

**Berkeley Heights Public Schools Curriculum  
Berkeley Heights, New Jersey**



Mathematics

Kindergarten

Date Adopted: July 2022



## TABLE OF CONTENTS

Acknowledgements	Page 3
Document Overview	Page 4
Mathematics Principles	Page 5
Mathematics Standards	Page 6
Curriculum Pacing Guide	Page 7
Unit 0: Establishing Math Workshop Routines and Expectations (BHPS Unit)	Page 11
Unit 1: Count and Write Numbers 0-5	Page 19
Unit 2: Compare Numbers 0 to 5	Page 26
Unit 3: Count and Write Numbers 6 to 10	Page 33
Unit 4: Compare Numbers to 10	Page 41
Unit 5: Compose and Decompose Numbers to 10	Page 48
Unit 6: Add Numbers Within 10	Page 55
Unit 7: Subtract Numbers Within 10	Page 62
Unit 8: Represent Numbers 11 to 19	Page 69
Unit 9: Count and Compare Numbers to 20	Page 77
Unit 10: Count to 100	Page 84
Unit 11: Identify Two-Dimensional Shapes	Page 91
Unit 12: Identify Three-Dimensional Shapes and Positions	Page 98
Unit 13: Measure and Compare Objects	Page 105



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Julie Kot, Business Administrator and Board Secretary

David Greer, Assistant Superintendent

Marybeth Kopacz, Assistant Superintendent of Elementary Education and Intervention

### CURRICULUM WRITING TEAM

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## DOCUMENT OVERVIEW

The guidelines for developing curriculum in the Berkeley Heights Public Schools include the New Jersey State Learning Standards (NJSLS). These standards spell out specific learning expectations for each grade level and content area. We use a variation of the *Understanding by Design* (UbD) model of curriculum development and organization.

**Prerequisite Knowledge and Skills:** A brief description of foundational knowledge and skills that students should have mastered to equip them with the readiness skills necessary to make meaning of the objective of this lesson/unit.

**Essential Questions and Enduring Understandings:** These questions are used to help students conceptualize overarching ideas and to find personal meaning in their learning. Enduring Understandings are statements summarizing important ideas, key take-aways, and core processes that are central to a discipline, and have lasting value beyond the classroom.

**Formative Assessment:** Assessments that give ongoing diagnosis of learning as students engage in the unit. Results of formative assessment are used for reteaching or extending learning.

**Summative Assessment:** Assessment that indicates the level of mastery of concepts, knowledge and skills of a unit.

**Instructional Strategies/Learning Activities:** Describes the differentiated teaching strategies that create high-quality instruction to address the needs of all students, engage students in their own learning, and build students' capacity and interest in learning.

**Demonstrations of Understanding:** These Six Facets underlie students' opportunities to demonstrate their understanding of content knowledge and skills using the *Understanding by Design* model of curriculum.

1. **Explanation:** Students can explain the core meaning of learning in a way that communicates the key concepts embodied in the knowledge and skill of the standard.
2. **Interpretation:** Students can articulate why a particular standards/learning matters, relate it to other learnings, and can translate the impact of this learning on personal, societal, and scientific issues.
3. **Application:** Students can use the learning in new contexts that differ from the instructional context and can modify and flexibly use learning to suit the context.
4. **Perspective:** Students can question assumptions, conclusions and points of view and can express different viewpoints on issues and/or seek different solutions for problems.
5. **Empathy:** Students can "stand in another's shoes" and see a situation from the inside out.
6. **Self-knowledge:** Students can evaluate how they learn, examine what helps and does not help them in the learning process, and set goals to support ongoing learning. Self-knowledge asks students to identify their own barriers to learning, e.g., blind spots, misconceptions.



## MATHEMATICS PRINCIPLES

The principles for school mathematics address the overarching themes of equity, curriculum, teaching, learning, assessment and technology. (NCTM, 2000)

**Equity:** Excellence in mathematics education requires equity – high expectations, worthwhile opportunities, accommodation for differences, resources, and strong support for all students.

**Curriculum:** A coherent curriculum effectively organizes standards and mathematical ideas, focuses on important mathematics, and is well articulated within and across grades.

**Teaching:** Effective standards-aligned mathematics instruction is a complex endeavor that requires understanding what students know and need to learn, and then challenging and supporting them to learn it well. Effective teaching requires continually seeking improvement.

**Learning:** Conceptual understanding is an important component of proficiency. Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge. Learning with understanding is essential to enable students to solve the new kinds of problems they will inevitably face in the future.

**Assessment:** Standards-aligned assessment, a routine part of ongoing classroom activity, should enhance students' learning and inform instructional decisions.

**Technology:** Technology, not to be used as a replacement for basic understandings and intuitions, is an essential tool in teaching and learning mathematics; it influences the mathematics that is taught, supports visualization, facilitates organizing and analyzing data, and offers efficient computation.



## MATHEMATICS STANDARDS

### Intent and Spirit of the Mathematics Standards

Research studies of mathematics education in high-performing countries have concluded that mathematics education in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on this promise, the mathematics standards are designed to address the problem of a curriculum that is "a mile wide and an inch deep."

The math standards provide **clarity and specificity** rather than broad general statements. The standards draw on the most important international models for **mathematical practice**, as well as research. They endeavor to follow the design envisioned by William Schmidt and Richard Houang (2002), by not only **stressing conceptual understanding** of key ideas, but also by continually returning to organizing principles (coherence) such as place value and the laws of arithmetic to structure those ideas.

In addition, the "sequence of topics and performances" that is outlined in a body of math standards must respect what is already known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students...absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." Therefore, the development of the standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time. The knowledge and skills students need to be prepared for mathematics in college, career, and life are woven throughout the mathematics standards.

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.

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

NJ Student Learning Standards K-5, can be found at this link:  
<https://www.nj.gov/education/standards/math/Index.shtml>



## KINDERGARTEN CURRICULUM PACING GUIDE

UNIT NUMBER	UNIT TITLE	SUGGESTED PACING	MATH CENTERS
0 (Beginning of Year Introductory Unit)	Establishing Math Workshop Routines and Expectations (BHPS Unit)	September	<ul style="list-style-type: none"> <li>● Set expectations</li> <li>● Develop routines</li> <li>● Assess</li> <li>● Form differentiated groups</li> <li>● Create opportunities for independent exploration and collaboration</li> </ul>
1	Count and Write Numbers 0 to 5	12 Days (October)	T-56 CENTER Center 1: Number Land Center 2: Skills Trainer Center 3: Flip and Find Center 4: Color by Numbers Center 5: Number Poster
2	Compare Numbers 0 to 5	9 Days (October/November)	T-94 CENTER Center 1: Toss and Compare Center 2: Skills Trainer Center 3: Bear Match-Up Center 4: Number Path Clip

			Center 5: Compare Lion Cards
3	Count and Write Numbers 6 to 10	15 Days (November)	T-168 CENTER Center 1: Number Land Center 2: Skills Trainer Center 3: Flip and Find Center 4: Caterpillar Prints Center 5: Missing Numbers
4	Compare Numbers to 10	9 Days (December)	T-206 CENTER Center 1: Toss and Compare Center 2: Skills Trainer Center 3: Bear Match-Up Center 4: Number Path Clip Center 5: Compare Lion Cards
5	Compose and Decompose Numbers to 10	12 Days (December/January)	T-266 CENTER Center 1: Number Bond Spin and Cover Center 2: Skills Trainer Center 3: Fun with Dominoes Center 4: Write and Wipe Number Bonds Center 5: Fishy Number Bond
6	Add Numbers Within 10	12 Days (January)	T-322 CENTER Center 1: Add and Cover Center 2: Skills Trainer Center 3: Number Flip Center 4: Build It

7	Subtract Numbers Within 10	11 Days (January/February)	T-372 CENTER Center 1: Losing Teeth Center 2: Skills Trainer Center 3: Math Sentence Beads Center 4: Addition Callout Center 5: Subtraction Callout
8	Represent Numbers 11 to 19	15 Days (February/March)	T-452 CENTER Center 1: Number Flip and Find Center 2: Skills Trainer Center 3: Counting Objects Center 4: Roll Twenty Frames
9	Count and Compare Numbers to 20	10 Days (March)	T-496 CENTER Center 1: Number Boss Center 2: Skills Trainer Center 3: Cards to 10 Center 4: Get to 20! Center 5: Spot the Ladybug
10	Count to 100	10 Days (April)	T-540 CENTER Center 1: Hundred Chart Puzzle Center 2: Skills Trainer Center 3: Roll the Dice to 100 Center 4: Cup Towers to 100 Center 5: Counting by Tens Hopscotch
11	Identify Two-Dimensional Shapes	11 Days (April/May)	T-594 CENTER Center 1: Shape Flip and

			Find Center 2: Skills Trainer Center 3: Shapes Felt Board Center 4: Find the Shape Center 5: Form the Shape
12	Identify Three-Dimensional Shapes and Positions	10 Days (May)	T-638 CENTER Center 1: Solid Shapes: Spin and Cover Center 2: Skills Trainer Center 3: Shape Museum Center 4: Building Shapes Center 5: Describing Shapes
13	Measure and Compare Objects	11 Days (May/June)	T-688 CENTER Center 1: Measurement Boss Center 2: Skills Trainer Center 3: Building Towers Center 4: Exploring Weight Center 5: Comparing Lengths



UNIT TITLE			
Establishing Math Workshop Routines and Expectations (BHPS Unit)			
CONTENT AREA:		GRADE LEVEL:	
Mathematics		Kindergarten	
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Unit 0 12 Days (September)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>Students will be learning about the routines and expectations of whole group lessons, math work stations, and explorations. Math work stations are areas within the classroom where students work with a partner and use instructional materials to explore and expand their mathematical thinking. During this time students will explore and learn how to work with and manipulate math materials (linking cubes, pattern blocks, counting bears, two-sided counters) as they are gradually introduced. The best way to ensure student independence is to have modeled well with instructional materials before moving them to a station for practice. Students need to see and participate in several demonstrations of how to use materials or do tasks, such as playing partner games, before they can do them well on their own. While students are actively engaged exploring work stations, the classroom teacher should collect beginning of the year. Once the data are collected the teacher should organize the class in differentiated groups for small group instruction.</p>			
KEY UNDERSTANDINGS			
<b>MATHEMATICAL PRACTICES:</b> <a href="https://www.nj.gov/education/standards/math/index.shtml">https://www.nj.gov/education/standards/math/index.shtml</a>			
<b>NEW JERSEY STUDENT LEARNING STANDARDS:</b>  Kindergarten Mathematical Overview			

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/number sense 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.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS:**

- Identify and take care of math materials.
- Identify expectations of math work stations.
- Learn and demonstrate an understanding of how to read the math work board.
- Work collaboratively in partnerships or small groups.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand math materials and work stations?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand math workshop.

