Bloomingdale School District

Bloomingdale, NJ

Adopted: September

Grade K
Math

2017

Grade K Mathematics is aligned to the NJSLS-M and will prepare students for Grade 1 Mathematics. As the content is taught, the NJSLS-M mathematical practices are also woven in, helping to develop the attitudes and habits of mind of those who know and enjoy mathematics and use it effectively.

Mathematics
Department
Math Grade K

Kindergarten Math

I. Course Synopsis

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 number 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.

II. Philosophy & Rationale

The mathematics curriculum is completely aligned to the NJSLS-M for Kindergarten. Kindergarten content required by the New Jersey Student Learning Standards for Mathematics focuses on the following critical areas:

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.

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

Measurement and Data
- Describe and compare measurable attributes.
- Classify objects and count the number of objects in each category

Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

As the content is taught, the NJSLS-M mathematical practices are also woven in, helping to develop the attitudes and habits of mind of those who know and enjoy mathematics and use it effectively. The practices include:

- Problem solving
- Multiple representations
- Reasoning
- Mathematical modeling
- Tool use
- Communication

The Standards for Mathematical Practice 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).

MP1 - Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MP2 - Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

MP3 - Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples.

They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is.

Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

MP4 - Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematics

results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MP5 - Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

MP6 - Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

MP7 - Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

MP8 - Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

III. Scope & Sequence

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
1.1 - 1.13	2.1 – 2.13	3.1 – 3.13	4.1 - 4.13	5.1 - 5.13	6.1 - 6.10	6.11 - 7.10	7.11 - 8.10	8.11 - 9.8	9.9 - 9.13

Kindergarten has 9 instructional units.
Each unit is completed in approximately 3-5 weeks.

Unit	Name	Weeks	Topics
1	Section 1	Weeks 1-5	- Partner Match - Introduction to Pattern Blocks - Gotcha: A Counting Game - Number Walk - Getting to Know Numbers - Count and Sit - Class Birthdays - Class Age Graph - Number Stations - Quick Looks - Five Frames - Describing Shapes - Shape Patterns
2	Section 2	Weeks 6-9	- Match Up with Dot Cards - Top-It with Dot Cards - Getting to Know Triangles - Number Board - Pocket Problems - How Many Now? - Open Response: Introduction to Sorting - Getting to Know Circles - Ten Frames - Counting Collections - Getting to Know Rectangles - Number Stories - More Number Stories
3	Section 3	Weeks 10-14	- Pattern-Block Graph - Ten-Bean Spill - Rope Shapes - Number Books - Longer or Shorter? - Obstacle Course Positions

			- Open Response: Comparing Representations - Spin a Number - Line Up - Number-Card Activities - Roll and Record - Monster Squeeze - Numbers on Slates
4	Section 4	Weeks 15-18	- Attribute Blocks - Shapes by Feel - Favorite Colors Graph - Meet the Calculator - Ten-Frame Quick Looks - Moving with Teens - Open Response: Building Hexagons - Building Numbers - Exploring Weight - Exploring Weight - Exploring Capacity - Counting by 10s - Top-It with Number Cards - Number-Grid Exploration
5	Section 5	Weeks 19-23	- The 100th Day of School - Roll and Record with Dot Dice - Ten Bears on a Bus - Find and Draw Shapes - Shapes All Around - Teen Partners - Open Response: Seats at the Party - Teens on Double Ten Frames - The Equal Symbol (=) - The Addition Symbol (+) - Growing Train - Number Scrolls - Shape Combinations
6	Section 6	Weeks 24-28	- Body Heights with String - Length Line Up - Types of Pets Graph - Solid-shapes Museum - Flat and Solid Shapes "What's My Rule?" Fishing - Open Response: Tall Enough to Ride?

			• The Subtraction Symbol (-) • Disappearing Train • Attribute Spinner • Hiding Bears • Growing and Disappearing Train • Number Stories with Symbols (+,-, and =)
7	Section 7	Weeks 29-33	• Number Line Addition and Subtraction • Domino Addition • Teen Collections • Solid-Shapes Match Up • Count and Skip Count with Calculators • Pan Balance: Leveling • Open Response: Representing Survey Data • Estimation Jar • Bead Combinations • Class Number Story-Book • Class Collections • Dice Addition • Mystery Block
8	Section 8	Weeks 34-38	• Solid Shapes by Feel • Marshmallow and Toothpick Shapes • Counting to Measure Time • Interrupted Counting • Dice Subtraction • Craft-Stick Bundles • Open Response: Bird on Wires • Car Race • Number Stories with Calculators • Nonconsecutive Numbers • Addition Top-It • Function Machines • Name-Collection Posters
9	Section 9	Weeks 39-43	• Make My Design • Subtraction Top-It • "What's My Rule?" with numbers • Backpack Math: Height, Width, and Area • Backpack Math: Weight and Capacity • Roll and Record with Numeral Dice • Open Response: Making Classroom Maps • Uniform Weights on a Pan Balance • Measuring Time in Seconds • Doubles on Double Ten Frame

