# Greenwich-Stow Creek Partnership Schools

## Kindergarten

## Math Curriculum

**Approved by the Board of Education**

**Stow Creek Board of Education: 8-22-2024**

**Greenwich Board of Education: 8-21-2024**

# Mathematics » Kindergarten » Introduction

In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to numbers than to other topics.

1. Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

2. Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes. Students will also represent the value of money by using and distinguishing between U.S. coins and one-dollar bills.

# Grade K Overview

- **Counting and Cardinality**
  - Know number names and the count sequence.
  - Count to tell the number of objects.
  - Compare numbers.

- **Operations and Algebraic Thinking**
  - Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

- **Geometry**
  - Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, spheres).
  - Analyze, compare, create, and compose shapes.

- **Number and Operations in Base Ten**
  - Work with numbers 11-19 to gain foundations for place value.

- **Measurement**
  - Describe and compare measurable attributes.
  - Work with money

- **Data Literacy**
  - Classify objects and count the number of objects in categories.

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

# Kindergarten Scope and Sequence

## ONGOING ACTIVITIES

-Calendar
-Days in School
-Number Line

***MARKING PERIOD 1 and Ongoing***

## Counting and Cardinality

**Know number names and the count sequence. K.CC.1-3**

1. Count to 100 by ones and by tens.
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

| Months | Counting | Identify Numbers | Write Numbers |
|---|---|---|---|
| Sept.-Oct. | 0-21 | 0-10 | *** |
| Oct.-Nov. | 21-35 | 10-15 | *** |
| Nov.-Jan | 35-50 | 15-20 | 0-20 |
| Jan.-Feb. | 50-70 | 20-50 | 20-50 |
| Feb.-March | 70-90 | 50-75 | 20-75 |
| March-June | 90-115 | 75-100 | 75-100 |

**Count to tell the number of objects. K.CC.4, K.CC.5**

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
    a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

c. Understand that each successive number name refers to a quantity that is one larger.

5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

**Compare numbers. K.CC.6, K.CC.7**

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (groups with up to 10 objects).

7. Compare two numbers between 1 and 10 presented as written numerals.

***MARKING PERIOD 2***

## Operations and Algebraic Thinking

**Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. K.OA.1-5**

1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. C.C.Science

3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

5. Demonstrate fluency, accuracy, and efficiency for addition and subtraction within 5.

## Data Literacy

**Classify objects and count the number of objects in each category. K.DL.A.1**

1. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count (category counts will be less than or equal to 10). C.C-Science

***MARKING PERIOD 3***

## Geometry

**Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). K.G.1-3**

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

**Analyze, compare, create, and compose shapes. K.G.4-6**

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). C.C.-Science
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. C.C.-Science
6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

## Number and Operation in Base Ten

**Work with numbers 11-19 to gain foundations for place value. K.NBT.1**

1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

**Identify and describe shapes (*Modified:* squares, circles, triangles, rectangles). K.G.2**

2. Correctly name shapes regardless of their orientations or overall size.

***MARKING PERIOD 4***

## Measurement

**Describe and compare measurable attributes. K.M. 1-3**

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

**Work with money**

*3.* Understand that certain objects are coins and dollars, and that coins and dollars represent money. Identify the values of all U.S. coins and the one-dollar bill.

| **KINDERGARTEN MATH UNIT 1** | |
|---|---|
| **Domains: Counting and Cardinality**<br>**Operations and Algebraic Thinking**<br>**Data Literacy** | **Marking Period:1, 2, and Ongoing** |
| **Lesson Title: Count Sequence and Numbers to 5** | |
| **Overview of Unit:** Students will count to 5 by ones, count forward beginning from any given number, write and represent numbers 0-5, add to and take from within 5, and classify and count objects. | |
| **Learning Targets—Modules 1-6 and Standards** | |

Modules

- Represent Numbers to 5 with Objects
- Represent Numbers to 5 with a Written Numeral
- Matching and Counting Numbers to 5
- Classify, Count, and Sort Objects
- Add To and Take From Within 5
- Put Together and Take Apart Within 5

Standard(s): K.CC. 3-7, K.OA 1-3, 5, K.DL 1

**K.CC.**

- 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- 4. Understand the relationship between numbers and quantities; connect counting to cardinality. C.C. Social Studies
- When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. C.C.-Social Studies
- Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- Understand that each successive number name refers to a quantity that is one larger.
- 5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
- 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (groups with up to 10 objects).
- 7. Compare two numbers between 1 and 10 presented as written numerals.