**STUDENTS WILL BE ABLE TO:**

- Follow workshop routine.
- Move from station to station with support.

- Identify where materials are stored.
- Identify how to use materials and what they are used for.
- Take turns when working with others.
- Speak and work at an appropriate volume.
- Care for their own space and materials.
- Work respectfully and collaboratively with peers.

## ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING

### FORMATIVE ASSESSMENTS

- Anecdotal notes
- Exit Slips
- Student Performance
- Math Notebooks

### SUMMATIVE ASSESSMENTS

- iReady and Link It- Scheduled According to District Assessment Calendar
- BHPS Kindergarten Mathematics Checklist

### ALTERNATE ASSESSMENTS

- Self reflection (“Show me a thumbs up, middle, or down if you [feel like you can take care of your own materials].”)

## LEARNING PLAN/INSTRUCTIONAL STRATEGIES

### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

**Math Stations:** Math stations are areas within the classroom where students work with partners or small groups. Students use instructional materials to explore and expand their mathematical thinking through a variety of activities that reinforce and/or extend prior instruction. This is a time for children to practice problem solving while reasoning, representing, communicating and making connections among math topics. During this time, the teacher will observe students or interact with individuals or small groups for differentiated math instruction.

**Classroom Setup:** There are many manipulatives in math work stations. Consider storing manipulatives in portable containers or clear plastic tubs all in one area. Each math station will house materials for students in various places around the room, so it’s important to choose a central location easily accessible to all students (shelf or countertop). Label math bins (one number per bin) and place a corresponding number to a bin in different areas around the room (rug, tables, desks, carpet squares, etc.) as this will minimize noise in the classroom since students will be spread out. Students will learn to grab an assigned bin and find their location around the room using numbers. You may use the same areas for math stations that are used for literacy work stations. For example, a literacy pocket chart can also be used for a math pocket chart. The “writing station” can also be a place to make math related

books or writing math problems. Make sure all students can be seen during math stations.

**Establishing Partnerships:** Pairing students together increases student engagement as it's easy to take turns, share and discuss. It also gives students more responsibility when completing or sharing the work that was assigned. Pairing students may also decrease noise within the classroom during stations as students will be in much smaller groups rather than groups of three or four students. In the beginning of the year, pair students that are comfortable with each other or know each other. As the year progresses, change up the pairs based upon different needs. Have students sit side by side rather than face to face so students can work together and view numbers the same way. If you have an odd number of students, you can create a group of 3 students or you can have students work individually who prefer to work alone.

**Using and Caring for Instructional Materials:** When introducing instructional materials to students, make sure these materials are taught previously to students before being put in math stations. Students need opportunities to practice skills or play games several times during whole group instruction before exploring math stations independently. When stations are introduced too quickly without enough opportunity to practice, students may forget the task that is supposed to be completed. Use materials or manipulatives that have already been taught with and move those materials to stations. For example, if 3D shapes are the unit of focus, explore real-life 3D objects during whole group instruction. Slowly, move those 3D items into math stations for further exploration. 3D shapes do not have to be the focus of all math stations. Some stations may contain materials for students to review or concepts that were previously taught before the 3D exploration. It is important to remember that a math concept should be taught several times before moving it to stations. For further example, once 3D shapes are taught, math stations can consist of geometry-related stations such as "guess my shape", shape sorts, shape hunt and other previously taught concepts. Remember to look inside our teacher edition book for station ideas for each unit.

**Providing Choice and Exploration:** Choice is an important feature in making math stations successful. There should be a "controlled choice" of things for children to choose from. However, too many options may overwhelm students. Students should be choosing from materials that were used during whole group instruction. They should be familiar with the materials within the math stations. Be sure to provide opportunities for exploration and/or practice as allowing choice will also enable students to learn more. For example, if a station is focused on counting, you may want to provide two or three different activities that involve counting (counting book, math game, etc.). This allows students to think about this mathematical concept for the entire work period. Be sure to have all materials needed for the activities in the station (dice, spinners, counters, etc.) to minimize interruptions during work time. Having choices also eliminates the problem of having an "early finisher" as students can move on to another choice when finished. It is important to give children the opportunity to explore and develop mathematical understanding through independent practice. Stations can grow from the math program or other resources that develop the math concepts being taught. Students will be working on tasks where they must solve problems and use reasoning skills. Within a station, children may be asked to represent what they're learning through drawing, writing and even dramatizing or telling stories. For example, one station may have the opportunity for story telling. Using dice and farm animals, one player

may roll a 4 and pick up 4 little pigs. The partner may roll a 1 and pick up 1 cow. Together, students can create a story using these animals, draw a picture of their story and share with the class when math stations are over.

**Differentiating Instruction:** When students are working independently, this can be a time for the teacher to observe and gather data informing decisions about meeting individual student needs. Math stations are also a time for the teacher to work with one or two small groups. Teacher-led small groups can be used for reinforcement with students that may not have grasped a math concept that was taught. These groups can also be used for the teacher to provide enrichment for students that have advanced with mathematical concepts. When collecting data in small groups and/or stations, take anecdotal notes that can help plan further instruction. Notes can be taken and organized on a clipboard with each student's name. Jot down notes based on individual students' mathematical understanding, making entries on just a few students each day. Once there are enough notes on each student, use these notes to plan differentiated instruction. Each teacher-led small group should look a bit different from other groups. Math stations can also be developed from a small-group lesson for specific students.

#### **Mini-Lessons/Anchor Charts for Launching Math Workshop**

*\*adapted from Math Work Stations: Independent Learning You Can Count On K-2 by Debbie Diller*

- How to use the equipment/materials
- How to share materials
- How to take turns
- How to decide what to do at a station
- How to solve a problem
- Where can I go for help?
- How to put things away
- How to switch work stations
- "I Can..." anchor charts

#### **OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoghIKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

#### **INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Science: Take your students for a walk outside to find and count two things that are the same or different. T-7
- ELA:
  - Read *Brown Bear, Brown Bear, What Do You See?* By Bill Martin Jr. and Eric Carle; Count characters or objects throughout the story. T-7
  - Create a classroom number book called *Our Number Walk: 1 and 2*. T-14
- Count and sort the letters and syllables in students names, multisyllabic words, and sight words. T-7

## STATE REQUIREMENTS

### **CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- Standard 9.2 Career Awareness, Exploration, Preparation and Training. This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

### **P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

### **SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

### **SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

### **COMPUTER SCIENCE AND DESIGN THINKING:**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSLSTechnology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSL - Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

### Framework for 21st Century Learning

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

### GLOBAL THINKING:

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.  
N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.
- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSL and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.
- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to

honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.

- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.

Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.

- **“Learning for Justice” Frameworks:**

<https://www.learningforjustice.org/frameworks>

Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

- *Big Ideas Math 2022*
- *iReady Adaptive Learning Platform*
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book series*

### HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations* by Debbie Diller
- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



UNIT TITLE			
Count and Write Numbers 0-5			
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Unit 1 12 Days (October)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>Students will be learning number sense as they count and write numbers 0-5. Learning to count is a developmental process in which children build their knowledge and understanding of number names and quantities. Cardinality is developed as students understand that the last number they say when counting is the total number of objects. It is our goal to have students fluently add and subtract within five while learning how to subitize which is being able to see groups of objects and knowing its amount without counting. Students will first learn to model and count each number before they associate the symbol to the number name and quantity. Along with this, students learn to write numbers 0-5 using verbal pathways. Numbers 1-5 are learned before 0 as that becomes a difficult concept for students to grasp, as they cannot point to or count objects. After learning 0-5, they show numbers in sequential order by counting forward, backward and from a given number to understand number sequence and prepare for comparing numbers.</p>			
KEY UNDERSTANDINGS			
<p><b>MATHEMATICAL PRACTICES:</b>  <a href="https://www.nj.gov/education/standards/math/Index.shtml">https://www.nj.gov/education/standards/math/Index.shtml</a></p>			
<p><b>NEW JERSEY STUDENT LEARNING STANDARDS:</b></p> <ul style="list-style-type: none"> <li>● K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. <ul style="list-style-type: none"> <li>○ 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.</li> </ul> </li> </ul>			

- 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.
- K.CC.B.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.
- K.CC.A.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).
- K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
  - c. Understand that each successive number name refers to a quantity that is one larger.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS:**

- Ability to identify numbers accurately.
- Ability to name numbers.
- Ability to order numbers accurately.
- Ability to write numerals.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand the relationship between numbers/numerals and quantities?
- Why is it important to count accurately?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand counting and cardinality.