			● Fishing for Ten
			● Math Celebration Preparation
			● Math Celebration

IV. Unit Descriptions

Unit 1: Section 1   **(Weeks 1 – 5)**

Enduring Understanding
1.   Throughout Section 1, children practice the sequence of number names as they count by 1s. Oral counting (especially for numbers to about 12) is a memory task, much like reciting the alphabet. Over time children discern patterns in the count sequence, which helps them make sense of the words they say.
2.   In Section 1, children have many opportunities to gain familiarity with these concepts by counting objects in various configurations and by counting out sets of objects to represent a given number.

Essential Question(s)
1. What mathematical tools could we use to visualize and represent the situation?
2. What is the relationship between orally counting and counting one to one?

Learning Objectives
Students will be able to:
1.   Compare lengths and explain their mathematical thinking as they participate in a social activity
2.   Use shape names as they explore pattern blocks
3.   Use one-to-one correspondence and the cardinal principle as they engage in a counting game
4.   Take a walk to look for numbers and explore the many uses of numbers in their world
5.   Explore the numbers 0-9 to practice and reinforce early counting and numeration skills and principles
6.   Play an active counting game to develop their oral counting skills
7. Count, compare, and represent data about their birthday months
8.   Create concrete and paper graphs showing their ages, and use them to answer counting and comprehension questions
9.   Count out objects to represent 5 in multiple ways and informally explore addition and subtraction within 5
10.   Compose and decompose numbers and explore addition by looking quickly at dots in different arrangements
11.   Use a five frame to compose numbers in various ways and informally explore addition and subtraction within 5
12. Use informal language to describe, compare, and contrast a variety of shapes

13. Identify and describe shapes in the context of repeating and growing patterns

New Jersey Student Learning Standards for Mathematics
- **K.CC.1** Count to 100 by ones and by tens

- **K.CC.4a** 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
- **K.CC.4b** 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
- **K.CC.5** Count to answer "how many" questions about as many as 20 things arranged in a line, a rectangular array, or in a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
   a. Mental Math
   b. Math Message (Morning Meeting Routines)
   c. Journal pages
   d. Unit 1 Progress Check and Open Response Assessment
   e. Ongoing Assessments
   f. Games: *Gotcha, Count and Sit*
2. English Language Learners
   a. Use Total Physical Response (TPR) instructions to support children's emerging counting skills.
   b. Provide ample opportunities for choral, small group, and partner counting practice
3. Special Education/504 Students
   a. Children who have difficulty using one-to-one correspondence while counting may benefit from practicing the concept in other situations. For example, they can practice setting the table for snack time or for a group of stuffed animals (one plate for every person or animal, one cup for every plate, and so on).
   b. Help children self-monitor by asking questions such as: Does everyone have one plate? Does anyone have an extra? Is anyone missing a plate?
4. Gifted and Talented Students
   a. To extend their counting practice, have children who are proficient with counting small sets of objects count larger sets. Tailor the number and arrangement of objects to children's current ability.
   b. Encourage them to find and describe ways to keep track of objects they have already counted.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
- See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Enduring Understanding
1.   Children continue to solidify their understanding of fundamental counting principles in Section 2, with several experiences targeted at developing understanding of the *successor function:* the concept that each successive number refers to a quantity that is exactly one larger.
2.   In Section 2, children focus on the shape categories of triangles, circles, and rectangles (including squares).
3.   In Section 2, children represent, model, and solve number stories concretely—by acting them out, using counters, and drawing.

Essential Question(s)
1.   Children discuss and reflect on the "one more" pattern of our counting system as they build a Number Board and solve *How Many Now?* problems.
2.   Pose a variety of number story types to promote flexible thinking and comprehension.