**K.OA. 1**.

- Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. C.C. Science
- 3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

**K.DL.**

- 1. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count (category counts will be less than or equal to 10). C.C-Science

**Essential Questions**

- How do you know there are five?
- You think there are four. How can you check?
- Can you show five another way?
- How can you show me that number with your fingers?
- Can you make it with your fingers a different way?
- How did you sort them?
- Why did you sort them that way?
- How many are in each group?
- How can you record your data?
- Which has more/less?

**Unpacking the Standards by Module**

1. Children will understand how to count and represent one and two with objects and represent each object with a number name. Children will also identify how many objects are in a group of one or two.
2. In this lesson, children will learn how to write the numerals 0 and 1. They will also count the number of items in a group and identify whether a group has 0 items or 1 item.
3. Children have a natural understanding of less, more, and same as these apply to their daily lives. As they learn to compare numbers and learn the math vocabulary to use in those comparisons, their understanding moves gradually from concrete to abstract. Fluency with comparing numbers within five creates a foundation for comparing more difficult numbers and, ultimately, for adding and subtracting. As children learn to compare numbers, they will learn different methods for identifying group sizes. Once these methods are learned, children may choose to compare by matching, by counting and relating groups to counting order, or by manipulating objects (adding and taking away) while counting. It is important that each child become familiar with a variety of methods.
4. In this lesson, children will use what they know about counting and color to identify the attribute of color as a criterion for sorting. As children practice sorting, they learn about attributes of objects and the rules that apply when objects are classified. Children will observe that different kinds of objects can be sorted by color. As they form groups of objects of the same color, children will observe that differences in quantity don't change the classification. Implicit in this activity is the concept of using one attribute for classification. The concept sets the stage for learning to use other attributes for classification, articulating the rule used for classification, and comparing sets based on quantity.
5. Addition is the first operation that children encounter in school. In this module, children will learn about addition by acting out "Add To" addition situations. An Add To situation is straightforward for children to understand because it can be represented clearly by physical actions. For example, two children can join three other children to make a group of five children. Children's ability to understand these situations intuitively provides an excellent window for more formal understanding of addition, which will serve children well as they explore addition further, learn about subtraction, and eventually use operations in a more

abstract way. Take full advantage of that opportunity by providing consistent and varied practice. For example, have children represent a problem with both fingers and counters. After children become comfortable with acting out problems, have them explain the procedures and strategies that they are using. Guide children to use the appropriate vocabulary and reinforce it during mathematical conversations.
6. Children demonstrate understanding of how objects can be joined by representing addition in various ways. This objective focuses on understanding the concept of addition and how to model addition with an equation. Children will represent additional problems with objects and drawings, and sometimes equations. Children will begin by representing an additional problem using drawings and counting to find the total. Children will then draw these groups and write addition equations that model the groups.

**Evidence of Learning**

Formative Assessment:
Mid- Chapter Checkpoints
Summative Assessment:
Chapter Review/Tests
Differentiation/Customizing Learning (strategies):

- Work with teacher in small group using intervention activities
- Use grab-and-go centers
- Use different manipulatives to model problems

Key Terms
One, two, three, four, five, and, larger, zero, fewer, count, greater than, less than, equal to, match, compare, category, classify, shape, big, size, small, sort, join, total, take away, add to, equation, is equal to, plus, subtract, take from, put together, take apart, and more.

