Gifted and Talented

- Provide opportunities to lead discussion.
- Use flexible grouping.
- *Enrichment* activities
- Enrichment Activity Cards
- Challenge/higher level questioning
- Use projects, such as the Real World and STEM projects from Go Math!

### Students with 504 Plans:

- *Reteach* lesson
- Modification of journal pages.
- Use of manipulatives, counters and number grid, and vocabulary picture cards.
- Quick Look Cards to provide experience decomposing numbers.
- Have children use craft sticks to represent and solve problems.
- Extended time & think time
- Prompting
- Reassurance
- Preferential seating
- Repeated directions
- Behavior chart to increase focus and work completion
- Sensory breaks with timers

### Social-Emotional Learning Competencies

- **Self-Awareness:** ability to recognize one's emotions and know one's strengths and limitations
  - Connections:
    - Reflecting on one's learning (Oral, Thumbs Up, Thumbs Down, Pictures, etc.)
- **Self-Management:** ability to regulate and control one's emotions and behaviors, particularly in stressful situations
  - Connections:
    - Visit the mindfulness/cool down corner in the classroom for self-soothing activities (Squishy ball, sand timer, fidget popper, etc.)
- **Social Awareness:** ability to take the perspective of others, demonstrate empathy, acknowledge and appreciate similarities and differences, and understand how one's actions influence and are influenced by others
  - Connections:

- Students collaborate and help each other during math centers
- **Relationship Skills:** refers to one's ability to demonstrate prosocial skills and behaviors in order to develop meaningful relationships and resolve interpersonal conflicts
  - Connections:
    - Class discussions
    - Incentives for individual students and small groups
- **Responsible Decision-Making:** refers to the ability to use multiple pieces of information to make ethical and responsible decisions
  - Connections:
    - Class rules and routines
    - Class discussions
    - Following directions for math centers

# 1st Grade Math Curriculum

## Unit 2: Addition and Subtraction Strategies and Relationships

Refer to Go Math! Chapters 3-5

### Unit Overview

In this unit, students will use addition strategies such as applying the Associative Property, doubles, doubles plus 1 and make a ten to add. They will also use their knowledge of related addition and subtraction facts when they use addition to solve subtraction. Students will use concrete references such as connecting cubes to communicate to their peers about related facts, different ways to build numbers, and the Commutative Property of Addition.

### Enduring Understandings

- Addition and subtraction have an inverse relationship and can be used to solve problems and check answers.
- The inverse relationship between addition and subtraction means that every subtraction fact has a related addition fact.

### Essential Questions

- What are models that can effectively demonstrate addition or subtraction?
- How can the relationship between addition and subtraction help solve problems and check answers?

### Assessments

| Possible Formative Assessments   |
|--|
| <ul style="list-style-type: none"><li>• Teacher Observation</li><li>• Student Participation</li><li>• One-to-One Conferencing</li><li>• Small Strategy Groups</li><li>• LinkIt! Progress Reports</li><li>• DreamBox Progress Reports</li></ul> |
| Summative Assessments  |
| <ul style="list-style-type: none"><li>• Chapter Quizzes &amp; Tests</li><li>• Student Self-Reflection by Chapter</li><li>• Chapter Performance Tasks (as appropriate)</li><li>• Online Math Activity Scores</li></ul>                          |
| Alternative Assessments  |
| <ul style="list-style-type: none"><li>• Modified Unit Assessment</li><li>• Modified Chapter Assessment</li></ul>   |



## Standards (NJSLs) Addressed in this Unit

### Operations and Algebraic Thinking 1.OA

#### A. Represent and solve problems involving addition and subtraction.

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.
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.

#### B. Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.3 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.) {Students need not use formal terms for these properties}
4. Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8.

#### C. Add and subtract within 20.

5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
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  $6 + 6 + 1 = 12 + 1 = 13$ ).

#### D. Work with addition and subtraction equations.

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?  $6 = 6$ ,  $7 = 8 - 1$ ,  $5 + 2 = 2 + 5$ ,  $4 + 1 = 5 + 2$ .
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  $8 + ? = 11$ ,  $5 = \diamond - 3$ ,  $6 + 6 = \diamond$ .

### Computer Science and Design Thinking

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. (Creating passwords and using DreamBox )

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

### Career Readiness, Life Literacies, and Key Skills

#### LIFE LITERACIES AND KEY 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)

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).