Learning Objectives
Students will be able to:
        1.   Play a matching game with Dot Cards to practice recognizing equal quantities in different arrangements.
        2.   Play a game with Dot Cards to practice counting and comparing sets.
        3.   Examine, describe, and compare a variety of triangles and create a triangle collage.
        4.   Make Number Boards to reinforce counting skills and principles and visualize the "one more" counting pattern.
        5.   Use concrete, nonverbal experiences to develop their understanding of addition and subtraction.
        6.   Determine the number of objects in a set when one object is added.
        7.   Solve an open response problems by classifying objects in different ways.
        8.   Compare, analyze, and discuss a variety of sorted collections they created.
        9.   Examine, describe, and compare circles and create a circle collage.
        10.   Compose and decompose numbers in various ways on a ten frame and informally explore addition and subtraction.
        11. Practice counting collections in different arrangements.
        12. Explore rectangles and create a rectangle collage.
        13. Invent and solve different types of number stories using a variety of strategies.
        14. Begin to solve number stories with unknown changes and starts.

New Jersey Student Learning Standards for Mathematics
   ● **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.

   ● **K.OA.2** Solve addition and subtraction word problems, and add and subtract within 10.
   ● **K.MD.3** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
   ● **K.G.2** Correctly name shapes regardless of their orientations of overall size.
   ● **K.G.4** Analyze and compare two- and three-dimensional shapes, in different sizes and

orientations, using informal language to describe their similarities, differences, parts.

<u>Suggested Activities/Modifications</u>
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
   a. Mental Math
   b. Math Message (Morning Meeting Routines)
   c. Journal pages
   d. Open Response and Re Engagement Lesson: Introduction to Sorting
   e. Unit 2 Progress Check and Open Response Assessment
   f. Ongoing Assessments
   g. Games: *Match Up with Dot cards. Top-It with Dot Cards, Addition Top-It with Dot cards*
2. English language learners
   a. Introduce the term *match* using examples and non-examples to help children understand what it means for two cards to match or to not match.
   b. Also model how to use the following phrases during game play: your turn, my turn, you win
3. Special education/504 students
   a. Children who need more practice with counting and matching quantities (before adding a memory component to the game) can play with all cards faceup first, and then with one set faceup and the other set facedown.
   b. Children who need a more basic version may play with two sets of the same dot cards (two copies of set a, for example) to find identical matches. Children can play alone or with a partner or small group.
4. Gifted and talented students
   a. To extend the focus activity, provide blank paper or index cards (cut to the same size as the dot cards) and invite children to create new game cards with different representations of numbers. Suggest that they use representations other than dots, such as drawing simple shapes or using stickers. Have children play the game alone or with a partner or small group using one set of their own cards and one set of the original dot cards.

<u>New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices</u>
● See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 3: Section 3   **(Weeks 10-14)**

Enduring Understanding
1.   Children learn that written numerals are symbols that represent quantities and number words.
2.   Children make comparisons in several different contexts. They compare sets to determine which has more or fewer objects while sorting and graphing.
3.   Children have experiences that solidify their understanding of one-to-one correspondence and the cardinal principle when counting sets.

Essential Question(s)
1.   Focus on identifying and describing objects as *longer* or *shorter.*
2.   Compare and contrast mathematical features, similarities, and differences within and across topics.

Learning Objectives
Students will be able to
        1.   Sort, count, compare, and graph patter blocks by shape.
        2.   Use ten frames to explore number pairs that add to 10.
        3.   Participate in a cooperative movement activity to deepen their understanding of shapes.
        4.   Write and represent numbers as they begin to make individual number books.
        5.   Compare and describe objects of varying lengths.
        6.   Position language to follow and give directions for an obstacle course.
        7.   Create matching representations for a number between 5 and 10.
        8.   Discuss and analyze different representations of numbers.
        9.   Practice numeral recognition, counting, and one-to-one correspondence as they play a game.
        10.   Represent how successive numbers refer to quantities that are one larger in various ways.
        11.   Use number cards to practice numeral recognition, sequencing numbers, and matching sets and numerals.
        12.   Roll dice and record rolls to practice counting and number writing and explore probability informally.
        13. Play a game to practice number recognition and explore number relationships.
        14.   Practice number writing and other numeration skills and establish routines for working with slates.

New Jersey Student Learning Standards for Mathematics
- **K.CC.3** Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)

- **K.CC.4a** 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
- **K.CC.4b** 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
- **K.CC.4c** Understand that each successive number name refers to a quantity what is one larger
- **K.CC.5** Count to answer "how many" questions about as many as 20 things arranged in a line, a rectangular array, or in a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects
- **K.CC.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