**STUDENTS WILL BE ABLE TO:**

- Show and count the numbers 1 and 2.
- Understand and write the numbers 1 and 2.
- Show and count numbers 3 and 4.
- Understand and write the numbers 3 and 4.
- Show and count the number 5.
- Understand and write the number 5.
- Understand, name, and write the number 0.
- Count and order numbers to 5.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)

- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

**LEARNING PLAN/INSTRUCTIONAL STRATEGIES**

**LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 1 Five Green and Speckled Frogs</i> by Priscilla Burris(see <i>Math by the Book</i> Math Intervention binder)</li> </ul>
1.1	<ul style="list-style-type: none"> <li>● Name the numbers 1 and 2</li> <li>● Count one or two objects</li> <li>● Tell the number of objects in a group.</li> </ul>
1.2	<ul style="list-style-type: none"> <li>● Identify groups of one and two objects.</li> <li>● Write the numbers 1 and 2.</li> </ul>
1.3	<ul style="list-style-type: none"> <li>● Name the numbers 3 and 4.</li> <li>● Count one object for each number to 4.</li> <li>● Tell the number of objects in a group.</li> </ul>
1.4	<ul style="list-style-type: none"> <li>● Identify groups of three and four objects.</li> <li>● Write the numbers 3 and 4.</li> </ul>
1.5	<ul style="list-style-type: none"> <li>● Name the number 5.</li> <li>● Count one object for each number to 5.</li> <li>● Tell the number 5.</li> </ul>

1.6	<ul style="list-style-type: none"> <li>● Identify a group of five objects.</li> <li>● Write the number 5.</li> </ul>
1.7	<ul style="list-style-type: none"> <li>● Name the number 0.</li> <li>● Explain that 0 means having no objects.</li> <li>● Identify a group of zero objects.</li> <li>● Write the number 0.</li> </ul>
1.8	<ul style="list-style-type: none"> <li>● Count from 1 to 5.</li> <li>● Identify the starting number.</li> <li>● Order numbers up to 5.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book: Lesson 4 Flower Garden</i> by Eve Bunting(see <i>Math by the Book</i> Math Intervention binder)</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUeiTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Science: Take your students for a walk outside to find and count two things that are the same or different. T-7
- ELA:
  - Read *Brown Bear, Brown Bear, What Do You See?* By Bill Martin Jr. and Eric Carle; Count characters or objects throughout the story. T-7
  - Create a classroom number book called *Our Number Walk: 1 and 2*. T-14
  - Count and sort the letters and syllables in students names, multisyllabic words, and sight words. T-7

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- Standard 9.2 Career Awareness, Exploration, Preparation and Training. This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

**SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

**COMPUTER SCIENCE AND DESIGN THINKING:**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLs-CSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSL Technology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSL – Technology, outlines the technological design concepts and skills essential for

technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

### Framework for 21st Century Learning

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

### GLOBAL THINKING:

- **Amistad and Holocaust:**

N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.

N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSL and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.

- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.

- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.

Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.

- **"Learning for Justice" Frameworks:**

<https://www.learningforjustice.org/frameworks>

Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

- *Big Ideas Math 2022*
- *iReady* Adaptive Learning Platform
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

### HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations* by Debbie Diller
- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



**UNIT TITLE**

Compare Numbers 0-5

**CONTENT AREA:** Mathematics **GRADE LEVEL:** Kindergarten

**UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT**

Unit 2  
9 Days (October/November)

**UNIT FOCUS - SUMMARY OF UNIT**

In this chapter, students learn to compare numbers 1 to 5. This learning begins with deciding whether two quantities are the same or not the same. Students will learn the vocabulary terms more and less. Students may have an understanding of the concept of more when the difference of quantity is great. It is important to ask pairs of comparative quantities such as fewer or less. A concrete and visual way to compare the quantities in two groups is to match items. Students can pair the objects from two groups by moving them, or lines can be drawn when students are looking at a picture. Once students have used matching to understand what it means to compare two groups, they can use counting to compare. In order to show what they know (that 3 is less than 5), models can be used to compare numbers that are closer in quantity. Models include fingers, five frames, linking cubes arranged in towers, rekenreks, and anchor charts.

**KEY UNDERSTANDINGS**

**MATHEMATICAL PRACTICES:**  
<https://www.nj.gov/education/standards/math/Index.shtml>

- NEW JERSEY STUDENT LEARNING STANDARDS:**
- K.CC.C.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.CC.B.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.

- K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

Ability to...

- Identify groups of objects.
- Match objects.
- Compare groups.
- Draw groups of objects.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand grouping?
- What are the different ways I can compare groups of items/numbers?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand grouping.

**STUDENTS WILL BE ABLE TO:**

- Show and tell whether two groups are equal in number.
- Show and tell whether one group has a greater number of objects than another group.
- Show and tell whether one group has a lesser number of objects than another group.
- Use counting to compare the number of objects in two groups.
- Compare two numbers.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

<b>LEARNING PLAN/INSTRUCTIONAL STRATEGIES</b>
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**LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● Introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 8 Goodbye Autumn, Hello Winter</i> by Kenard Pak (see <i>Math by the Book</i> Math Intervention binder)</li> </ul>
2.1	<ul style="list-style-type: none"> <li>● Match objects from two groups.</li> <li>● Tell whether the numbers of objects in two groups are the same or not the same.</li> </ul>
2.2	<ul style="list-style-type: none"> <li>● Match objects from two groups.</li> <li>● Identify the group that has more objects.</li> </ul>
2.3	<ul style="list-style-type: none"> <li>● Match objects from two groups.</li> <li>● Identify the group that has fewer objects.</li> </ul>
2.4	<ul style="list-style-type: none"> <li>● Compare the numbers of objects in two groups using the words <i>greater than, less than, or equal to</i>.</li> <li>● Explain how to compare two groups by counting.</li> </ul>
2.5	<ul style="list-style-type: none"> <li>● Tell whether two numbers are the same.</li> <li>● Use <i>greater than and less than</i> to describe two numbers that are not the same.</li> <li>● Draw to show how one number compares to another.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book: Lesson 3 Grandma's Purse</i> by Vanessa Brantley-Newton (see <i>Math by the Book</i> Math Intervention binder) *options for differentiation</li> </ul>

Chapter Assessment	<ul style="list-style-type: none"> <li>Chapter Test B</li> </ul>
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**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Science: Keep track of the weather for a few days and compare the number of sunny days to the number of cloudy days. Are the numbers the same? T-63
- Social Studies: Discuss different modes of transportation and compare the amount of seats available and number of tires. T-75
- ELA: Choose two different pages in a book and discuss which page number is less than or greater than the other page number. Talk about which way you would turn the page to get to a number that is greater than the page you are on. T-87

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

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- Self-management

- Social Awareness
- Responsible Decision-making
- Relationship Skills

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[SEL Math Musicals](#)

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Suggested Brain breaks: [Jack Hartmann](#)

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- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
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**GLOBAL THINKING:**

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.  
N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.
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portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSL and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.

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- **"Learning for Justice" Frameworks:**

<https://www.learningforjustice.org/frameworks>

Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns

- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



### UNIT TITLE

Count and Write Numbers 6 to 10

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 3  
15 Days (January)

### UNIT FOCUS - SUMMARY OF UNIT

In this chapter, students will count, write and understand numbers to 10. Students will see a ten frame for the first time. Placing 2 five frames together as an array will help students start to understand the benchmark of 10 which helps students build their number sense. Dot models may be used during Dig In time or centers to help students recognize patterns. The way groups of objects are arranged and how number quantities are modeled is important for students to develop a conceptual understanding of what counting means. Also in this chapter, students first learn to model and count each number before they associate the numeral to the number name and quantity. Students will learn to write numbers 6 through 10 using verbal pathways. Students will understand that 10 is the first time two numerals are needed to represent a number. To help students make sense of this, say, “The number 10 has two parts, a 1 and a 0”. At the end of the chapter, students learn to order numbers 0-10.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/Index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

- K.CC.B.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.
- K.CC.B.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.
- K.CC.A.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).
- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

Ability to...

- Identify numbers.
- Name numbers.
- Order numbers.
- Write numbers.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand numbers?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand numbers.

**STUDENTS WILL BE ABLE TO:**

- Show and count the number 6.
- Understand and write the number 6.
- Show and count the number 7.
- Understand and write the number 7.
- Show and count the number 8.
- Understand and write the number 8.
- Show and count the number 9.
- Understand and write the number 9.
- Show and count the number 10.

- Understand and write the number 10.
- Count and order numbers to 10.

## ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING

### FORMATIVE ASSESSMENTS

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

### SUMMATIVE ASSESSMENTS

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

### ALTERNATE ASSESSMENTS

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

## LEARNING PLAN/INSTRUCTIONAL STRATEGIES

### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 2 Ten Pigs: An Epic Bath Adventure</i> by Derek Anderson (see <i>Math by the Book</i> Math Intervention binder)</li> </ul>
3.1	<ul style="list-style-type: none"> <li>● Name the number 6.</li> <li>● Count one object for each number to 6.</li> <li>● Tell the number of objects in a group.</li> </ul>
3.2	<ul style="list-style-type: none"> <li>● Identify a group of six objects.</li> <li>● Write the number 6.</li> </ul>
3.3	<ul style="list-style-type: none"> <li>● Name the number 7.</li> <li>● Count one object for each number to 7.</li> </ul>

	<ul style="list-style-type: none"> <li>● Tell the number of objects in a group.</li> </ul>
3.4	<ul style="list-style-type: none"> <li>● Identify a group of seven objects.</li> <li>● Write the number 8.</li> </ul>
3.5	<ul style="list-style-type: none"> <li>● Name the number 8.</li> <li>● Count one object for each number to 8.</li> <li>● Tell the number of objects in a group.</li> </ul>
3.6	<ul style="list-style-type: none"> <li>● Identify a group of 8 objects.</li> <li>● Write the number 8.</li> </ul>
3.7	<ul style="list-style-type: none"> <li>● Name the number 9.</li> <li>● Count one object for each number to 9.</li> <li>● Tell the number of objects in a group.</li> </ul>
3.8	<ul style="list-style-type: none"> <li>● Identify a group of nine objects.</li> <li>● Write the number 9.</li> </ul>
3.9	<ul style="list-style-type: none"> <li>● Name the number 10.</li> <li>● Count one object for each number to 10.</li> <li>● Tell the number of objects in a group.</li> <li>● <a href="#">Math Musical: Fish Crackers Counting to 10</a></li> </ul>
3.10	<ul style="list-style-type: none"> <li>● Identify a group of 10 objects.</li> <li>● Write the number 10.</li> </ul>
3.11	<ul style="list-style-type: none"> <li>● Count to 10.</li> <li>● Identify the starting number.</li> <li>● Order numbers to 10.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book: Lesson 5 Ten, Nine, Eight</i> by Molly Bang (see <i>Math by the Book</i> Math Intervention binder)</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- ELA:
  - Count the number of words in a sentence or the number of letters in a word. T-101
  - Start a classroom book, *Our Number Walk: 6-10* by drawing items for the number 6. T-108
- Social Studies: Identify any students who are six years old or those who have six letters in their name. T-101
- Science: All insects have six legs. Look at pictures of insects and coin the legs. T-107

**STATE REQUIREMENTS****CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
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- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

## SEL Learning Activities:

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

## COMPUTER SCIENCE AND DESIGN THINKING:

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSLS Technology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSLS – Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

## Framework for 21st Century Learning

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

## GLOBAL THINKING:

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.  
N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.
- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSLS and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect

towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.

- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.
- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.  
Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.
- **"Learning for Justice" Frameworks:**  
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Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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TEACHER NOTES



**UNIT TITLE**

Compare Numbers to 10

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

**UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT**

Unit 4

9 Days (December)

**UNIT FOCUS - SUMMARY OF UNIT**

Students are familiar with comparing numbers to 5 and in this chapter, they extend their comparison strategies to numbers within 10. By this point, students should be more confident with counting sequences. We want students to develop quantitative relationships such as six is one less than seven, and seven is one more than six. Knowing relationships of one and two more and one and two less will be integrated into this chapter to extend student understanding of comparing numbers. Students will continue to use vocabulary introduced in chapter 2: equal (same), greater than (more), less than (fewer). Along with this, comparing numbers by matching and counting are two strategies used to compare numbers to 10. As the chapter progresses, students are asked to compare written numerals. There is also a focus in categorical data and comparing the quantities in two categories. Students must be able to tell whether an object belongs or does not belong to a category before comparing.

**KEY UNDERSTANDINGS**

**MATHEMATICAL PRACTICES:**

<https://www.nj.gov/education/standards/math/Index.shtml>

**NEW JERSEY STUDENT LEARNING STANDARDS:**

- K.CC.C.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.CC.B.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.
- K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.

- K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Match objects.
- Explain how to compare numbers of objects.
- Classify objects into categories.
- Tell how many objects are in a category.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand categories?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand categories.

**STUDENTS WILL BE ABLE TO:**

- Use matching to compare the numbers of objects in two groups.
- Use counting to compare the numbers of objects in two groups.
- Compare two numbers.
- Tell whether objects belong or do not belong in a category.
- Compare the numbers of objects in two categories.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

<b>LEARNING PLAN/INSTRUCTIONAL STRATEGIES</b>
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**LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 3 Grandma's Purse</i> by Vanessa Brantley-Newton (see <i>Math by the Book Math Intervention binder</i>)</li> </ul>
4.1	<ul style="list-style-type: none"> <li>● Match objects from two groups.</li> <li>● Compare the numbers of objects in two groups using greater than, less than, or equal to.</li> </ul>
4.2	<ul style="list-style-type: none"> <li>● Compare the numbers of objects in two groups using greater than, less than, or equal .</li> <li>● Explain how to compare two groups by counting.</li> </ul>
4.3	<ul style="list-style-type: none"> <li>● Tell whether two numbers are the same.</li> <li>● Use greater than and less than to describe two numbers that are not the same.</li> <li>● Draw to show how one number compares to another.</li> <li>● <a href="#">The Amazing, Amazing Coin Trick</a></li> <li>● <a href="#">The Disappearing Trick</a></li> </ul>
4.4	<ul style="list-style-type: none"> <li>● Describe what is the same about a group of objects.</li> <li>● Classify objects into a category.</li> <li>● Identify objects that are not in a category.</li> </ul>
4.5	<ul style="list-style-type: none"> <li>● Use Marks to show each object in a category.</li> <li>● Count how many in each category.</li> <li>● Compare the numbers of objects in two categories using greater than, less than, or equal to.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> </ul>

	<ul style="list-style-type: none"> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

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**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- ELA: Read *Ten Apples Up on Top* by Dr. Seuss and prepare 10 paper, play-dough, or felt circles for each student to use as representations of apples. Students can stack the circles on top of classroom objects without them falling off. Students can use matching to compare stacked apples. T-175
- Science: Have students build tall structures with various manipulatives. Have students compare the amount of manipulatives used in their structure with classmates. T-181
- Bodily-Kinesthetic: *Play Show and Compare numbers 5-10*. T-182

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Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

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- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

#### **TEACHER NOTES**



UNIT TITLE			
Compose and Decompose Numbers to 10			
CONTENT AREA:	Mathematics	GRADE LEVEL:	Kindergarten
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Unit 5 12 Days (December/January)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>In this chapter, students deepen their number sense by identifying pairs of numbers that are embedded or “hidden” within a number. Understanding how numbers can be put together and taken apart is the beginning of thinking about addition and subtraction. These operations are not the focus of this chapter, but we want students to think of putting together two groups of objects (composing) and taking apart a group of objects (decomposing). The concept of embedded or hidden numbers is introduced in the first section along with partner numbers and the part-part whole relationship. Students may see the number 3 as being composed by two numbers, 2 and 1. This is when we introduce partner numbers. Students need an understanding of embedded numbers and partner numbers before they formally learn to add and subtract.</p>			
KEY UNDERSTANDINGS			
<p><b>MATHEMATICAL PRACTICES:</b>  <a href="https://www.nj.gov/education/standards/math/index.shtml">https://www.nj.gov/education/standards/math/index.shtml</a></p>			
<p><b>NEW JERSEY STUDENT LEARNING STANDARDS:</b></p> <ul style="list-style-type: none"> <li>● K.OA.A.1 Represent addition and subtraction with up to 10 objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</li> <li>● K.OA.A.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., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</li> </ul>			
<p><b>PREREQUISITE KNOWLEDGE AND SKILLS: (<i>Progressions</i>)</b></p> <ul style="list-style-type: none"> <li>● Students should be able to sit and actively listen for short periods of time.</li> </ul>			

- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Identify the parts and the whole.
- Name partner numbers.
- Compare parts of numbers.
- Model taking apart numbers.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand partner numbers?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand partner numbers. (Addends and subtrahends that make up sums and differences.)

**STUDENTS WILL BE ABLE TO:**

- Use partner numbers to show numbers to 5.
- Use number bonds to show the parts and the whole for numbers to 5.
- Use partner numbers to make and take apart the number 6.
- Use partner numbers to make and take apart the number 7.
- Use partner numbers to make and take apart the number 8.
- Use partner numbers to make and take apart the number 9.
- Use partner numbers to make and take apart the number 10.
- Use a group of 5 to put together and take apart numbers to 10.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
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### LEARNING PLAN/INSTRUCTIONAL STRATEGIES

#### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 10 Quack and Count</i> by (see <i>Math by the Book</i> Keith Baker Math Intervention binder)</li> </ul>
5.1	<ul style="list-style-type: none"> <li>● Name each part.</li> <li>● Name the whole.</li> <li>● Name the partner numbers for a whole.</li> <li>● <a href="#">Math Musical: Cool Cats</a></li> <li>● <a href="#">Math Musical: Rockin' dogs and Cool Cats</a></li> </ul>
5.2	<ul style="list-style-type: none"> <li>● Model putting together the parts to show the whole.</li> <li>● Model taking apart the whole to show the parts.</li> <li>● Use a number bond to show the parts and the whole.</li> </ul>
5.3	<ul style="list-style-type: none"> <li>● Name the parts and the whole.</li> <li>● Use a number bond to show the parts and the whole.</li> </ul>
5.4	<ul style="list-style-type: none"> <li>● Name the parts and the whole.</li> <li>● Use a number bond to show the parts and the whole.</li> <li>● <a href="#">Math Musical: Up and Down the Midway</a></li> </ul>
5.5	<ul style="list-style-type: none"> <li>● Use partner numbers to make and take apart the number 9.</li> </ul>
5.6	<ul style="list-style-type: none"> <li>● Name the parts and the whole.</li> <li>● Use a number bond to show the parts and the whole.</li> </ul>
5.7	<ul style="list-style-type: none"> <li>● Name the parts and whole.</li> <li>● Use a number bond to show the parts and the whole.</li> </ul>
5.8	<ul style="list-style-type: none"> <li>● Name the whole.</li> <li>● Find a group of 5.</li> <li>● Name the partner numbers when one part is 5.</li> </ul>
Connect and	<ul style="list-style-type: none"> <li>● Performance Task</li> </ul>

Grow	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>• Centers</li> </ul>
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**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- ELA: Read *Doggies* by Sandra Boynton up to the page where 5 dogs are barking. After you read a page, students can make number bonds for the number of dogs on that page. T-223
- Musical: Sing songs: 5 Green and Speckled Frogs, 5 Little Monkeys Jumping on the Bed, and 5 Little Ducks. T-224
- Bodily-Kinesthetic: Play *Snap*. T-224
- Art: Make chains with 6 paper strips. Students should write a number bond on a piece of paper to match their paper chain. T-229

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- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSLs and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.
- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.
- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.  
Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.
- **"Learning for Justice" Frameworks:**  
<https://www.learningforjustice.org/frameworks>  
Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

- Big Ideas Math 2022
- iReady Adaptive Learning Platform
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

### HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations* by Debbie Diller

- Math specialists
- Laurie's Notes from Big Ideas Math
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- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



### UNIT TITLE

Add Numbers Within 10

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 6  
12 Days (January)

### UNIT FOCUS - SUMMARY OF UNIT

In this chapter, we introduce the symbols associated with an addition equation, initially referring to it as an addition sentence. This chapter presents the two types of addition situations expected in kindergarten: *Add To* with result unknown and *Put Together* with either total unknown or both addends unknown. The language of addition is introduced through the story problems where the contexts naturally use words such as *join*, *some*, *more*, or *in all*. Two necessary symbols, the plus sign and equal sign, are introduced as a way to help students record what they are thinking when they tell a story. The equal sign represents a relationship between two quantities and we don't want students believing it means "the answer". Use language such as "is the same amount as" or "is the same as". Students will make connections to the partner numbers they worked on in chapter 5 by writing addition sentences.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/Index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

- K.OA.A.1 Represent addition and subtraction with up to 10 objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
- K.OA.A.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.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
  - c. Understand that each successive number name refers to a quantity that is one larger.
- K.OA.A.5 Demonstrate fluency for addition and subtraction within 5.
- K.OA.A.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.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Identify a number sentence.
- Describe a pattern.
- Write an addition sentence.
- Explain addition sentences.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand addition patterns?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand addition patterns.