**Materials and Learning Plan**

**Materials:**

- Number Cubes
- Online Resources
- Text and workbooks
- Standards Practice Book
- Number line

**Learning Plan:**
*into Math* Series

- Module 1 Lessons 1-5
- Module 2 Lessons 1-5
- Module 3 Lessons 1-6
- Module 4 Lessons 1-4
- Module 5 Lessons 1-7
- Module 6 Lessons 1-7

**Interdisciplinary Connections**

**Science and Social Studies:**

- **SOC.6.1.2.EconET.2** [*Performance Expectation*] - Cite examples of choices people make when resources are scarce.
- **SOC.6.1.2.CivicsPI.1** [*Performance Expectation*] - Describe roles and responsibilities of community and local government leaders (e.g., mayor, town council).
- **SCI.K-ESS3-2** [*Performance Expectation*] - Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.
- **SCI.K-ESS2-1** [*Performance Expectation*] - Use and share observations of local weather conditions to describe patterns over time.

**Language Arts:**

- **LA.L.K.1.D** Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- **LA.L.K.5.A** Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
- **LA.L.K.6** [*Progress Indicator*] - Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

**Accommodations for ELL:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Assistance from ESL teacher in a small group setting
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups

**Accommodations for Special Education:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
- Refer to student IEP

**Accommodations for At-Risk Students:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)

- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting

**Accommodations for Enrichment (G &T):**

- Extension activities
- Independent practice in small groups
- Internet activities

**Integration of 21st Century Skills: Career Readiness, Life Literacy, and Key Skills**

☐9.1 Personal Financial Literacy
Financial Health: *Financial Psychology, Civic Financial Responsibility*
Financial Landscape: *Financial Institutions, Economic & Government Influences*
Money Management: *Planning & Budgeting, Risk Management & Insurance, Credit and Debit Management, Credit Profile*

☐9.2 Career Awareness and Planning
☒9.4 Life Literacies and Key Skills
Creativity and Innovation
Critical Thinking and Problem Solving
Global and Cultural Awareness

**Effective Integration of Technology: Computer Science and Design Thinking & Life Literacies and Key Skills**

☐8.1 Computer Science
☐8.2 Design Thinking
☐9.4 Life Literacies and Key Skills
Digital Citizenship
Information and Media Literacy
Technology Literacy

**Effective Integration of Media Arts: Visual and Performing Arts Performance Standards**

☒1.2 Media Arts
Creating - Conceive, Develop, and/or Construct
Performing - Integrate, Practice, and/or Present
Responding - Perceive, Evaluate, and/or Interpret
Connecting - Synthesize and/or Relate

| KINDERGARTEN MATH UNIT 2 | |
|---|---|
| **Domain: Counting and Cardinality Operations and Algebraic Thinking** | **Marking Period: 2 and Ongoing** |

**Lesson Title:** Count Sequence and numbers to 10

**Overview of Unit:** Students will understand the relationship between numbers and quantities, and count to answer "how many?" Students will count to 10 by ones, count forward beginning from any given number, write and represent numbers 6-10, add to and take from within 10, and classify and count objects.

**Learning Targets – Modules 7-13 and Standards**

Modules

- Represent Numbers 6 to 10 with Objects
- Represent Numbers to 6-10 with a Written Numeral
- Use the count sequence to count to 100
- Compare numbers to 10
- Add To and Take From 10
- Put Together and Take Apart Within 10
- Ways to Make Numbers to 10

Standard(s):K.CC. 1-7, K.OA 1-4,

**K.CC.**

- 1. Count to 100 by ones and by tens.
- 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). C.C. Social Studies
- 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- 4. Understand the relationship between numbers and quantities; connect counting to cardinality. C.C. Social Studies
    - When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
    - b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
    - c. Understand that each successive number name refers to a quantity that is one larger.
- 5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. C.C. Science
- 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (groups with up to 10 objects).
- 7. Compare two numbers between 1 and 10 presented as written numerals.