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to,:
1. Activities
    a. Mental math
    b. Math message (morning meeting routines)
    c. Journal pages
    d. Open response and reengagement lesson: comparing representations
    e. Unit 3 progress check and open response assessment
    f. Ongoing assessments
    g. Games: *what number doesn't belong? Spin a number, roll and record, monster squeeze*
2. English language learners
    a. For children who do not know the english names of the pattern-block shapes, use total physical response to introduce or review them. For example: pick up a shape and say the name. Then have children pick up the shape and repeat the name.
    b. Use show-me commands and *yes* or *no* questions to evaluate their understanding. For example: *show me the trapezoid.* Is this a triangle? Are there more triangles than trapezoids?
3. Special education/504 students
    a. To prepare children to compare numbers of pattern blocks on their graphs, show them a pile (10 or fewer) of one pattern-block shape and have them help you count them. Repeat for another shape (use a different number, also 10 or fewer).
    b. Use the class number board from lesson 2-4 to help children compare the two sets. Model how to line up the pattern blocks with the stickers or objects on the

class number board to identify how many there are in each set and to help them compare sets. Repeat for different sets.

         c. Model and provide practice with comparison language. For example: *there are more triangles than squares. There are fewer blue rhombuses than tan rhombuses*

    4. Gifted and talented students

         a. If children are ready to sort a large set of objects and compare the sizes of the categories, show them your entire collection of pattern blocks. Pose the following problem: which pattern-block shape do you think is the most common? Encourage children to make a prediction and then work collaboratively to sort the collection and count and compare the number of blocks of each shape.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
- See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 4: Section 4   **(Weeks 15-18)**

Enduring Understanding
1. Throughout Section 4, children will practice more advanced oral counting, including counting on from numbers other than 1 and counting by 10s.
2. Throughout Section 4, children work flexibly with parts and wholes as they combine and take apart numbers and shapes (composition and decomposition).

Essential Question(s)
1. How was it helpful to count by 10s?
2. What mathematical tools could we use to visualize and represent the situation?

Learning Objectives
Students will be able to:
1. Classify and sort attribute blocks by shape and size and then count and compare the blocks in each group
2. Explore, recognize, and describe shapes and their attributes by touch
3. Group themselves according to their favorite colors and create a graph to represent and analyze the results
4. Use calculators to practice reading and recording numbers to represent objects
5. Mentally compose and decompose numbers and relate quantities to 5 and 10 on ten frames to develop fact strategies
6. Count and recognize numbers 10 through 19 in a movement activity
7. Combine pattern blocks in different ways to make a hexagon
8. Reengage with their work to consider many ways to cover a hexagon
9. Use connecting cubes to compose and decompose numbers in multiple ways

10. Compare the weights of objects through an exploration of the pan balance
11. Compare the capacities of containers
12. Learn and practice skip counting by 10s
13. Play a game with number cards to practice comparing written numerals
14. Explore the number grid and use it as a counting tool

New Jersey Student Learning Standards for Mathematics
- **K.CC.1** Count to 100 by ones and by tens
- **K.CC.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1)
- **K.CC.7** Compare two numbers between 1 and 10 presented as written numerals
- **K.OA.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 drawing or equation (e.g., 5= 2 +3 and 5 = 4 + 1)
- **K.MD.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object
- **K.MD.2** Directly compare two objects with a measurable attribute in common, to see which objects has "more of"/ "less of" the attribute, and describe the difference.

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
   a. Mental Math
   b. Math Message (Morning Meeting Routines)
   c. Journal pages
   d. Open Response and Reengagement Lesson: Building Hexagons
   e. Unit 4 Progress Check and Open Response Assessment
   f. Ongoing Assessments
   g. Games: *Spin a Number, Number Grid Cover Up, Roll and Record, Top -it with Number Cards*
2. English language learners
   a. Preview the words *thick, thin, large*, and *small.* Have children pick up a thick book and then a thin book. Have them place the books side by side and use these words in sentences: *this book is thick that book is thin?* Do the same with a small ball and a large ball use show-me prompts and ask *yes* or *no* questions for various other items using the terms.
3. Special education/504 students
   a. To help children compare attribute blocks, show three blocks: two that are alike and one that is different along a given dimension, such as color. Ask: which of these blocks are the same color? Which one is different? Provide sentence frames to help children focus on comparing and describing attributes. For example, if you show two red blocks and one blue block, prompt children to say:

these two blocks are <u>red</u>, *but this block is* <u>blue</u>. Repeat for other groups of blocks and other attributes (shape, size, or thickness).

    4. Gifted and talented students
        a. For a challenge, show children all the large, thick attribute blocks from a set. Have them look away while you remove one block and scatter the remaining blocks. Ask: which block is missing? Note that it is difficult to tell because the blocks are disorganized. Invite children to sort the blocks into rows by color and columns by shape. Then have them try to identify the missing block again. Ask: which block is missing? How do you know? Why is it easier to tell now? Include more blocks in the group as children are ready.