**STUDENTS WILL BE ABLE TO:**

- Add to a group of objects and tell how many.
- Add to a group of objects and complete an addition sentence.
- Put two groups of objects together and complete an addition sentence.
- Find partner numbers for a number and write an addition sentence.
- Explain addition patterns with 0 and 1.
- Add partner numbers (addends) to 5.
- Use a group of 5 to write an addition sentence.
- Find partner numbers (addends) for 10 and write an addition sentence.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips

- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

**LEARNING PLAN/INSTRUCTIONAL STRATEGIES**

**LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book</i>: Lesson 12 <i>Little Quack</i> by Lauren Thompson (see <i>Math Math Intervention binder</i>).</li> </ul>
6.1	<ul style="list-style-type: none"> <li>● Tell how many objects there are to start.</li> <li>● Tell how many objects are added to a group.</li> <li>● Tell how many objects there are in all.</li> </ul>
6.2	<ul style="list-style-type: none"> <li>● Tell what the plus sign means.</li> <li>● Tell what the equal sign means.</li> <li>● Explain an addition sentence.</li> </ul>
6.3	<ul style="list-style-type: none"> <li>● Show how to put together two groups of objects.</li> <li>● Tell how many there are in all.</li> <li>● Write an addition sentence.</li> </ul>
6.4	<ul style="list-style-type: none"> <li>● Show two partner numbers for a whole.</li> <li>● Write an addition sentence with partner numbers.</li> </ul>
6.5	<ul style="list-style-type: none"> <li>● Describe a pattern.</li> <li>● Explain that I have the same number when I add 0.</li> <li>● Explain that I have the next number when I add 1.</li> </ul>
6.6	<ul style="list-style-type: none"> <li>● Show and tell how to add numbers to 5.</li> <li>● Complete an addition sentence.</li> </ul>

6.7	<ul style="list-style-type: none"> <li>● Use a ten frame to add on to 5.</li> <li>● Add on to 5 to make a whole.</li> <li>● Write an addition sentence.</li> </ul>
6.8	<ul style="list-style-type: none"> <li>● Add on to a number to make 10.</li> <li>● Show partner numbers for 10.</li> <li>● Write an addition sentence for 10 when one group is given.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- ELA: Have students draw their own story problems. Write “ \_\_\_\_\_ and \_\_\_\_\_ is \_\_\_\_\_ in all” while using number cards to fill in the blanks for each story. T-273
- Bodily Kinesthetic: write +, =, and three numbers that form an addition sentence on different pieces of paper and give to five students. Have them line up to form an addition sentence. T-280
- Art: have students choose a card from a deck (without faces) and draw that many circles, flowers, or other simple objects. Students trade drawings with a partner and color the objects using two colors, and write an addition sentence to match the picture. T-291
- Visual-Spatial: Provide students with a deck of cards (no faces) and linking cubes or counters. After selecting a number card use the manipulatives to count up to make sums of 10. T-316

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about

personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

- Standard 9.2 Career Awareness, Exploration, Preparation and Training. This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

**SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

**COMPUTER SCIENCE AND DESIGN THINKING:**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLs-CSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSL Technology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSL – Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes

Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

### Framework for 21st Century Learning

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### GLOBAL THINKING:

- **Amistad and Holocaust:**

N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.

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- **"Learning for Justice" Frameworks:**

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Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
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## TEACHER NOTES



### UNIT TITLE

Subtract Numbers within 10

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 7

11 Days (January/February)

### UNIT FOCUS - SUMMARY OF UNIT

In this chapter, students are introduced to subtraction as an operation that takes one quantity from a greater quantity. Subtraction answers the question “How many are left?”. This chapter presents the two types of subtraction situations expected in kindergarten: *Take From* with result unknown and *Take Apart* with one part unknown or both parts unknown. In *Take Apart* situations there is no action or physically separating two quantities. The language of subtraction, *minus sign*, *subtract*, *take away*, and *separate* are introduced. Students will also describe what they notice when you subtract 0, 1, and all. Pictures, number bonds, linking cubes and counters on five and ten frames are all models that provide opportunities for students to practice subtraction throughout the year to help build fluency.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/Index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

- K.OA.A.1 Represent addition and subtraction with up to 10 objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
- K.OA.A.5 Demonstrate fluency for addition and subtraction within 5.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Identify a number sentence.
- Describe how objects can be taken away.
- Write a subtraction sentence.
- Explain subtraction sentences.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand subtraction?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand subtraction patterns.

**STUDENTS WILL BE ABLE TO:**

- Subtract a group of objects and tell how many are left.
- Take from a group of objects and write a subtraction sentence.
- Take apart a group of objects and write a subtraction sentence.
- Find and explain subtraction patterns.
- Subtract within 5.
- Use a group of 5 to write a subtraction sentence.
- Use related facts to add or subtract within 5.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING****FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks

- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

### LEARNING PLAN/INSTRUCTIONAL STRATEGIES

#### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 5 Ten, Nine, Eight</i> by Molly Bang (see <i>Math Math Intervention</i> binder).</li> </ul>
7.1	<ul style="list-style-type: none"> <li>● Tell how many objects there are in all.</li> <li>● Tell how many objects are taken away.</li> <li>● Tell how many objects are left.</li> </ul>
7.2	<ul style="list-style-type: none"> <li>● Tell what the minus sign means.</li> <li>● Tell how many objects are left.</li> <li>● Explain a subtraction sentence.</li> </ul>
7.3	<ul style="list-style-type: none"> <li>● Show how to take apart a group of objects.</li> <li>● Take apart a group of objects to tell the partner numbers.</li> <li>● Write a subtraction sentence.</li> </ul>
7.4	<ul style="list-style-type: none"> <li>● Subtract 0, 1, or all of the objects from a group.</li> <li>● Explain the patterns of subtracting 0,1, or all.</li> </ul>
7.5	<ul style="list-style-type: none"> <li>● Show and tell how to subtract numbers within 5.</li> <li>● Complete the subtraction sentence.</li> </ul>
7.6	<ul style="list-style-type: none"> <li>● Use a ten frame to subtract 5.</li> <li>● Subtract 5 and tell how many are left.</li> <li>● Write a subtraction sentence.</li> </ul>
7.7	<ul style="list-style-type: none"> <li>● Write addition and subtraction sentences to show related facts.</li> <li>● Explain what is the same and different in these sentences.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and	<ul style="list-style-type: none"> <li>● Centers</li> </ul>

Grow	<ul style="list-style-type: none"> <li>• <i>Math By the Book</i>: Lesson 13 <i>Ten Gulab Jamuns</i> by Sandhya Acharya (see <i>Math Math Intervention</i> binder).</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>• Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQogh1KcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Bodily-Kinesthetic: Have groups of 6-10 students act out subtraction number stories. T-330
- Musical: Teach *Twinkle, Twinkle \_\_\_ little stars* subtraction song. T-336
- Science: Using pictures of animals create subtraction number stories. T-341
- Art: Students will be passing around sheets with circles. Students will color in circles to create subtraction problems. T-329
- English Language Arts: Students will create math stories. T-335
- Visual-Spatial: Students will use cards to pick 2 and create subtraction problems. T-354

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

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**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

## **SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

### **SEL Learning Activities:**

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- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



UNIT TITLE			
Unit 8: Represent Numbers 11 to 19			
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Unit 8		15 Days (February/March)	
UNIT FOCUS - SUMMARY OF UNIT			
<p>Our goal for this unit is for students to understand that the teen numbers can be represented as a collection of ten ones and some more ones. Students have learned to count by ones so this is natural. They do not understand 10 as a single unit, instead they think “10 ones.” There are two types of lessons in the chapter: those where students count and write teen numbers and those where they begin to understand teen numbers. To develop this understanding throughout the chapter, students will circle a group of ten objects, represent 10 ones in a ten frame, use two color linking cubes to represent a teen number (i.e. 10 red and 8 yellow), and use number bonds to show partner numbers for teen numbers. A final step in understanding teen numbers is being able to write an addition sentence where one addend is 10. The Dig Ins for circle time provide opportunities for <i>math talk</i> to motivate or introduce the lesson. Numbers are slowly introduced with repetition so that students are expanding their knowledge of numbers in a predictable manner. Deeper questioning will enhance the discourse at this point.</p>			
KEY UNDERSTANDINGS			
<p><b>MATHEMATICAL PRACTICES:</b>  <a href="https://www.nj.gov/education/standards/math/index.shtml">https://www.nj.gov/education/standards/math/index.shtml</a></p>			
<p><b>NEW JERSEY STUDENT LEARNING STANDARDS:</b></p> <ul style="list-style-type: none"> <li>● K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.</li> </ul>			

- 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.
- K.CC.B.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.
- K.NBT.A.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 (e.g.,  $18 = 10 + 8$ ); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
- K.CC.A.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).

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

Ability to...

- Identify a group of numbers.
- Describe numbers as a group.
- Write numbers.
- Count objects.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand numbers?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand numbers.

**STUDENTS WILL BE ABLE TO:**

- Find a group of 10 objects and tell how many more objects there are.
- Count and write the numbers 11 and 12.
- Understand the numbers 11 and 12.
- Count and write the numbers 13 and 14.
- Understand the number 15.

- Count and write the numbers 16 and 17.
- Understand the numbers 16 and 17.
- Count and write the numbers 18 and 19.
- Understand the numbers 18 and 19.

## ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING

### FORMATIVE ASSESSMENTS

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

### SUMMATIVE ASSESSMENTS

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

### ALTERNATE ASSESSMENTS

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

## LEARNING PLAN/INSTRUCTIONAL STRATEGIES

### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 14 One More Dino on the Floor</i> by Kelly Starling Lyons (see Math Intervention binder).</li> </ul>
8.1	<ul style="list-style-type: none"> <li>● Identify a group of 10 objects.</li> <li>● Show how many more than ten ones.</li> <li>● Write a sentence that shows ten ones and more ones.</li> </ul>
8.2	<ul style="list-style-type: none"> <li>● Count one more for each number to 12.</li> </ul>