**K.OA.**

- 1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

- 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. C.C.Science
- 3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
- 4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

**Essential Questions**

- What are different ways to count?
- Why is counting important?
- How many?
- How should this number look?
- What are you being asked to count?
- When you start counting, what is the first number you say?
- Which number comes next?
- Which number is greater than?
- Which number is less than?
- How do you know the numbers are equal?
- How do you know this is an addition/subtraction problem?
- What is the problem about?
- What do each of the numbers describe?
- What math questions can you ask about the problem?

**Unpacking the Standards by Module**

7. Children demonstrate understanding of how objects can be joined by representing addition in various ways. This objective focuses on understanding the concept of addition and how to model addition with an equation. Children will represent addition problems with objects and drawings, and sometimes equations. Children will begin by representing an addition problem using drawings and counting to find the total. Children will then draw these groups and write addition equations that model the groups.
8. In kindergarten, children begin to represent quantities symbolically. As children read and write 6 and 7, they manipulate symbols while also understanding and attending to the quantities they represent. Give children opportunities to read and write numbers when

interpreting and providing solutions to problem situations. As they do so, have children discuss and use models to show their understanding of the quantities.
9. Children have learned to count to 10. In this lesson, children learn to find and use number patterns in the hundred chart as they count by ones to 100. Discuss the different counting patterns children find. Understanding the correct sequence of numbers gives children a strong foundation as they begin to learn about place value.
10. Children will compare groups of objects within 10 to identify which group has a number of objects that is greater than the other group. They will build an understanding that when they compare amounts, the group with more objects is greater than the other group. Children who are mathematically proficient will make sense of quantities and their relationships in problem situations. These children will use quantitative reasoning to represent problems accurately.
11. Children will continue using various models for addition. They will act out the addition, physically adding to an existing group. This process helps children understand the concept of adding as joining groups. Drawing to show the addition helps children make a visual representation they can use to relate to the actual numbers in the problem. This will help children understand the relationship between the numbers and signs used when they write equations and the concept of joining groups.
12. As children learn to read and write equations to represent addition, their primary focus should remain on the concept of addition as putting together two groups or adding a number to a group. Give frequent opportunities to manipulate and express addition in different ways. For example, if children are adding 3 + 1, have them show the addition using cubes, using their fingers, with sounds and claps, and using an equation. As children put together 3 and 1, give them practice both in counting 1, 2, 3, 4 and in articulating "3 and 1 more makes 4 total."
13. Children will begin to understand that a group of objects can be broken into smaller groups but still remain the total amount. For example, a group of five balloons can be broken into smaller groups of two blue balloons and three green balloons, but there are still a total of five balloons. Children will also learn that a group of objects can be broken in more than one way. For example, if there are five balloons in two colors, there may be four balloons of one color and one balloon of the other color. Or there could be three balloons of one color and two balloons of the other color.

**Evidence of Learning**

Formative Assessment:

- Mid- Chapter Checkpoints
- Summative Assessment:
- Chapter Review/Tests

Differentiation/Customizing Learning (strategies):

- Work with teacher in small group using intervention activities
- Use grab-and-go centers
- Use different manipulatives to model problems

Key Terms: eight, nine, seven, six, ten, column, row, compare, equal to, greater than, less than, add to, is equal to, minus, plus, subtract, take from, put together, take apart, equation, addend.

**Materials and Learning Plan**

**Materials:**

- Number Cubes
- Online Resources
- Text and workbooks
- Standards Practice Book
- Number line

**Learning Plan:**
*into Math* Series

- Module 7 Lessons 1-3
- Module 8 Lessons 1-4
- Module 9 Lessons 1-3
- Module 10 Lessons 1-6
- Module 11 Lessons 1-7
- Module 12 Lessons 1-5
- Module 13 Lessons 1-5

**Interdisciplinary Connections**

**Science and Social Studies:**

- **SOC.6.1.2.HistoryCC.2** [*Performance Expectation*] - Use a timeline of important events to make inferences about the "big picture" of history.
- **SOC.6.1.2.HistoryCC.3** [*Performance Expectation*] - Make inferences about how past events, individuals, and innovations affect our current lives.
- **SCI.K-LS1-1** [*Performance Expectation*] - Use observations to describe patterns of what plants and animals (including humans) need to survive.
- **SCI.K.ESS3.C** [*Disciplinary Core Idea*] - Human Impacts on Earth Systems