<u>New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices</u>
- See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 5: Section 5   **(Weeks 19-23)**

<u>Enduring Understanding</u>
1. In Section 5, children begin to build an understanding of place value by focusing on the teen numbers (10–19).
2. In Section 5, children further explore addition as they find the sums of two dice, determine how many more bear counters are needed to reach 10, and model parts-and-total and change-to-more number stories with counters.

<u>Essential Question(s)</u>
1. What strategy did you use to reach to 10?
2. What are some ways to represent the quantities?

<u>Learning objectives</u>
Students will be able to:
    1. Celebrate the 100th day of school by counting to 100 in a variety of ways and creating and describing 100 collections.
    2. Find, record, and analyze sums of dice rolls.
    3. Play a cooperative game to generate combinations that add to 10.
    4. Describe and draw shapes found in pictures.
    5. Identify shapes on a "shape walk" and use positional words to describe their locations.
    6. Use fingers to explore the concept that teen numbers represent "10 and some more ones."
    7. Solve a comparison number story and justify, or "prove" their solutions.
    8. Discuss and analyze different solutions and arguments.
    9. Represent and compare teen numbers.
    10. Learn about the equal symbols.

11. Model number stories with counters and the addition symbols.
12. Model addition concretely and symbolically through a game.
13.   Write numbers on scrolls to deepen their understanding of the count sequence and place value.
14. Combine shapes to create new shapes.

New Jersey Student Learning Standards for Mathematics
- **K.CC.3** Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)
- **K.OA.2** Solve addition and subtraction word problems, and add and subtract within 10.
- **K.OA.4** For any number from 1-9, 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.
- **K.NBT.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.
- **K.G.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*.
- **K.G.5** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to,:
1. Activities
    a. Mental Math
    b. Math Message (Morning Meeting Routines)
    c. Journal pages
    d. Open Response and Re Engagement Lesson: Seats at the Party
    e. Unit 5 Progress Check and Open Response Assessment
    f. Ongoing Assessments
    g. Games: *Roll and Record with Dot Dice, Top-It with Number Cards, Monster Squeeze*
2. English Language Learners
    a. Introduce the word *collection* by sending children on a classroom scavenger hunt to collect specified objects, such as 10 red crayons, 10 rulers, and so on. Have children name their collections using a sentence frame such as: *I have a collection of＿ .*
3. Special Education/504 Students

a. To prepare children to count 100 collections, have them choral count to 100 as you point to the numbers on the Number-Grid Poster or the Growing Number Line. Go slowly and count aloud with them, emphasizing patterns as you switch between decades of numbers. For example, when you reach 20, count each subsequent number emphasizing the word "twenty." Discuss patterns children notice in the count sequence.
4. Gifted and Talented Students
    a. To extend children's work with numbers and number patterns through 100, give them a Number-Grid Puzzle like the one on *Math Masters*, page 78, or remove various numbers from a 100-number pocket chart.
    b. Encourage children to use the existing numbers and the structure of the number grid to fill in the missing numbers. Have children explain their reasoning. You or children can make additional number-grid puzzles.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
● See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 6: Section 6   **(Weeks 24-28)**

Enduring Understanding
1.   Beginning in Section 6, they follow a similar sequence to learn about 3-dimensional (3-D) shapes. Children learn to distinguish between 2-D (flat) and 3-D (solid) shapes. They make connections between 2-D and 3-D shapes by looking for 2-D faces of 3-D objects and by stamping faces of 3-D objects and describing the 2-D shapes of their footprints.
2.   In Section 6, children continue to describe and compare objects based on measurable attributes, such as length, weight, and capacity. They use direct comparison to order a series of objects by length and use pan balances to find objects that are equal in weight.

Essential Question(s)
1. What are some ways to visually represent 2- and 3-Dimensional shapes?
2. What are similarities and differences between shapes?

Learning Objectives
Students will be able to:
1.   Use string to compare their body heights to classroom objects
2.   Use the pan balance
3.   Sort, count, and compare as they make and interpret a graph about pets
4.   Name, describe, and compare 3-dimensional shapes in everyday objects
5.   Analyze differences and relationships among 2- and 3- dimensional shapes
6.   Figure out and apply sorting rules as they play a game
7.   Use stick-on notes to measure their heights to determine whether they are tall enough to ride an amusement park ride

8.   Share and discuss their strategies for measuring and whether their stick-on note measurements make sense
9.   Model number stories with counters and the subtraction symbol
10. Model subtraction concretely and symbolically through a game
11. Describe, analyze, and compare measurable and geometric attributes
12. Play a game to practice finding combinations that add to 10
13. Practice addition and subtraction in a game
14. Model number stories with equations

<u>New Jersey Student Learning Standards for Mathematics</u>
- **K.CC.3** Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)
- **K.OA.1** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- **K.MD.2** Directly compare two objects with a measurable attribute in common, to see which objects has "more of"/ "less of" the attribute, and describe the difference.
- **K.MD.3** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
- **K.G.2** Correctly name shapes regardless of their orientations of overall size.