	<ul style="list-style-type: none"> <li>• Write the numbers 11 and 12.</li> </ul>
8.3	<ul style="list-style-type: none"> <li>• Show the numbers 11 and 12 as a group of ten and one or two more.</li> <li>• Write 11 and 12 as 10+ a number.</li> </ul>
8.4	<ul style="list-style-type: none"> <li>• Count one object for each number to 14.</li> <li>• Write the numbers 13 and 14.</li> </ul>
8.5	<ul style="list-style-type: none"> <li>• Show the numbers 13 and 14 as a group of ten and three or four more.</li> <li>• Write 13 and 14 as 10+ a number.</li> </ul>
8.6	<ul style="list-style-type: none"> <li>• Count one object for each number to 15.</li> <li>• Write the number 15.</li> </ul>
8.7	<ul style="list-style-type: none"> <li>• Show the number 15 as a group of ten and five more.</li> <li>• Write 15 as 10+5.</li> </ul>
8.8	<ul style="list-style-type: none"> <li>• Count one object for each number to 17.</li> <li>• Write the numbers 16 and 17.</li> </ul>
8.9	<ul style="list-style-type: none"> <li>• Show the numbers 16 and 17 as a group of ten and six or seven more.</li> <li>• Write the numbers 18 and 19.</li> </ul>
8.10	<ul style="list-style-type: none"> <li>• Count one object for each number to 19.</li> <li>• Write the numbers 18 and 19.</li> </ul>
8.11	<ul style="list-style-type: none"> <li>• Show the numbers 18 and 19 as a group of ten and eight or nine more.</li> <li>• Write 18 and 19 as 10+ a number.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>• Performance Task</li> <li>• Activity</li> <li>• Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>• Centers</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>• Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Science: Students get two groups (leaves and flowers) and will form a group of 10 and count how many more in the group. T-383
- Visual-Spatial: Students will look at a tens frame and count the remaining dots. T-384
- Art: Students will trace a flower stem and add dots with finger paint to 11 or 12 flower petals. T-389
- Bodily-Kinesthetic: Students will make a necklace using 11 or 12 beads, cereal objects, etc. to string on the necklace. T-390
- English Language Arts: *How Do You Count a Dozen Ducklings?* By, Sean Chae. Discuss the meaning of a dozen. T-395
- Social Studies: *F is for Flag* by Wendy Cheyette Lewison. Have students count the stripes on a flag. T-407

**STATE REQUIREMENTS****CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- Standard 9.2 Career Awareness, Exploration, Preparation and Training. This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

## SEL Learning Activities:

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

## COMPUTER SCIENCE AND DESIGN THINKING:

<https://www.nj.gov/education/cccs/2020/2020%20NJSLCSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSLCSDT, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSLCSDT – Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

## Framework for 21st Century Learning

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

## GLOBAL THINKING:

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.  
N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.
- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSLCSDT and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect

towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.

- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.
- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.  
Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.
- **"Learning for Justice" Frameworks:**  
<https://www.learningforjustice.org/frameworks>  
Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

- *Big Ideas Math 2022*
- *iReady Adaptive Learning Platform*
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book series*

### HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations* by Debbie Diller
- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

**TEACHER NOTES**



### UNIT TITLE

Unit 9: Count and Compare Numbers to 20

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 9  
10 Days (March)

### UNIT FOCUS - SUMMARY OF UNIT

In this chapter students will develop the understanding that 20 means two groups of 10 and is a two-digit number. Using the students fingers and toes is a fun and convenient model for 20. Modeling two groups of ten in a double ten frame shows 10 plus 10 more. A chart showing the numbers 1 to 20 is used to help students learn the counting sequence and for ordering and comparing numbers to 20. Counting to find out how many, and the extended skill of counting on from any number, are more difficult skills now that we are working within 20 and not just 10. Practice is needed, along with strategies for counting various arrangements. Counting manipulatives in arrays will help prepare students to understand the structure in the hundreds chart later. The work in this chapter prepares students for counting to different benchmarks to 100.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/Index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

- K.CC.B.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.
- K.CC.A.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).
- K.CC.B.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.
- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.C.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.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

Ability to...

- Identify numbers.
- Name numbers.
- Show numbers with objects.
- Order numbers.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand counting?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand counting.

**STUDENTS WILL BE ABLE TO:**

- Show and count the number 20.
- Count and write the number 20.
- When told a number, count that many objects.
- Count forward from any number.
- Order numbers to 20.
- Use counting to compare the numbers of objects in two groups.

## ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING

### FORMATIVE ASSESSMENTS

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

### SUMMATIVE ASSESSMENTS

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

### ALTERNATE ASSESSMENTS

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

## LEARNING PLAN/INSTRUCTIONAL STRATEGIES

### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 9 Grandma's Tiny House</i> by Janay Brown-Wood (see Math Intervention binder).</li> </ul>
9.1	<ul style="list-style-type: none"> <li>● Name the number 20.</li> <li>● Count one object for each number to 20.</li> <li>● Tell the number of objects in a group.</li> <li>● <a href="#">Math Musical: Big Bulldog Bob</a></li> </ul>
9.2	<ul style="list-style-type: none"> <li>● Name the number 20.</li> <li>● Count one object for each number to 20.</li> <li>● Write the number 20.</li> </ul>
9.3	<ul style="list-style-type: none"> <li>● Name each number to 20.</li> <li>● Identify a group with a given number of objects.</li> <li>● Draw a given number of objects.</li> </ul>

9.4	<ul style="list-style-type: none"> <li>● Count from a starting number to an ending number.</li> <li>● Explain that the next number when counting is one more.</li> </ul>
9.5	<ul style="list-style-type: none"> <li>● Identify the starting number.</li> <li>● Order numbers by using a model.</li> <li>● Order numbers by using the counting sequence.</li> </ul>
9.6	<ul style="list-style-type: none"> <li>● Compare the numbers of objects in two groups using <i>greater than, less than, or equal to</i>.</li> <li>● Explain how to compare two groups by counting.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- English Language Arts: *Mouse Count* by, Ellen Stoll Walsh. Keep track of how many mice. T-459
- Musical: Place a number on a board; using pencils, students will tap and say the number that corresponds with the tap. T-460
- Bodily-Kinesthetic: Place 20 circles on the ground, students will hop from one circle to the next as the class counts. Multiple students can hop in different directions so the class sees the number of circles are the same. T-466
- Art: Give students the Decorate the Snake Instructional Resource. Students will use crayons to draw a variety of stripes and spots on the snake to equal 20. T-471
- Visual-Spatial: Have students put together a jigsaw puzzle. Each time they put a piece in, students will count on by ones to twenty. T-472
- Physical Education: Give students an index card with a number on it (1-20). Students will work together to get in order within a line. (T-477)
- Social Studies: Using a map of the United States, point to states and have students count the amount out loud. Students can also color in 20 states using the U.S. States Map Instructional Resource. T-483

## STATE REQUIREMENTS

### **CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

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- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

### **P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

### **SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

### **SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

### **COMPUTER SCIENCE AND DESIGN THINKING:**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSL Technology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
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#### Framework for 21st Century Learning

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#### GLOBAL THINKING:

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honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.

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Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.

- **“Learning for Justice” Frameworks:**

<https://www.learningforjustice.org/frameworks>

Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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- *iReady Adaptive Learning Platform*
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- *Math by the Book series*

### HUMAN AND PROFESSIONAL RESOURCES

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- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



UNIT TITLE					
Unit 10 Count to 100					
CONTENT AREA:		Mathematics	GRADE LEVEL:		Kindergarten
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT					
Unit 10 10 Days (April)					
UNIT FOCUS - SUMMARY OF UNIT					
<p>In this chapter, students learn to count by ones to 30, 50, and finally 100. New counting strategies are introduced, including counting by tens, and counting by tens and ones. The chapter concludes with counting by tens from a given number. There are at least three distinct skills associated with counting. First, students learn the number names and the sequence in which they are said. Then students learn to count a group of objects where they need to pair each number said with one object. Finally, students learn to count out a given number of objects. To do this, they need to be fluent in the counting sequence, otherwise they will be unable to focus on the objects they are counting out. In this chapter, we focus on the first two skills. Making cube trains in sets of tens and displaying a hundred chart are important models for gaining an understanding for counting to 100. It is important to integrate these skills and concepts during math centers, story time, and calendar work to continue to practice counting skills and work on fact fluency.</p>					
KEY UNDERSTANDINGS					
<p><b>MATHEMATICAL PRACTICES:</b>  <a href="https://www.nj.gov/education/standards/math/Index.shtml">https://www.nj.gov/education/standards/math/Index.shtml</a></p>					
<p><b>NEW JERSEY STUDENT LEARNING STANDARDS:</b></p> <ul style="list-style-type: none"> <li>● K.CC.A.1 Count to 100 by ones and by tens.</li> <li>● K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</li> </ul>					

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Identify numbers.
- Name numbers.
- Describe numbers on a chart.
- Explain counting numbers with patterns.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand counting to 100?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand counting to 100.

**STUDENTS WILL BE ABLE TO:**

- Count to 30 by ones.
- Count to 50 by ones.
- Count to 100 by ones.
- Count to 100 by tens.
- Count by tens and ones within 100.
- Count by tens from a given number within 100.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING****FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks

- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments
- “100 Day” Activities

### LEARNING PLAN/INSTRUCTIONAL STRATEGIES

#### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 7 Five Little Monkeys Play Hide-and-Seek</i> by Eileen Christelow (see Math Intervention binder).</li> </ul>
10.1	<ul style="list-style-type: none"> <li>● Use a chart to count 30 by ones.</li> <li>● Tell a missing number.</li> <li>● Count on from a number to 30.</li> </ul>
10.2	<ul style="list-style-type: none"> <li>● Use a chart to count to 50 by ones.</li> <li>● Tell a missing number.</li> <li>● Count on from a number to 100.</li> </ul>
10.3	<ul style="list-style-type: none"> <li>● Use a chart to count to 100 by ones.</li> <li>● Tell a missing number.</li> <li>● Count on from a number to 100.</li> </ul>
10.4	<ul style="list-style-type: none"> <li>● Use a chart to count to 100 by tens.</li> <li>● Tell a missing number.</li> <li>● Count by tens and tell the decade number.</li> </ul>
10.5	<ul style="list-style-type: none"> <li>● Count by tens and count on by ones.</li> <li>● Tell how many in all.</li> <li>● Explain how to count by tens and ones.</li> </ul>
10.6	<ul style="list-style-type: none"> <li>● Count on by tens from a number.</li> <li>● Tell the missing number.</li> <li>● Describe the pattern when you count by tens from a number.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book: Lesson 6 Toasty Toes: Counting by Tens</i> by Michael Dahl</li> </ul>

	(see Math Intervention binder).
Chapter Assessment	<ul style="list-style-type: none"> <li>Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxcgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Art: Students will complete a class book for counting to the number 30. T-503
- Intrapersonal: Students will use the Find the Missing Numbers Instructional Resource to consecutively count to 30 and practice finding missing numbers. T-504
- English Language Arts: *Centipede’s 100 Shoes* by Tony Ross. Discuss the story and the value of numbers presented. T-515
- Physical Education: 100 Exercise Challenge. T-515
- Interpersonal: Students play “roll to 100”. T-516
- Music: Teach students the “Tens and Ones” song. T-527
- Visual-Spatial: Students will create a “100 Necklace” and place small tags labeled 10, 20, 30, etc. all the way up to 100 with 10 pieces after each tag. T-528
- School-wide Celebration - Day 100!