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

## **PRACTICES**

- CLKSP1 Act as a responsible and contributing community member and employee.
- CLKSP4 Demonstrate creativity and innovation.
- CLKSP5 Utilize critical thinking to make sense of problems and persevere in solving them.
- CLKSP8 Use technology to enhance productivity, increase collaboration, and communicate effectively.

## **Interdisciplinary Connections:**

### **English Language Arts**

#### ***Reading***

- **RL.1.1** Ask and answer questions about key details in a text.

#### ***Speaking and Listening***

- **SL.1.1** Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups.
- **SL.1.2** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

#### ***Writing***

- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

## **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 & 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.

## Unit 2: Addition and Subtraction Strategies and Relationships

### Suggested Teaching Points

#### Addition Strategies

##### *Students will...*

- Understand and apply the Commutative Property of Addition for sums within 20.
- Use count on 1, 2, or 3 as a strategy to find sums within 20.
- Use doubles as a strategy to solve addition facts with sums within 20.
- Use doubles to create equivalent but easier sums.
- Use doubles plus 1 and doubles minus 1 as strategies to find sums within 20.
- Use the strategies count on, doubles, doubles plus 1, and doubles minus 1 to practice addition facts within 20.
- Use a ten frame to add 10 and an addend less than 10.
- Use make a ten as a strategy to find sums within 20.
- Use numbers to show how to use the make a ten strategy to add.
- Use the Associative Property of Addition to add three addends.
- Understand and apply the Associative Property or Commutative Property of Addition to add three addends.
- Solve adding to and putting together situations using the strategy draw a picture.

#### Subtraction Strategies

##### *Students will...*

- Use count back 1, 2, or 3 as a strategy to subtract.
- Recall addition facts to subtract numbers within 20.
- Use addition as a strategy to subtract numbers within 20.
- Use make a 10 as a strategy to subtract.
- Subtract by breaking apart to make a ten.
- Solve subtraction problem situations using the strategy act it out.

#### Addition and Subtraction Relationships

##### *Students will...*

- Solve addition and subtraction problem situations using the strategy make a model.
- Record related facts within 20.
- Identify related addition and subtraction facts within 20.
- Apply the inverse relationship of addition and subtraction.
- Use related facts to determine unknown numbers.
- Use a related fact to subtract.
- Choose an operation and strategy to solve an addition or subtraction word problem.
- Represent equivalent forms of numbers using sums and differences within 20.
- Determine if an equation is true or false.
- Add and subtract facts within 20 and demonstrate fluency for addition and subtraction within 10

## Unit Specific Vocabulary

count on  
count back  
doubles  
doubles minus one  
doubles plus one

make a ten  
related facts

## Suggested Modifications and Accommodations

*These strategies can be adapted to scaffold for students needing more support or extend the learning for higher level students. Differentiation is accomplished through content, process, product, and learning environment.*

## Instructional Materials and Learning Activities

### Core Instructional Materials:

- *Go Math 1* © 2015 - Houghton Mifflin Harcourt
  - Teacher Edition, Student Workbooks, Unit Assessments, Student Reference Book, Activity Cards, Blackline Masters

### Supplemental Materials:

- Digital Resources:
  - *Think Central*® Digital (<https://www-k6.thinkcentral.com>)
    - ebooks, eToolkit, eTeacher's Manual, eStudent Books, online resources
  - Online Practice Assignments (Includes but not limited to: IXL, Xtra Math)
  - [Grade 1 - eGlossary](#)
  - DreamBox

## Special Education Students

- Use various methods to understand a student's learning style, i.e.- observation, surveys, conferring.
- Ask students to recall what they have already learned in ways that activate prior knowledge and build on that knowledge.
- Model problem-solving processes.
- Model productive and engaging partner talk.
- Provide direct instruction and/or think aloud for clarity.
- Build and/or use anchor charts with students and continually refer to them while teaching.
- Provide opportunities for students to turn and talk.
- Use modeling and manipulatives.
- Provide graphic organizers and graph paper.
- Use step-by-step how-to sheets to guide student problem-solving.
- Refer to student IEP goals and modifications.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Provide frequent breaks.

- [Use a problem solving plan](#) to organize mathematical thinking.
- Incorporate [place value charts](#) into small group lessons.

### Students at Risk

- Use the reteach component of Go Math! lesson in small group settings.
- Shorten assignments.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Allow student to orally construct their response.
- Provide frequent breaks.
- [Addition and Subtraction Fact Families - BrainPop Jr.](#)
- [Basic Addition - BrainPop Jr.](#)
- [Basic Subtraction - BrainPop Jr.](#)
- [Doubles - BrainPop Jr.](#)

### English Language Learners

- [Grade 1 - eGlossary](#)
- Allow use of bilingual dictionary.
- Allow use of handheld translator.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Set a writing goal for assignment and then focus only on that goal.