**Language Arts:**

- **LA.L.K.1.D** Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- **LA.L.K.5.A** Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
- **LA.L.K.6** [*Progress Indicator*] - Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

**Accommodations for ELL:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Assistance from ESL teacher in a small group setting
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups

**Accommodations for Special Education:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs

- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
- Refer to student IEP

**Accommodations for At-Risk Students:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
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**Accommodations for Enrichment (G &T):**

- Extension activities
- Independent practice in small groups
- Internet activities

**Integration of 21st Century Skills:** **Career Readiness, Life Literacy, and Key Skills**

☐9.1 Personal Financial Literacy
Financial Health: *Financial Psychology, Civic Financial Responsibility*
Financial Landscape: *Financial Institutions, Economic & Government Influences*
Money Management: *Planning & Budgeting, Risk Management & Insurance, Credit and Debit Management, Credit Profile*

☐9.2 Career Awareness and Planning
☒9.4 Life Literacies and Key Skills
Creativity and Innovation
Critical Thinking and Problem Solving
Global and Cultural Awareness

**Effective Integration of Technology:** **Computer Science and Design Thinking & Life Literacies and Key Skills**

☐8.1 Computer Science
☐8.2 Design Thinking
☒9.4 Life Literacies and Key Skills
Digital Citizenship
Information and Media Literacy
Technology Literacy

**Effective Integration of Media Arts: Visual and Performing Arts Performance Standards**

☒1.2 Media Arts
Creating - Conceive, Develop, and/or Construct
Performing - Integrate, Practice, and/or Present
Responding - Perceive, Evaluate, and/or Interpret
Connecting - Synthesize and/or Relate

| **KINDERGARTEN MATH UNIT 3** | |
|---|---|
| **Domain: Geometry** | **Marking Period: 3** |
| **Lesson Title:** Geometry | |
| **Overview of Unit:** Students will identify, analyze, and compare two dimensional and three dimensional shapes. They will compose simple shapes. Students will describe positions of objects. | |

**Learning Targets – Modules 7-13 and Standards**

**Modules**

- Analyze and Compare Three-Dimensional Shapes
- Describe Positions of Objects
- Analyze and Compare Two-Dimensional Shapes
- Analyze and Compare Three-Dimensional Shapes

**Standards**

Standard(s):

**K.G.1-6**

- 1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
- 2. Correctly name shapes regardless of their orientations or overall size.
- 3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
- 4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length). C.C.-Science
- 5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. C.C.-Science and C.C. Social Studies
- 6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?" C.C. Social Studies*

**Essential Questions**

- What is a shape?
- What are the properties of shapes?
- How can we describe shapes?
- Where are the objects?

- How are these shapes similar/different?

**Unpacking the Standards by Module**

14. Children will begin identifying, and then drawing, three-dimensional shapes, and will learn to recognize them as the correct shapes in any orientation or size. This may be difficult for children at first, especially as these are shapes they have most likely not come across before. You can help children master this standard by reminding them to think of the qualities that define each shape, such as number of sides and whether it has flat or curved surfaces. Remind children to think of these qualities when they look at each shape rather than immediately guessing its name.
15. In this module, children describe the position of three-dimensional objects by describing their relative positions to other objects. The standard requires children to identify and name shapes of objects as well as use spatial language to describe the objects' relative positions. This module provides children an opportunity to apply what they've learned previously to describe the positions of three-dimensional objects in a real-world environment.
16. In this module, children describe, analyze, and compare the attributes of two-dimensional shapes. Children should have many different opportunities to explore one type of shape in different orientations and sizes. As they do this, children will grow in their ability to distinguish defining and nondefining attributes. In other words, while all triangles have three straight sides and three vertices, triangles can come in different sizes, colors, and orientations. Children can then use this understanding to compare a variety of shapes.