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf>

The organization and content of the NJSLS-Career Readiness, Life Literacies, and Key Skills include the following areas:

- Standard 9.1 Personal Financial Literacy: This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- Standard 9.2 Career Awareness, Exploration, Preparation and Training. This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

**SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

**COMPUTER SCIENCE AND DESIGN THINKING:**

<https://www.nj.gov/education/cccs/2020/2020%20NJSLCSDT.pdf>

- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
- Standard 8.1 Computer Science - previously a strand entitled 'Computational Thinking: Programming' in standard 8.2 of the 2014 NJSLCSDT, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking - This standard, previously standard 8.2 Technology Education of the 2014 NJSLCSDT – Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.

**Framework for 21st Century Learning**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

**GLOBAL THINKING:**

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.

N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSL and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.
- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.
- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.  
Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.
- **"Learning for Justice" Frameworks:**  
<https://www.learningforjustice.org/frameworks>  
Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

- *Big Ideas Math* 2022
- *iReady* Adaptive Learning Platform
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

## HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations* by Debbie Diller
- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



UNIT TITLE					
Unit 11: Identify Two-Dimensional Shapes					
CONTENT AREA:		Mathematics	GRADE LEVEL:		Kindergarten
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT					
Unit 11 10 Days (April/May)					
UNIT FOCUS - SUMMARY OF UNIT					
<p>In this chapter, students learn to identify two-dimensional shapes, which is itself an abstract concept for students to understand. Five shapes are introduced in this chapter: triangle, rectangle, square, hexagon, and circle. We want them to understand that orientation, size, and color are not defining attributes. The number of sides and the number of vertices are two attributes we want students to describe about the shapes they are studying. The last two lessons in this chapter have students compose and build new shapes from shapes they know while using manipulatives. Pattern blocks, tangrams, play-doh, popsicle sticks, and dull tooth picks are some of the suggested materials to make representations of the shapes focused upon in this chapter.</p>					
KEY UNDERSTANDINGS					
<p><b>MATHEMATICAL PRACTICES:</b>  <a href="https://www.nj.gov/education/standards/math/index.shtml">https://www.nj.gov/education/standards/math/index.shtml</a></p>					
<p><b>NEW JERSEY STUDENT LEARNING STANDARDS:</b></p> <ul style="list-style-type: none"> <li>● K.G.B.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).</li> <li>● K.G.A.2 Correctly name shapes regardless of their orientations or overall size.</li> <li>● K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</li> <li>● K.G.B.6 Compose simple shapes to form larger shapes.</li> </ul>					

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

Ability to...

- Identify two-dimensional shapes.
- Describe two-dimensional shapes.
- Compare two-dimensional shapes.
- Build two-dimensional shapes.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand two-dimensional shapes?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand two-dimensional shapes.

**STUDENTS WILL BE ABLE TO:**

- Describe two-dimensional shapes.
- Identify and describe triangles.
- Identify and describe rectangles.
- Identify and describe squares.
- Identify and describe hexagons and circles.
- Join two-dimensional shapes to form a larger two-dimensional shape.
- Build and explore two-dimensional shapes.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks

- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

### LEARNING PLAN/INSTRUCTIONAL STRATEGIES

#### LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 16 Walter’s Wonderful Web</i> by Tim Hopgood (see Math Intervention binder).</li> </ul>
11.1	<ul style="list-style-type: none"> <li>● Identify straight sides or curves on a shape.</li> <li>● Identify vertices on a shape.</li> <li>● Describe two-dimensional shapes.</li> </ul>
11.2	<ul style="list-style-type: none"> <li>● Identify a triangle.</li> <li>● Tell why a shape is a triangle.</li> <li>● Draw a triangle.</li> </ul>
11.3	<ul style="list-style-type: none"> <li>● Identify a rectangle.</li> <li>● Tell why a shape is a rectangle.</li> <li>● Draw a rectangle.</li> <li>● <a href="#">Math Musicals: Magic Shapes</a></li> </ul>
11.4	<ul style="list-style-type: none"> <li>● Identify a square.</li> <li>● Tell why a shape is a square.</li> <li>● Tell why a square is a rectangle.</li> <li>● Draw a square.</li> </ul>
11.5	<ul style="list-style-type: none"> <li>● Identify a hexagon or circle.</li> <li>● Tell why a shape is a hexagon.</li> <li>● Tell why a shape is a circle.</li> <li>● Draw a hexagon and a circle.</li> </ul>
11.6	<ul style="list-style-type: none"> <li>● Join shapes to make a larger shape.</li> <li>● Tell how many of each shape I used to create a larger shape.</li> <li>● Use shapes to make a picture.</li> </ul>
11.7	<ul style="list-style-type: none"> <li>● Build two-dimensional shapes when given a picture.</li> <li>● Build two-dimensional shapes when given a description.</li> </ul>

Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book</i>: Lesson 17 <i>Shapes at Play</i> by Silvia Borando (see Math Intervention binder).</li> </ul>
Chapter Assessment	<ul style="list-style-type: none"> <li>● Chapter Test B</li> </ul>

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- English Language Arts: *Shapes Are Everywhere* by Charles Ghigna. Students will describe the shapes in the book. T-551
- Visual-Spatial: Draw simple shapes on index cards and give a few cards to each student. Read a description of a shape and have students hold up a shape that represents that description. T-552
- Bodily-Kinesthetic: Have students work with a partner to find ways to make triangles with their bodies. T-558
- Social Studies: Students will make a drawing using squares to show different fields within a city, neighborhood, etc. T-569
- Musical: Mr. R’s “The Square Song” or “I’m a Square” by Jack Hartman. T-570
- Science: Show pictures of honeycombs made by bees. Explain that honeycombs are made of many hexagon shapes put together. Draw a honeycomb and bee. T-575
- Art: Cut out a variety of shapes for students and have them make their own shape pizzas. T-581
- Physical Education: Have students sit apart on the floor and roll a ball of yarn from one student to the next forming sides of a triangle, rectangle and square. T-587

**STATE REQUIREMENTS**

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- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

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Suggested Brain breaks: [Jack Hartmann](#)

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## Framework for 21st Century Learning

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

### GLOBAL THINKING:

- **Amistad and Holocaust:**

N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.

N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

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- **"Learning for Justice" Frameworks:**  
<https://www.learningforjustice.org/frameworks>  
Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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- *iReady* Adaptive Learning Platform
- Online Learning Tools: Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

### HUMAN AND PROFESSIONAL RESOURCES

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- Math specialists
- Laurie's Notes from Big Ideas Math
- *Guided Math: A Framework for Mathematics Instruction* by Laney Sammons
- *About Teaching Mathematics, 4th edition* by Marilyn Burns
- *Math Fact Fluency: 60+ Games and Assessment Tools to Support Learning and Retention* by Jennifer Bay-Williams and Gina Kling
- *Well Played: Building Mathematical Thinking Through Number Games and Puzzles, Grades K-2* by Linda Dacey, Karen Gartland, and Jayne Bamford Lynch

## TEACHER NOTES



### UNIT TITLE

Unit 12 : Identify Three-Dimensional Shapes and Positions

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 12  
10 Days (May)

### UNIT FOCUS - SUMMARY OF UNIT

Four of the most common geometric objects are the focus of this chapter: the cube, sphere, cone, and cylinder. Students need many experiences exploring and interacting with geometric objects and that is what this chapter provides. It is important for students to explore, hold, and examine geometric shapes that they are familiar with such as boxes, blocks, balls, paper towel tubes, and cones as they can be interpreted immediately. In the last sections of the chapter, students apply an understanding of solids to build larger three-dimensional solids and to learn about positional relationships such as stacking, rolling, and sliding. The last lesson is about positional words: over, under, beside, in front of, behind, and so on. These positional words can be reinforced by having students act positional relationships out with their bodies. An anchor chart with the names of the four solids including pictures and if they can roll, stack, and/or slide is a helpful tool for students to better understand three-dimensional shapes.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/Index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

- K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
- K.G.B.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).
- K.G.A.2 Correctly name shapes regardless of their orientations or overall size.
- K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

- K.G.B.6 Compose simple shapes to form larger shapes.
- K.G.A.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.

**PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)**

- Identify three-dimensional shapes.
- Describe three-dimensional shapes.
- Compare three-dimensional shapes.
- Build three-dimensional shapes.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand three-dimensional shapes?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand three-dimensional shapes.

**STUDENTS WILL BE ABLE TO:**

- Identify and describe two-dimensional and three-dimensional shapes.
- Describe three-dimensional shapes.
- Identify and describe cubes and spheres.
- Identify and describe cones and cylinders.
- Build and explore three-dimensional shapes.
- Describe positions of solid shapes based on other objects.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B

- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

**LEARNING PLAN/INSTRUCTIONAL STRATEGIES**

**LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 18 Circle! Sphere!</i> by Grace Lin (see Math Intervention binder).</li> </ul>
12.1	<ul style="list-style-type: none"> <li>● Tell whether a shape is two-dimensional or three-dimensional.</li> <li>● Describe what makes a shape two-dimensional or three-dimensional.</li> </ul>
12.2	<ul style="list-style-type: none"> <li>● Identify solid shapes that stack.</li> <li>● Identify solid shapes that roll.</li> <li>● Identify solid shapes that slide.</li> </ul>
12.3	<ul style="list-style-type: none"> <li>● Identify a cube or a sphere.</li> <li>● Tell why a solid shape is a cube or sphere.</li> <li>● Explain how a cube and sphere are the same and different.</li> </ul>
12.4	<ul style="list-style-type: none"> <li>● Identify a cone or a cylinder.</li> <li>● Tell why a solid shape is a cone or cylinder.</li> <li>● Explain how a cone and cylinder are the same and different.</li> <li>● <a href="#">Math Musicals: Shapes</a></li> </ul>
12.5	<ul style="list-style-type: none"> <li>● Build three-dimensional shapes when given a picture.</li> <li>● Build three-dimensional shapes when given a description.</li> </ul>
12.6	<ul style="list-style-type: none"> <li>● Use vocabulary words to describe the position of an object.</li> <li>● Identify an object given a description of its position.</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> </ul>