### Gifted and Talented

- Provide opportunities to lead discussion.
- Use flexible grouping.
- *Enrichment* activities
- Enrichment Activity Cards
- Challenge/higher level questioning
- Use projects, such as the Real World and STEM projects from Go Math!

### Students with 504 Plans:

- *Reteach* lesson
- Modification of journal pages.
- Use of manipulatives, counters and number grid, and vocabulary picture cards.
- Quick Look Cards to provide experience decomposing numbers.
- Have children use craft sticks to represent and solve problems.
- Extended time & think time

- Prompting
- Reassurance
- Preferential seating
- Repeated directions
- Behavior chart to increase focus and work completion
- Sensory breaks with timers

## Social-Emotional Learning Competencies

- **Self-Awareness**: ability to recognize one's emotions and know one's strengths and limitations
  - Connections:
    - Reflecting on one's learning (Oral, Thumbs Up, Thumbs Down, Pictures, etc.)
- **Self-Management**: ability to regulate and control one's emotions and behaviors, particularly in stressful situations
  - Connections:
    - Visit the mindfulness/cool down corner in the classroom for self-soothing activities (Squishy ball, sand timer, fidget popper, etc.)
- **Social Awareness**: ability to take the perspective of others, demonstrate empathy, acknowledge and appreciate similarities and differences, and understand how one's actions influence and are influenced by others
  - Connections:
    - Students collaborate and help each other during math centers
- **Relationship Skills**: refers to one's ability to demonstrate prosocial skills and behaviors in order to develop meaningful relationships and resolve interpersonal conflicts
  - Connections:
    - Class discussions
    - Incentives for individual students and small groups
- **Responsible Decision-Making**: refers to the ability to use multiple pieces of information to make ethical and responsible decisions
  - Connections:
    - Class rules and routines
    - Class discussions
    - Following directions for math centers

# 1st Grade Math Curriculum

## Unit 3: Numbers and Operations in Base 10

Refer to Go Math! Chapters 6-8

### Unit Overview

In this unit, students will model, count, and group to develop their understanding of place value. They apply their knowledge to solve addition and subtraction problems that strengthen place value concepts as they group tens with tens and ones with ones. Students will also deepen their understanding and use of language such as “is greater than,” “is less than,” and “is equal to” as they learn to relate, compare, and order numbers. Students will also use a variety of formal and informal models (e.g., writing equations, using counting chips, developing their own drawings) to complete two digit addition and subtraction.

### Enduring Understandings

- Understanding place value can be useful in solving multi-digit addition and subtraction problems.
- Understanding the properties of addition and subtraction can be useful in solving multi-digit addition and subtraction problems.
- Understanding the inverse relationship between addition and subtraction can be useful in solving multidigit addition and subtraction problems.
- When adding or subtracting 10 to a two-digit number, only the digit in the tens place changes.
- Adding or subtracting groups of tens is similar to adding and subtracting less than ten.
- Concrete models, such as base ten blocks, and drawings can be useful in solving multi-digit addition and subtraction problems.

### Essential Questions

- What are strategies to add and subtract with tens and ones?
- What is a mental strategy to add or subtract 10 from a given two digit number without having to count?
- What are strategies to add and subtract multiples of 10 with two-digit numbers?
- What does a good written explanation look like?

### Assessments

#### Possible Formative Assessments

- Teacher Observation
- Student Participation
- One-to-One Conferencing
- Small Strategy Groups
- LinkIt! Progress Reports
- DreamBox Progress Reports

## Summative Assessments

- Chapter Quizzes & Tests
- Student Self-Reflection by Chapter
- Chapter Performance Tasks (as appropriate)
- Online Math Activity Scores

## Benchmark Assessments

- Go Math Gr. 1 Middle of the Year Assessment

## Alternative Assessments

- Modified Unit Assessment
- Modified Chapter Assessment

## Standards (NJSLs) Addressed in this Unit

### Number and Operations in Base Ten 1.NBT

#### **A. Extend the counting sequence.**

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.

#### **B. Understand place value.**

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.
  - 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).
3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ .

#### **C. Use place value understanding and properties of operations to add and subtract.**

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.
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
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.



## Computer Science and Design Thinking

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. (Creating passwords and using DreamBox )

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

## Career Readiness, Life Literacies, and Key Skills

### LIFE LITERACIES AND KEY 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)

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).