**Evidence of Learning**

Formative Assessment:

- Mid- Chapter Checkpoints
- Summative Assessment:
- Chapter Review/Tests

Differentiation/Customizing Learning (strategies):

- Work with teacher in small group using intervention activities
- Use grab-and-go centers
- Use different manipulatives to model problems

Key Terms: cone, cube, curved surface, cylinder, flat surface, solid, sphere, three-dimensional shapes, above, behind, below, beside, in front of, next to, circle, flat, hexagon, rectangle, square, two-dimensional shapes, and triangle.

**Materials and Learning Plan**

**Materials:**

- Number Cubes
- Online Resources
- Text and workbooks
- Standards Practice Book
- Number line

**Learning Plan:**
*into Math* Series

- Module 14 Lessons 1-4
- Module 15 Lessons 1-3
- Module 16 Lessons 1-7

**Interdisciplinary Connections**

**Science and Social Studies:**

- **SCI.K-ESS2-2** [*Performance Expectation*] - Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- **SCI.K-PS3-2** [*Performance Expectation*] - Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.
- **SOC.6.1.2.CivicsDP.1** [*Performance Expectation*] - Explain how national symbols reflect on American values and principles.
- **SOC.6.1.2.CivicsPI.5** [*Performance Expectation*] - Describe how communities work to accomplish common tasks, establish responsibilities, and fulfill roles of authority.

**Language Arts:**

- **LA.L.K.1.D** Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- **LA.L.K.6** [*Progress Indicator*] - Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

**Accommodations for ELL:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Assistance from ESL teacher in a small group setting
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups

**Accommodations for Special Education:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
- Refer to student IEP

**Accommodations for At-Risk Students:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs

- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting

**Accommodations for Enrichment (G &T):**

- Extension activities
- Independent practice in small groups
- Internet activities

**Integration of 21st Century Skills: Career Readiness, Life Literacy, and Key Skills**

☐9.1 Personal Financial Literacy
Financial Health: *Financial Psychology, Civic Financial Responsibility*
Financial Landscape: *Financial Institutions, Economic & Government Influences*
Money Management: *Planning & Budgeting, Risk Management & Insurance, Credit and Debit Management, Credit Profile*

☐9.2 Career Awareness and Planning

☒9.4 Life Literacies and Key Skills
Creativity and Innovation
Critical Thinking and Problem Solving
Global and Cultural Awareness

**Effective Integration of Technology: Computer Science and Design Thinking & Life Literacies and Key Skills**

☐8.1 Computer Science
☒8.2 Design Thinking

☒9.4 Life Literacies and Key Skills
Digital Citizenship
Information and Media Literacy
Technology Literacy

**Effective Integration of Media Arts: Visual and Performing Arts Performance Standards**

☒1.2 Media Arts
Creating - Conceive, Develop, and/or Construct
Performing - Integrate, Practice, and/or Present
Responding - Perceive, Evaluate, and/or Interpret
Connecting - Synthesize and/or Relate

| KINDERGARTEN MATH UNIT 4 | |
|---|---|
| **Domain: Number and Operations in Base Ten** | **Marking Period: 3** |
| **Lesson Title:** Number and Operations in Base Ten | |
| **Overview of Unit:** Students will compose tens and ones to represent numbers to 20. They will also name these numbers with their place values. | |

**Learning Targets—Modules17-18 and Standards**

Modules

- Place Value Foundations: Represent Numbers to Twenty
- Place Value Foundations: Represent Numbers to Twenty with a Written Numeral

Standard(s): K.NBT 1, K.CC 3-5

**K.NBT 1**

- 1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones C.C. Social Studies

**K.CC. 3-5**

- 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- 4. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. C.C. Science
- 5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. C.C. Science

**Essential Questions**

- How can place value be used for composing and decomposing numbers?
- How does the position of a digit in a number affect its value?