<u>Suggested Activities/Modifications</u>
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
    a. Mental math
    b. Math message (morning meeting routines)
    c. Journal pages
    d. Open response and re engagement lesson: tall enough to ride?
    e. Unit 6 progress check and open response assessment
    f. Ongoing assessments
    g. Games: *i spy with shapes, "what's my rule?" Fishing, hiding bears*
2. English language learners
    a. Model and explain the terms *long* and *tall* as they relate to direction of measure. Have children stand with their strings next to them and use a think-aloud to talk about how "tall" they are when they stand up. Next have them lie down with their strings next to them; talk about how "long" they are when they lie down. Have children practice using the terms, and help them see that their height doesn't change if they are standing up or lying down.
3. Special education/504 students
    a. To prepare for making length comparisons, have children sort and describe objects according to whether they are longer or shorter than a reference object.
4. Gifted and talented students

    a. For children who are ready to learn other ways to use their bodies to measure,

introduce common body measures, such as *digit* (width of a finger), *hand* (width of the palm), *hand span* (width of outstretched fingers), and *arm span*(length with arms outstretched).

   b. Encourage children to find and describe objects that are longer, shorter, and about the same length as each body measure. Challenge them to use their body- height strings to test whether their arm spans are about the same length as their heights. (they should be.)

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
   ● See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 7: Section 7   **(Weeks 29-33)**

Enduring Understanding
1.   In Section 7, they connect their conceptual understanding of these operations to specific strategies for adding and subtracting fluently, such as counting on or back from a starting number and noticing patterns, such as the one more and one less patterns for +1 and −1.
2.   In Section 7, children expand their developing number sense to include larger numbers. In Lesson 7-3 children use double ten frames to organize "teen number collections" into groups of ten and some more ones and represent these collections with 10 + _   expressions.

Essential Question(s)
1. Describe the differences between quantities.
2. What are some other strategies you might try?
3. How would you describe the problems in your own words?

Learning Objectives
Students will be able to:
   1.   Add and subtract on a walk-on number line.
   2.   Add the dots on dominoes, match the totals to written numerals, and record the addition number sentences.
   3.   Use doubles ten frames to count out and compare sets of 10-19 objects.
   4.   Play a game to practice identifying 2-dimensional representations of 3-dimensional objects.
   5.   Count on by 1s and count by 10s on calculators.
   6.   Use a pan balance to explore and compare weights.
   7.   Conduct a survey and represent their results.
   8.   Analyze different representations and discusses characteristics that contribute to clear representations.
   9.   Make check estimates using comparison and counting strategies.

10. Decompose numbers in multiple ways.
11.   Create and solve number stories and represent them with pictures and mathematical symbols.
12. Use a growing collection of objects to count and to record data.
13. Play a game to develop fluency with addition facts within 5.
14. Ask questions about attributes to identify and describe a mystery block.

New Jersey Student Learning Standards for Mathematics
- **K.CC.5** Count to answer "how many" questions about as many as 20 things arranged in a line, a rectangular array, or in a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects
- **K.CC.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
- **K.OA.2** Solve addition and subtraction word problems, and add and subtract within 10.
- **K.OA.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 drawing or equation (e.g., 5= 2 +3 and 5 = 4 + 1)
- **K.G.3** Identify shapes as two-dimensional (lying in a plane, "flat) or three dimensional ("solid").
- **K.G.6** Compose simple shapes to form larger shapes