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

### PRACTICES

- CLKSP1 Act as a responsible and contributing community member and employee.
- CLKSP4 Demonstrate creativity and innovation.
- CLKSP5 Utilize critical thinking to make sense of problems and persevere in solving them.
- CLKSP8 Use technology to enhance productivity, increase collaboration, and communicate effectively.

## Interdisciplinary Connections:

### English Language Arts

#### *Reading*

- **RL.1.1** Ask and answer questions about key details in a text.

#### *Writing*

- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

#### *Speaking and Listening*

- **SL.1.1** Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups.

## 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 & 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.

## Unit 3: Numbers and Operations in Base 10

### Suggested Teaching Points

Born on Date: July 2017

Revised on Date: July 2022

Annual Revision: OPS BOE Approval September 2023

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## Count and Model Numbers

### *Students will...*

- Count by ones to extend a counting sequence up to 120.
- Count by tens from any number to extend a counting sequence up to 120.
- Use models and write to represent equivalent forms of ten and ones.
- Use objects, pictures, and numbers to represent a ten and some ones.
- Use objects, pictures, and numbers to represent tens.
- Group objects to show numbers to 50 as tens and ones.
- Group objects to show numbers to 100 as tens and ones.
- Solve problems using the strategy make a model.
- Read and write numerals to represent a number of 100 to 110 objects.
- Read and write numerals to represent a number of 110 to 120 objects.

## Compare Numbers

### *Students will...*

- Model and compare two-digit numbers to determine which is greater.
- Model and compare two-digit numbers to determine which is less.
- Use symbols for is less than “<”, is greater than “>”, and is equal to “=” to compare numbers.
- Solve problems using the strategy make a model.
- Identify numbers that are 10 more or 10 less than a given number.

## Two-Digit Addition and Subtraction

### *Students will...*

- Add and subtract within 20.
- Draw a model to add tens.
- Draw a model to subtract tens.
- Use a hundred chart to find sums.
- Use concrete models to add ones or tens to a two-digit number.
- Make a ten to add a two-digit number and a one-digit number.
- Use tens and ones to add two-digit numbers.
- Solve and explain two-digit addition word problems using the strategy draw a picture.
- Use a hundred chart to find sums and differences.
- Add and subtract within 100, including continued practice with facts within 20.

## Unit Specific Vocabulary

digit  
ones  
ten  
hundred

is greater than >  
is less than <

## Suggested Modifications and Accommodations

Born on Date: July 2017

Revised on Date: July 2022

Annual Revision: OPS BOE Approval September 2023

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*These strategies can be adapted to scaffold for students needing more support or extend the learning for higher level students. Differentiation is accomplished through content, process, product, and learning environment.*

## Instructional Materials and Learning Activities

### Core Instructional Materials:

- *Go Math 1* © 2015 - Houghton Mifflin Harcourt
  - Teacher Edition, Student Workbooks, Unit Assessments, Student Reference Book, Activity Cards, Blackline Masters

### Supplemental Materials:

- Digital Resources:
  - *Think Central*® Digital (<https://www-k6.thinkcentral.com>)
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  - Online Practice Assignments (Includes but not limited to: IXL, Xtra Math)
  - [Grade 1 - eGlossary](#)
  - DreamBox

## Special Education Students

- Use various methods to understand a student's learning style, i.e.- observation, surveys, conferring.
- Ask students to recall what they have already learned in ways that activate prior knowledge and build on that knowledge.
- Model problem-solving processes.
- Model productive and engaging partner talk.
- Provide direct instruction and/or think aloud for clarity.
- Build and/or use anchor charts with students and continually refer to them while teaching.
- Provide opportunities for students to turn and talk.
- Use modeling and manipulatives.
- Provide graphic organizers and graph paper.
- Use step-by-step how-to sheets to guide student problem-solving.
- Refer to student IEP goals and modifications.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Provide frequent breaks.
- [Use a problem solving plan](#) to organize mathematical thinking.
- Incorporate [place value charts](#) into small group lessons.

## Students at Risk

- Use the reteach component of *Go Math!* lesson in small group settings.
- Shorten assignments.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.

- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Allow student to orally construct their response.
- Provide frequent breaks.
- [Comparing Numbers - BrainPop Jr.](#)
- [Adding and Subtracting 10 - BrainPop Jr.](#)
- [Addition and Subtraction Fact Families - BrainPop Jr.](#)
- [Counting On - BrainPop Jr.](#)
- [Understand Addition - IXL 1.B](#)
- [Understand Addition - IXL 1.F](#)

### English Language Learners

- [Grade 1 - eGlossary](#)
- Allow use of a bilingual dictionary and or handheld translator.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Set a writing goal for assignment and then focus only on that goal.