Chapter  
Assessment

- Chapter Test B

**OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):**

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**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- English Language Arts: *Shapes Spotters* by Megan E. Bryant. Read the book and discuss the shapes mentioned in the book. T-601
- Visual-Spatial: Provide students with clay and models of solids. Have Students press a flat side of a solid into the clay to create two-dimensional shapes. T-602
- Art: Provide old magazines, newspapers and books for students to search through and cut shapes out of. Place a large square and circular piece of paper on each side of the room. Students will cut out spheres and cubes and glue the images onto the paper. T-613
- Bodily-Kinesthetic: Place multiple objects on the ground, have students find the shapes after describing them. T-614
- Science: Conduct a rolling experiment with cones and cylinders. T-619
- Intrapersonal: Provide students with nets of different solids. Have students color and then cut, fold and glue the nets to create a solid. T-626

**STATE REQUIREMENTS**

**CAREER READINESS, LIFE LITERACIES, AND KEY SKILLS**

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- Standard 9.4 Life Literacies and Key Skills. This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**P21 FRAMEWORK (Partnership for 21st Century Learning):**

<https://www.battelleforkids.org/networks/p21/frameworks-resources>

## **SOCIAL AND EMOTIONAL COMPETENCIES AND SUBCOMPETENCIES (SEL):**

- Self-awareness
- Self-management
- Social Awareness
- Responsible Decision-making
- Relationship Skills

<https://www.state.nj.us/education/students/safety/sandp/sel/SELCompetencies.pdf>

### **SEL Learning Activities:**

[CASEL Framework](#)

[SEL Math Musicals](#)

[SEL Classroom Discussion](#)

Suggested Brain breaks: [Jack Hartmann](#)

## **COMPUTER SCIENCE AND DESIGN THINKING:**

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- Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.
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## **GLOBAL THINKING:**

- **Amistad and Holocaust:**  
N.J.S.A 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.  
N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

- **LGBTQIA+:** In accordance with the Inclusive Curriculum Bill A1335, signed into law in NJ in 2020, this document is to include instruction, and instructional materials for Grades 5-12, that accurately portray political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people. This curricular document includes classroom materials that are in alignment with NJSL and Core Curriculum Content Standards and ensures that students receive diverse instruction in history, the social sciences, and other content areas, which cultivates respect towards minority groups, allows students to appreciate differences, and acquires the skills and knowledge needed to function effectively with people of various backgrounds.
- **Diversity, Equity, and Inclusion:** The ability to listen and grow empathy makes way for greater awareness of the importance of community, one's own culture, others' culture, the differences and similarities amongst people around the world, of the issues facing humanity, and of our shared interest in the success of all people. Having a "global perspective" means that we strive to educate students with the global understanding necessary to address the challenges and successes of our interdependent world. In the Berkeley Heights Public Schools, we are committed to overcoming challenges and to building interest and capacity amongst our students to be engaged with finding and celebrating commonalities and solutions to global problems, and we are committed to ensuring that our community is diverse, equitable, and inclusive. Our mission statement is to honor the diversity of our community and foster inclusiveness and acceptance through a three-tiered approach: celebration, communication, and education.
- **Climate Change:** Leverage the passion students have shown for this critical issue by providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.  
Each board of education shall provide instruction on climate change in the curriculum of elementary school, middle school, and high school students as part of the district's implementation of the New Jersey Student Learning Standards in Science.
- **"Learning for Justice" Frameworks:**  
<https://www.learningforjustice.org/frameworks>  
Lessons and resources - <https://www.learningforjustice.org/classroom-resources>

## RESOURCES

### CORE INSTRUCTIONAL AND MATERIAL RESOURCES

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- *Math by the Book* series

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## TEACHER NOTES



### UNIT TITLE

Unit 13: Measure and Compare Objects

**CONTENT AREA:**

Mathematics

**GRADE LEVEL:**

Kindergarten

### UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Unit 13  
10 Days (May/June)

### UNIT FOCUS - SUMMARY OF UNIT

In this chapter, we look at: length (and height), weight, and capacity. We want students to understand what the word attribute means, a characteristic of the object. What measurable attributes does the object have? Fundamental concepts related to measurement are explored in this chapter. No standard or non-standard units of measure are introduced. Rather students look at what it means to measure a particular attribute and how you compare two with respect to that attribute. Our goal is for students to understand the concepts of *heavier* and *lighter*. Using a pan balance will allow students to correctly interpret what higher and lower pans imply.

The final measurable attribute presented is capacity. The sand table is a helpful tool for learning this concept as students must have real life experiences with pouring and filling in order to learn capacity. The goal of the last lesson is for students to identify the measurable attributes of a real object. You will need an anchor chart that displays measurable attributes studied in this chapter: height, length, weight, and capacity.

### KEY UNDERSTANDINGS

#### MATHEMATICAL PRACTICES:

<https://www.nj.gov/education/standards/math/index.shtml>

#### NEW JERSEY STUDENT LEARNING STANDARDS:

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

- K.MD.A.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 height of two children and describe one child as taller/shorter.

**PREREQUISITE KNOWLEDGE AND SKILLS: (Progressions)**

- Students should be able to sit and actively listen for short periods of time.
- Students should be able to care for their own materials, and those in the classroom.
- Students should be able to take turns when doing partner work; work cooperatively.
- Students should be able to take turns listening and speaking.
- Students should be able to talk about a specific topic.
- Students should ask and answer questions.

**ENDURING UNDERSTANDINGS: (Chapter Success Criteria)**

- Describe height.
- Describe weight.
- Compare the capacities of objects.
- Compare the heights of objects.

**ESSENTIAL QUESTIONS:**

- Why is it important to understand measurement?

**UNIT LEARNING TARGETS (STUDENTS WILL KNOW):**

- Understand measurement.

**STUDENTS WILL BE ABLE TO:**

- Compare the heights of two objects.
- Compare the lengths of two objects.
- Compare the lengths of two objects using numbers.
- Compare the weights of two objects.
- Compare the weights of two objects using numbers.
- Compare the capacities of two objects.
- Identify the measurable attributes of an object.

**ASSESSMENT - EVIDENCE OF LEARNING AND UNDERSTANDING**

**FORMATIVE ASSESSMENTS**

- Chapter Test A- (Optional Pre Assessment for Chapter)
- Quizzes
- Homework
- Anecdotal notes
- Exit Slips
- Student Performance (Explore and Grow, Think and Grow, Show and Grow, Apply and Grow: Practice, Think and Grow: Real Life, and Practice)
- Math Notebooks

**SUMMATIVE ASSESSMENTS**

- Required- Chapter Test B
- iReady and Link It- Scheduled According to District Assessment Calendar

**ALTERNATE ASSESSMENTS**

- Performance Tasks
- Chapter Alternative Assessments (Last page of each chapter in teacher edition- *Chapter Assessment Guide*)
- Cumulative Practice Assessments

**LEARNING PLAN/INSTRUCTIONAL STRATEGIES****LEARNING ACTIVITIES AND INSTRUCTIONAL STRATEGIES (INCLUDE MODELS):**

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> <li>● introduction of vocabulary, optional pre-test, and center introduction</li> <li>● <i>Math By the Book: Lesson 20 Sometimes We Do</i> by Omos Moses (see Math Intervention binder).</li> </ul>
13.1	<ul style="list-style-type: none"> <li>● Explain how to compare the heights of two objects.</li> <li>● Tell whether two objects are the same height.</li> <li>● Use <i>taller</i> and <i>shorter</i> to compare the heights of two objects.</li> <li>● <a href="#">Math Musical: BIG! small!</a></li> </ul>
13.2	<ul style="list-style-type: none"> <li>● Explain how to compare the lengths of two objects.</li> <li>● Tell whether two objects are the same length.</li> <li>● Use <i>longer</i> and <i>shorter</i> to compare the lengths of two objects.</li> </ul>
13.3	<ul style="list-style-type: none"> <li>● Use linking cubes to compare lengths.</li> <li>● Use numbers to compare the lengths of two objects.</li> </ul>
13.4	<ul style="list-style-type: none"> <li>● Explain how to compare the weights of two objects.</li> <li>● Tell whether two objects have the same weight.</li> <li>● Use <i>heavier</i> and <i>lighter</i> to compare the weights of two objects.</li> </ul>
13.5	<ul style="list-style-type: none"> <li>● Use linking cubes and a balance scale to compare weights.</li> <li>● Use numbers to compare the weights of two objects.</li> </ul>
13.6	<ul style="list-style-type: none"> <li>● Explain how to compare the capacities of two objects.</li> <li>● Tell whether two objects have the same capacity.</li> <li>● Tell whether an object holds more or less than another object.</li> </ul>
13.7	<ul style="list-style-type: none"> <li>● Decide whether an object has a given attribute.</li> <li>● Give an example of an object that has a given attribute.</li> </ul>

Connect and Grow	<ul style="list-style-type: none"> <li>● Performance Task</li> <li>● Activity</li> <li>● Chapter Practice</li> </ul>
Connect and Grow	<ul style="list-style-type: none"> <li>● Centers</li> <li>● <i>Math By the Book: Lesson 15 Have You Seen My New Blue Socks</i> by Eve Bunting (see Math Intervention binder).</li> <li>● <i>Math By the Book: Lesson 19 Grandma’s Button Box</i> by Linda Williams Aber (see Math Intervention binder).</li> </ul>
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**INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:**

- Physical Education: Set up two bins, one short, one tall, and give students ping pong balls and tennis balls. Have them throw the ping pong balls in the shorter bin and the tennis balls in the taller bin. T-645
- Visual-Spatial: Have students draw a picture with two objects, one tall and one short. Then, have them switch pictures with a partner and identify the taller and shorter object in their partner’s picture.
- Art: Give students pieces of string or yarn and beads. Students will string beads onto the yarn and compare with other students using words such as “shorter” or “longer”. T-651
- Bodily-Kinesthetic: Divide students into two groups, have the groups line up. Students will count the number of students in each line and compare which line is longer. T-652
- Social Studies: Create a simple map of your neighborhood with at least 3 locations. Have students draw lines between different locations and build linking cubes to model the lengths. Students write the length of each line and decide which is longer. T-657
- English Language Arts: *Mighty Maddie* by Stuart J. Murphy. When reading, have students tell which object is heavier or lighter. T-663
- Science: Weigh objects from around the room using a balance scale. Students will compare weights. T-669

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