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
    a. Mental Math
    b. Math Message (Morning Meeting Routines)
    c. Journal pages
    d. Open Response and Re Engagement Lesson: Represent Survey Data
    e. Unit 7 Progress Check and Open Response Assessment
    f. Ongoing Assessments
    g. Games: *Frog Hop, Solid Shape Match Up, Dice Addition*
2. English language learners
    a. Introduce the singular and plural terms *die* and *dice.* Say them with numbers so children hear and practice saying 1 *die* but 2 or more *dice.*
3. Special education/504 students
    a. If children need practice adding and subtracting objects to prepare for adding and subtracting hops, have them play *growing train, disappearing train,* or *growing and disappearing train.*
4. Gifted and talented students

a. To extend the focus activity, have children explore addition and subtraction on a 1–20 number grid. Reorient your walk-on number line so the numbers 1–10 are in one row, with the numbers 11–20 directly below them. Solicit children's ideas about how they could add and subtract on this grid (for example, how they might hop to add or subtract 10 on the grid). Have them roll the dice and move accordingly along the grid, recording each move with a number sentence on a slate.
b. For an additional challenge, specify starting and ending numbers, and encourage children to work together to find ways to get from one to the other using addition or subtraction.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
- See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 8: Section 8   **(Weeks 34-38)**

Enduring Understanding
1.   In Section 8 children build on their conceptual understanding of addition and subtraction to begin to develop fluency with adding and subtracting numbers within 5.
2.   In Section 8 children have various experiences with 3-dimensional shapes. Children model straight-edged 3-dimensional shapes, such as cubes, with marshmallows and toothpicks. They model curved shapes, such as cylinders and cones, with clay.

Essential Question(s)
1. What mathematical tools could we use to visualize and represent the situation?
2. What are the various ways to make 10?
3. What do you notice when describing shapes?

Learning Objectives
Students will be able to:
1.   Use their sense of touch to recognize, describe, and analyze 3-dimensional shapes and their attributes
2.   Children model 2-dimensional and 3-dimensional shapes
3.   Explore counting as a way to measure and compare lengths of time
4.   Count forward from numbers other than 1 throughout the 1-100 sequence
5.   Play a game to develop fluency with subtraction facts within 5
6.   Use bundles of ten and single craft sticks to represent numbers greater than ten
7.   Find number pairs that add to 10
8.   Share their solutions, describe patterns they see, and discuss how they can use patterns to find more solutions
9.   Play a game to practice decomposing numbers and finding a missing part of 10

10. Solve number stories with calculators

11. Compare numbers and place them in order from smallest (least) to largest (greatest)
12. Play a game with number cards to gain fluency with addition
13.   Learn about function machines and use them to practice basic addition and subtraction problems
14. Explore equivalent names for numbers

New Jersey Student Learning Standards for Mathematics
- **K.CC.1** Count to 100 by ones and by tens
- **K.CC.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1)
- **K.OA.4** For any number from 1-9, 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.
- **K.NBT.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.
- **K.G.4** Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts.
- **K.G.5** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
    a. Mental Math
    b. Math Message (Morning Meeting Routines)
    c. Journal pages
    d. Open Response and Re Engagement Lesson: Birds on Wires
    e. Unit 8 Progress Check and Open Response Assessment
    f. Ongoing assessments
    g. Games: *guess my number, roll and record with dot dice, addition top-it*
2. English language learners
    a. Draw in the air to review shape names and attributes. For example, "air draw" a circle and ask: *what shape is this?* Or provide children with two options to choose from such as: *did i draw a circle or a square?* Repeat with other shapes. For each shape, ask attribute questions such as: *is it straight or curved? How many sides does it have?* Reverse roles so children can practice using the terms to ask questions.
3. Special education/504 students

A. To provide concrete experiences describing attributes of solid shapes, use objects to help children compare different 3-dimensional shapes. For example, hold up a cube and a cone. With your finger, trace a straight edge of the cube and the circular edge of the cone, saying: *these are edges.* Ask questions such as: *how are they the same? How are they different? Do you see any more edges on the cube? On the cone?* Have children trace and point to edges on these and other solid shapes. Repeat by comparing vertices and faces on different shapes.
   b. Children do not need to memorize how many edges, faces, or vertices any given shape has, but it is useful for them to be able to notice and identify these attributes when describing shapes.
4. Gifted and talented students
   a. Extend the focus activity by putting shapes of different sizes and proportions into the feely box. Have children find shapes that are in the same "shape family," but are not exactly the same (for example, a large cube and a small cube or a geoblock sphere and a bouncy ball). Have children explain (to you or to each other) why they believe the shapes are in the same family.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
- See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

Unit 9: Section 9   **(Weeks 39-43)**

Enduring Understanding
1. In Section 9, children use shape and positional language and develop spatial thinking and awareness through various activities.
2. In Section 9, children refine their ability to describe multiple measurable attributes of a single object and to compare objects along various dimensions.

Essential Question(s)
1. What observations do you make about measuring attributes in shapes?
2. How do you use positional terms in real-world contexts?