### Gifted and Talented

- Provide opportunities to lead discussion.
- Use flexible grouping.
- *Enrichment* activities
- Enrichment Activity Cards
- Challenge/higher level questioning
- Use projects, such as the Real World and STEM projects from Go Math!

### Students with 504 Plans:

- *Reteach* lesson
- Modification of journal pages.
- Use of manipulatives, counters and number grid, and vocabulary picture cards.
- Quick Look Cards to provide experience decomposing numbers.
- Have children use craft sticks to represent and solve problems.
- Extended time & think time
- Prompting
- Reassurance
- Preferential seating
- Repeated directions
- Behavior chart to increase focus and work completion
- Sensory breaks with timers

## Social-Emotional Learning Competencies

- **Self-Awareness**: ability to recognize one's emotions and know one's strengths and limitations
  - Connections:
    - Reflecting on one's learning (Oral, Thumbs Up, Thumbs Down, Pictures, etc.)
  
- **Self-Management**: ability to regulate and control one's emotions and behaviors, particularly in stressful situations
  - Connections:
    - Visit the mindfulness/cool down corner in the classroom for self-soothing activities (Squishy ball, sand timer, fidget popper, etc.)
  
- **Social Awareness**: ability to take the perspective of others, demonstrate empathy, acknowledge and appreciate similarities and differences, and understand how one's actions influence and are influenced by others
  - Connections:
    - Students collaborate and help each other during math centers
  
- **Relationship Skills**: refers to one's ability to demonstrate prosocial skills and behaviors in order to develop meaningful relationships and resolve interpersonal conflicts
  - Connections:
    - Class discussions
    - Incentives for individual students and small groups
  
- **Responsible Decision-Making**: refers to the ability to use multiple pieces of information to make ethical and responsible decisions
  - Connections:
    - Class rules and routines
    - Class discussions
    - Following directions for math centers

# 1st Grade Math Curriculum

## Unit 4: Measurement and Data

Refer to Go Math! Chapters 9-10

### Unit Overview

In this unit, students will explore the attribute of length, first using informal or nonstandard tools to represent the attribute of length. These tools include objects such as connecting cubes and paper clips. Students will also use bar graphs and picture graphs to provide opportunities to discuss the story the data tell by posing questions, collecting, organizing, representing, and analyzing data

### Enduring Understandings

- The length of an object is measurable.
- Objects can be compared and ordered by length.
- The length of any object can be used as a measurement unit for length (ie. paperclip), but a standardized unit such as an inch or centimeter is always the same length.
- Time can be recorded on analog and digital clocks.
- On an analog clock, the hour hand tells the hour, and the minute hand tells the number of minutes after the hour.
- Time to the hour can be shown on an analog clock or a digital clock and can read as “\_o’clock” and be written in two ways: \_o’clock or \_:00.

### Essential Questions

- How can objects be measured, compared and ordered by length?
- What is the process for comparing and ordering three objects by length?
- What units of measure can be used for measuring length?
- How can time be recorded?
- How can picture graphs and bar graphs be used to represent data sets?
- How can bar graphs be used in solving simple addition and subtraction problems?
- Some questions can be answered by collecting and analyzing data.
- Data can be represented visually using graphs.
- Real graphs, picture graphs and bar graphs make it easy to compare data.

### Assessments

#### Possible Formative Assessments

- Teacher Observation
- Student Participation
- One-to-One Conferring
- Small Strategy Groups
- LinkIt! Progress Reports
- DreamBox Progress Reports

#### Summative Assessments

Born on Date: July 2017

Revised on Date: July 2022

Annual Revision: OPS BOE Approval September 2023

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- Chapter Quizzes & Tests
- Student Self-Reflection by Chapter
- Chapter Performance Tasks (as appropriate)
- Online Math Activity Scores

### Alternative Assessments

- Modified Unit Assessment
- Modified Chapter Assessment

## Standards (NJSLs) Addressed in this Unit

### Measurement and Data 1.MD

#### A. Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
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.

#### B. Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

#### C. Represent and interpret data.

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.

### Computer Science and Design Thinking

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. (Creating passwords and using DreamBox )

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design

8.1.2.AP.4 - Break down a task into a sequence of steps

### Career Readiness, Life Literacies, and Key Skills

#### LIFE LITERACIES AND KEY 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)

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).