**Unpacking the Standards by Module**

17. In kindergarten, children begin to explore beginning concepts of place value by composing and decomposing numbers 11 to 19. When decomposing these numbers into 10 and another part, children establish a foundation that will help them conceptualize ten as a single unit. At that time, children will begin to understand teen numbers as a ten and ones.Give children opportunities to decompose numbers using objects and drawings. Talk about patterns that children notice. Children may notice that when decomposing a number into ten and a part, the part is the digit in the ones place. Although children are not yet familiar with ones and tens places, they will apply this understanding when they are introduced to place value concepts.

18. In the previous module, children learned to count and represent numbers to 20 and compose and decompose teen numbers into a ten and some ones. Now children will continue

to learn about teen numbers and 20 by counting and writing numerals, continuing to represent a ten and some ones, and using addition equations to represent that composition. At this stage, children are likely to be comfortable working with numbers 1 to 10, and they have begun to have some familiarity with numbers to 20. Counting and writing the numerals for these numbers will help to solidify children's understanding of the counting order. Continue to reinforce the composition of teen numbers and 20 as children see and represent them with concrete and visual models, and as they say, count, and write numbers that combine the familiar digits 1–9 with teen.

**Evidence of Learning**

Formative Assessment:

- Mid- Chapter Checkpoints
- Summative Assessment:
- Chapter Review/Tests

Differentiation/Customizing Learning (strategies):

- Work with teacher in small group using intervention activities
- Use grab-and-go centers
- Use different manipulatives to model problems

Key Terms: eighteen, eleven, fifteen, fourteen, more, nineteen, ones, seventeen, sixteen, thirteen, twelve, and twenty.

**Materials and Learning Plan**

**Materials:**

- Number Cubes
- Base Ten Blocks
- Online Resources
- Text and workbooks
- Standards Practice Book
- Number line

**Learning Plan:**

*into Math*

- Module 17 Lessons 1-4
- Module 18 Lessons 1-4

**Interdisciplinary Connections**

**Science and Social Studies:**

- **SOC.6.1.2.CivicsCM.2** [*Performance Expectation*] - Use examples from a variety of sources to describe how certain characteristics can help individuals collaborate and solve problems (e.g., open-mindedness, compassion, civility, persistence).
- **SOC.6.1.2.CivicsPI.4** [*Performance Expectation*] - Explain how all people, not just official leaders, play important roles in a community.

- **SCI.K.ESS2.D** [*Disciplinary Core Idea*] - Weather and Climate
- **SCI.K.ESS3.B** [*Disciplinary Core Idea*] - Natural Hazards

**Language Arts:**

- **LA.L.K.1.D** Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- **LA.L.K.6** [*Progress Indicator*] - Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

**Accommodations for ELL:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Assistance from ESL teacher in a small group setting
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups

**Accommodations for Special Education:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
- Refer to student IEP

**Accommodations for At-Risk Students:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
-

**Accommodations for Enrichment (G &T):**

- Extension activities
- Independent practice in small groups
- Internet activities

**Integration of 21st Century Skills: Career Readiness, Life Literacy, and Key Skills**

☐9.1 Personal Financial Literacy
Financial Health: *Financial Psychology, Civic Financial Responsibility*
Financial Landscape: *Financial Institutions, Economic & Government Influences*
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☐9.2 Career Awareness and Planning

☒9.4 Life Literacies and Key Skills
Creativity and Innovation
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**Effective Integration of Technology: Computer Science and Design Thinking & Life Literacies and Key Skills**

☐8.1 Computer Science
☐8.2 Design Thinking

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Digital Citizenship
Information and Media Literacy
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**Effective Integration of Media Arts: Visual and Performing Arts Performance Standards**