Learning Objectives
Students will be able to:
1. Play a game using shape and positional language to describe and re-create pattern- block designs.
2. Play a game with number cards to gain fluency with subtractions.
3. Identify and use addition and subtraction rules.
4. Explore measurable attributes of backpacks.
5. Compare the capacity and weight of backpacks.
6. Add dice numerals and record the expressions.
7. Create classroom maps.

8.   Compare and contrast their classroom maps and use them to follow directions.
9.   Use a pan balance to explore units of weight.
10.   Use tools to measure and compare lengths of time in seconds, and make connections to counting.
11. Add and represent "doubles" addition facts.
12. Play a game to practice finding combinations that add to 10.
13. Apply math skills to prepare for a celebration.
14.   Apply counting, operations, measurement, and geometry skills during a class celebration.

New Jersey Student Learning Standards for Mathematics
- **K.CC.7** Compare two numbers between 1 and 10 presented as written numerals
- **K.OA.1** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- **K.OA.5** Demonstrate fluency for addition and subtraction within 5.
- **K.MD.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
- **K.G.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*.
- **K.G.2** Correctly name shapes regardless of their orientation or size

Suggested Activities/Modifications
Below is a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:
1. Activities
    a. Mental math
    b. Math message (morning meeting routines)
    c. Journal pages
    d. Open response and re engagement lesson: making classroom maps
    e. Unit 9 progress check and open response assessment
    f. Ongoing assessments
    g. Games: *make my design, subtraction top-it, car race*
2. English language learners
    a. Teach children gestures to use with positional words. For example, pointing left for *left*; and upturned hand for *below*; a down turned hand for *above*.
3. Special education/504 students
    a. To simplify the activity, use only three or four blocks and/or only one of each shape.
    b. To prepare children to reproduce *hidden* designs, have them first re-create

visible pattern-block designs. Make a small design with your pattern blocks and

use positional language to describe it. Keep the design visible and invite children to re-create it with their own blocks. Use language and gestures to scaffold their work and to illustrate the meaning of positional language, as needed. Then help children compare their designs with yours. Children may also try this with partners. Encourage children to use positional gestures when describing and re- creating the designs.
4. Gifted and talented students
    a. Flipping and rotating designs: for additional challenge, children can work together to build flipped or rotated versions of a design. After children make a design, ask: *if you flipped this design over, what would it look like?* Use gestures and a small mirror, if you have one, to indicate the meaning of "flipping" to get a mirror image. Help children visualize what the figure would look like and then have them build it together.

New Jersey Core Curriculum Standards – Standards 8, 9 and Career Readiness Practices
● See Technology & Career Readiness & 21st Century Skills Standards Curriculum Appendix

V. Course Materials (included, but not limited to)

- Textbook: Everyday Mathematics, McGraw Hill Education Copyright 2015
- Materials: Math Masters, Classroom Posters, Assessment Handbook, *Home Connection Handbook*, *My Reference Book*, Activity Cards, *My First Math Book*
- Manipulatives: attribute blocks, bear counters, connecting cubs, counters, counting sticks, dice, dominoes, geoboards, geosolids, inch cubes, marker boards, number line, pattern blocks, Quick Look Cards, rocker balance, rubber bands, spinners, straws, ten frames, thermometer, timer, toothpicks
- Internet Resources: ConnectED, eToolkit, ePresentations, *Resources for the Kindergarten Classroom,* Smart Notebook, Virtual Learning Community, Student Learning Center, EM Games Online, Facts Workshop

VI. Assessments (included, but not limited to)

- Sept: Baseline Fact Mastery +,-
- Jan: Mid Year Fact Mastery +,-
- May: End of Year Fact Mastery +,-
- Unit 1-9 Progress Checks
- Odd Units- Open Response Assessment
- Even Units- Cumulative Assessments
- Ongoing Assessment Check Ins
- Writing/Reasoning Prompts
- District online trimester benchmarks

VII. Cross Curricular Aspects

- **Literacy:** Have each child make a page for a class book titled *When I Am 100 Years Old____, or If I Had 100____, or I collected 100____* .
- **Science:** Children collect, organize, and analyze weather and temperature data over time and children will learn how to measure accurately with manipulatives.
- **Social Studies:** Children will learn a parent cell phone number and their house number for safety reasons.
- ***Every day*** Children will use their Weather Journals to document daily weather and count the total of each type of weather at the end of the month. Discuss the types of weather we have had the most of or least of. Read the outdoor thermometer (or gather temperature data from another source), show the temperature using the Class Thermometer Poster, and record the colored temperature zone. ***Once a month*** compile data and describe the month's weather and temperature trends.
- ***Any time*** Use weather and temperature data to informally investigate and discuss probability.