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

## PRACTICES

- CLKSP1 Act as a responsible and contributing community member and employee.
- CLKSP4 Demonstrate creativity and innovation.
- CLKSP5 Utilize critical thinking to make sense of problems and persevere in solving them.
- CLKSP8 Use technology to enhance productivity, increase collaboration, and communicate effectively.

## Interdisciplinary Connections

### English Language Arts

#### **Reading**

- **RL.1.1** Ask and answer questions about key details in a text.

#### **Writing**

- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

#### **Speaking and Listening**

- **SL.1.1** Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups.

## 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 & 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.

## Unit 4: Measurement and Data

### Suggested Teaching Points

#### Measurement

##### **Students will...**

- Order objects by length.
- Use the Transitivity Principle to measure indirectly.
- Measure length using nonstandard units.
- Make a nonstandard measuring tool to measure length.
- Solve measurement problems using the strategy act it out.
- Write times to the hour shown on analog clocks.
- Write times to the half hour shown on analog clocks.
- Tell times to the hour and half hour using analog and digital clocks.
- Use the hour hand to draw and write times on analog and digital clocks.

#### Represent Data



**Students will...**

- Analyze and compare data shown in a picture graph where each symbol represents one.
- Make a picture graph where each symbol represents one and interpret the information.
- Analyze and compare data shown in a bar graph.
- Make a bar graph and interpret the information.
- Analyze and compare data shown in a tally chart.
- Make a tally chart and interpret the information.
- Solve problem situations using the strategy make a graph

**Unit Specific Vocabulary**

longest  
shortest  
minute hand  
minutes  
hour hand  
half hour  
hour

picture graph  
bar graph  
tally chart  
tally mark

**Suggested Modifications and Accommodations**

*These strategies can be adapted to scaffold for students needing more support or extend the learning for higher level students. Differentiation is accomplished through content, process, product, and learning environment.*

**Instructional Materials and Learning Activities***Core Instructional Materials:*

- *Go Math 1* © 2015 - Houghton Mifflin Harcourt
  - Teacher Edition, Student Workbooks, Unit Assessments, Student Reference Book, Activity Cards, Blackline Masters

*Supplemental Materials:*

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    - ebooks, eToolkit, eTeacher's Manual, eStudent Books, online resources
  - Online Practice Assignments (Includes but not limited to: IXL, Xtra Math)
  - [Grade 1 - eGlossary](#)
  - DreamBox

*Supplemental Resources:*

- STEAM Integration: UNIT 3 - The Road to ?

**Special Education Students**

- Use various methods to understand a student's learning style, i.e.- observation, surveys, conferring.
- Ask students to recall what they have already learned in ways that activate prior knowledge and build on that knowledge.
- Model problem-solving processes.
- Model productive and engaging partner talk.

- Provide direct instruction and/or think aloud for clarity.
- Build and/or use anchor charts with students and continually refer to them while teaching.
- Provide opportunities for students to turn and talk.
- Use modeling and manipulatives.
- Provide graphic organizers and graph paper.
- Use step-by-step how-to sheets to guide student problem-solving.
- Refer to student IEP goals and modifications.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Provide frequent breaks.
- [Use a problem solving plan](#) to organize mathematical thinking.
- Incorporate [place value charts](#) into small group lessons.

### Students at Risk

- Use the reteach component of Go Math! lesson in small group settings.
- Shorten assignments.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Allow student to orally construct their response.
- Provide frequent breaks.
- [Nonstandard Measurement - BrainPop Jr.](#)
- [Tally Chart and Bar Graphs - BrainPop Jr.](#)
- [Picture Graphs - BrainPop Jr.](#)
- [Parts of a Clock - BrainPop Jr.](#)
- [Time to the Hour - BrainPop Jr.](#)
- [Time to the Quarter Hour and Half Hour - BrainPop Jr.](#)
- [Skill-based Independent Practice - IXL](#)

### English Language Learners

- [Grade 1 - eGlossary](#)
- Allow use of a bilingual dictionary.
- Allow use of handheld translator.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Set a writing goal for the assignment and then focus only on that goal.

## Gifted and Talented

- Provide opportunities to lead discussion.
- Use flexible grouping.
- *Enrichment* activities
- Enrichment Activity Cards
- Challenge/higher level questioning
- Use projects, such as the Real World and STEM projects from Go Math!