☐1.2 Media Arts
Creating - Conceive, Develop, and/or Construct
Performing - Integrate, Practice, and/or Present
Responding - Perceive, Evaluate, and/or Interpret
Connecting - Synthesize and/or Relate

| **KINDERGARTEN MATH UNIT 5** | |
|---|---|
| **Domain: Measurement** | **Marking Period: 4** |
| **Lesson Title:** Measurement | |
| **Overview of Unit:** Describe measurable attributes of objects, such as length or weight, and directly compare two objects with measurable attributes in common as well as describing differences. Differentiate between the U.S. coins and their values, as well as the one-dollar bill. | |
| **Learning Targets—Modules 19-20 and Standards** | |
| **Modules**<br>• Length and Height<br>• Weight | |

- Money Identifying Board Game and Magnetic Money Review

Standard(s):

**K.M. 1-3**

- 1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. C.C.Science
- 2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter. C.C. Science*

**Work with money**

- 3. Understand that certain objects are coins and dollars, and that coins and dollars represent money. Identify the values of all U.S. coins and the one-dollar bill. C.C. Social Studies

**Essential Questions**

- How can shapes be described?
- How can everyday objects be described using the names of shapes?
- How can solid figures be compared?
- Why is money valuable?
- When do we use money?

**Unpacking the Standards by Module**

19. Children learn concepts like big and small in their everyday lives. Their application of concepts of size may be based on perception or personal benchmarks. As they explore measurement in greater depth, they move toward an understanding of absolute measurement (how many units of length, weight, or volume something is), a differentiation of various types of measurement, and how different attributes can be measured for the same object (such as both length and weight). As children discuss size, encourage them to be specific about the attributes they are describing—for example, differentiating between height and length using both precise vocabulary and gestures or modeling.

20. As children add weight to their discussion of measurement, they should begin noticing that relative sizes of objects do not necessarily have a one-to-one correlation to their relative weights: a small rock may be heavier than a large piece of paper or cloth; a large stuffed animal may be lighter than a small book. Children should also continue differentiating between length and height. For example, children might describe the size of a long piece of ribbon or a long classroom display (such as a strip of letters or numbers) as being long in length but short in height, or a door as tall in height but short in length across.

**Evidence of Learning**

Formative Assessment:

- Mid- Chapter Checkpoints
- Summative Assessment:
- Chapter Review/Tests
- Chapter Tests

Differentiation/Customizing Learning (strategies):

- Work with teacher in small group using intervention activities
- Use grab-and-go centers
- Use different manipulatives to model problems

Key Terms: height, length, longer, shorter, taller, heavier, lighter, weight, coins, bills, quarter, dime, penny, nickel, dollar sign, cent sign

## Materials and Learning Plan

**Materials:**

- Number Cubes
- Base Ten Blocks
- Online Resources
- Text and workbooks
- Standards Practice Book
- Number line

**Learning Plan:**

into *Math* Series

- Module 19 Lessons 1-3
- Module 20 Lessons 1-3

## Interdisciplinary Connections

**Science and Social Studies:**

- **SCI.K-PS2-2** [*Performance Expectation*] - Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.
- ***SCI.K-PS2-1*** *[Performance Expectation] - Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.*
- **SOC.6.1.2.EconET.4** [*Performance Expectation*] - Explain the impact that decisions about savings, debt, and investment can have on individuals' lives.
- **SOC.6.1.2.EconET.1** [*Performance Expectation*] - Explain the difference between needs and wants.

**Language Arts:**

- **LA.L.K.1.D** Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- **LA.L.K.1.E** Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with).
- **LA.L.K.6** [*Progress Indicator*] - Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

**Accommodations for ELL:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Assistance from ESL teacher in a small group setting
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups

**Accommodations for Special Education:**

- Frequent pauses for understanding and focus
- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
- Refer to student IEP

**Accommodations for At-Risk Students:**

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- Develop an understanding of key vocabulary
- Use of drawings, maps and graphs
- Engaging dialogue and discussion
- Use of manipulatives
- Tools (rulers, measuring cups, etc.)
- Multi-leveled cooperative learning groups
- Assistance from Special Education teacher in a small group setting
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**Accommodations for Enrichment (G &T):**

- Extension activities
- Independent practice in small groups
- Internet activities

**Integration of 21st Century Skills:** **Career Readiness, Life Literacy, and Key Skills**

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