## Students with 504 Plans:

- *Reteach* lesson
- Modification of journal pages.
- Use of manipulatives, counters and number grid, and vocabulary picture cards.
- Quick Look Cards to provide experience decomposing numbers.
- Have children use craft sticks to represent and solve problems.
- Extended time & think time
- Prompting
- Reassurance
- Preferential seating
- Repeated directions
- Behavior chart to increase focus and work completion
- Sensory breaks with timers

## Social-Emotional Learning Competencies

- **Self-Awareness**: ability to recognize one's emotions and know one's strengths and limitations
  - Connections:
    - Reflecting on one's learning (Oral, Thumbs Up, Thumbs Down, Pictures, etc.)
- **Self-Management**: ability to regulate and control one's emotions and behaviors, particularly in stressful situations
  - Connections:
    - Visit the mindfulness/cool down corner in the classroom for self-soothing activities (Squishy ball, sand timer, fidget popper, etc.)
- **Social Awareness**: ability to take the perspective of others, demonstrate empathy, acknowledge and appreciate similarities and differences, and understand how one's actions influence and are influenced by others
  - Connections:
    - Students collaborate and help each other during math centers
- **Relationship Skills**: refers to one's ability to demonstrate prosocial skills and behaviors in order to develop meaningful relationships and resolve interpersonal

conflicts

- Connections:
  - Class discussions
  - Incentives for individual students and small groups
  
- **Responsible Decision-Making**: refers to the ability to use multiple pieces of information to make ethical and responsible decisions
  - Connections:
    - Class rules and routines
    - Class discussions
    - Following directions for math centers

## Unit 5: Geometry

Refer to Go Math! Chapters 11-12

### Unit Overview

In this unit, students will classify shapes several ways. For example, all cubes are rectangular prisms because cubes must have all square flat surfaces, and squares are rectangles. They will also compose and decompose shapes. Additionally, students will focus on attributes such as straight sides and the number of vertices.

### Enduring Understandings

- Shapes can be defined by various attributes.
- “Defining” attributes can include the concepts of open or closed, and number of sides and corners. “Non-defining” attributes can include such attributes as color, orientation and size.
- Shapes can be combined to make new shapes.
- Two-dimensional shapes are “flat” while three-dimensional shapes are “solid”.

### Essential Questions

- What are “defining” and “non-defining” attributes when describing shapes?
- How can two and three-dimensional shapes be described, built, and drawn?
- How can two and three-dimensional shapes be combined to make other shapes?

### Assessments

| Possible Formative Assessments   |
|--|
| <ul style="list-style-type: none"><li>• Teacher Observation</li><li>• Student Participation</li><li>• One-to-One Conferring</li><li>• Small Strategy Groups</li><li>• LinkIt! Progress Reports</li><li>• DreamBox Progress Reports</li></ul> |
| Summative Assessments  |
| <ul style="list-style-type: none"><li>• Chapter Quizzes &amp; Tests</li><li>• Student Self-Reflection by Chapter</li><li>• Chapter Performance Tasks (as appropriate)</li><li>• Online Math Activity Scores</li></ul>                        |
| Benchmark Assessments  |
| <ul style="list-style-type: none"><li>• Go Math Gr. 1 End of the Year Assessment</li></ul>   |
| Alternative Assessments  |
| <ul style="list-style-type: none"><li>• Modified Unit Assessment</li><li>• Modified Chapter Assessment</li></ul>   |

## Standards (NJSLs) Addressed in this Unit

### Geometry 1.G

#### A. Reason with shapes and their attributes.

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.
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.
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.

### Computer Science and Design Thinking

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. (Creating passwords and using DreamBox )

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

### Career Readiness, Life Literacies, and Key Skills

#### LIFE LITERACIES AND KEY 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)

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).

9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

#### PRACTICES

- CLKSP1 Act as a responsible and contributing community member and employee.
- CLKSP4 Demonstrate creativity and innovation.
- CLKSP5 Utilize critical thinking to make sense of problems and persevere in solving them.
- CLKSP8 Use technology to enhance productivity, increase collaboration, and communicate effectively.

### Interdisciplinary Connections

#### English Language Arts

##### **Reading**

- **RL.1.1** Ask and answer questions about key details in a text.

##### **Writing**

- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

### **Speaking and Listening**

- **SL.1.1** Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups.

### **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 & 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.

## **Unit 5: Geometry**

### **Suggested Teaching Points**

#### **Three-Dimensional Geometry**

##### **Students will...**

- Identify and describe three-dimensional shapes according to defining attributes.
- Compose a new shape by combining three-dimensional shapes.
- Use composite three-dimensional shapes to build new shapes.
- Identify three-dimensional shapes used to build a composite shape using the strategy act it out.
- Identify two-dimensional shapes on three-dimensional shapes.

#### **Two- Dimensional Geometry**

##### **Students will...**

- Use defining attributes to sort shapes.
- Describe attributes of two-dimensional shapes.
- Use objects to compose new two-dimensional shapes.
- Compose a new shape by combining two-dimensional shapes.
- Make new shapes from composite two-dimensional shapes using the strategy act it out.
- Decompose combined shapes into shapes.
- Decompose two-dimensional shapes into parts.
- Identify equal and unequal parts (or shares) in two-dimensional shapes.
- Partition circles and rectangles into two equal shares.
- Partition circles and rectangles into four equal shares.

#### **Unit Specific Vocabulary**

cone  
cube  
curved surface  
cylinder  
flat surface

triangles  
vertices  
equal parts  
equal shares  
unequal parts

|   |   |
|---|---|
| rectangular prism<br>sphere<br>hexagon<br>trapezoid<br>circles<br>rectangles<br>sides<br>square | unequal shares<br>half of<br>halves<br>fourth of<br>fourths<br>quarter of<br>quarters |
|---|---|

**Suggested Modifications and Accommodations**

*These strategies can be adapted to scaffold for students needing more support or extend the learning for higher level students. Differentiation is accomplished through content, process, product, and learning environment.*

**Instructional Materials and Learning Activities**

*Core Instructional Materials:*

- *Go Math 1* © 2015 - Houghton Mifflin Harcourt
  - Teacher Edition, Student Workbooks, Unit Assessments, Student Reference Book, Activity Cards, Blackline Masters

*Supplemental Materials:*

- Digital Resources:
  - *Think Central*® Digital (<https://www-k6.thinkcentral.com>)
    - ebooks, eToolkit, eTeacher’s Manual, eStudent Books, online resources
  - Online Practice Assignments (Includes but not limited to: IXL, Xtra Math)
  - [Grade 1 - eGlossary](#)
  - DreamBox

**Special Education Students**

- Use various methods to understand a student’s learning style, i.e.- observation, surveys, conferring.
- Ask students to recall what they have already learned in ways that activate prior knowledge and build on that knowledge.
- Model problem-solving processes.
- Model productive and engaging partner talk.
- Provide direct instruction and/or think aloud for clarity.
- Build and/or use anchor charts with students and continually refer to them while teaching.
- Provide opportunities for students to turn and talk.
- Use modeling and manipulatives.
- Provide graphic organizers and graph paper.
- Use step-by-step how-to sheets to guide student problem-solving.
- Refer to student IEP goals and modifications.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Provide frequent breaks.
- [Use a problem solving plan](#) to organize mathematical thinking.



- Incorporate [place value charts](#) into small group lessons.

### Students at Risk

- Use the reteach component of Go Math! lesson in small group settings.
- Shorten assignments.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Allow student to orally construct their response.
- Provide frequent breaks.
- [3D Shapes - BrainPop Jr.](#)
- [Flat Shapes - BrainPop Jr.](#)
- [Basic Parts of a Whole - BrainPop Jr.](#)
- [Halves and Fourths Practice - Khan Academy](#)
- [Telling Time Practice - Khan Academy](#)
- [Independent Skill Practice - IXL](#)

### English Language Learners

- [Grade 1 - eGlossary](#)
- Allow use of a bilingual dictionary.
- Allow use of handheld translator.
- Ask students to recall what they already learned in ways that activate their prior knowledge.
- Use pre-assessment data to drive instruction.
- Use preferential seating.
- Use flexible grouping.
- Model productive and engaging partner talk.
- Allow for extended time.
- Provide guided notes as necessary.
- Set a writing goal for the assignment and then focus only on that goal.

### Gifted and Talented

- Provide opportunities to lead discussion.
- Use flexible grouping.
- *Enrichment* activities
- Enrichment Activity Cards
- Challenge/higher level questioning
- Use projects, such as the Real World and STEM projects from Go Math!

### Students with 504 Plans:

- *Reteach* lesson
- Modification of journal pages.
- Use of manipulatives, counters and number grid, and vocabulary picture cards.
- Quick Look Cards to provide experience decomposing numbers.
- Have children use craft sticks to represent and solve problems.

- Extended time & think time
- Prompting
- Reassurance
- Preferential seating
- Repeated directions
- Behavior chart to increase focus and work completion
- Sensory breaks with timers

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