

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



Mathematics

Grade 1

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
Chapter 1-Addition and Subtraction Situations	Pages 10
Chapter 2- Fluency and Strategies within 10	Pages 17
Chapter 3- More Addition and Subtraction Situations	Pages 25
Chapter 4- Add Numbers within 20	Pages 33
Chapter 5- Subtract Numbers within 20	Pages 40
Chapter 6- Count and Write Numbers to 120	Pages 47
Chapter 7- Compare Two-Digit Numbers	Pages 54
Chapter 8- Add and Subtract Tens	Pages 61
Chapter 9- Add Two-Digit Numbers	Pages 68
Chapter 10- Measure and Compare Lengths	Pages 75
Chapter 11- Represent and Interpret Data	Pages 82
Chapter 12- Tell Time	Pages 89
Chapter 13- Two- and Three- Dimensional Shapes	Pages 95
Chapter 14- Equal Shares	Pages 102



ACKNOWLEDGEMENTS

BOARD OF EDUCATION

Michael D'Aquila, President

Angela Pena, Vice-President

Sai Bhargavi Akiri

Robert Cianciulli

Thomas Foregger

Pamela Stanley

Joy Young

Jordan Hyman - Mountainside Representative

CENTRAL OFFICE ADMINISTRATION

Melissa Varley, Superintendent

Julie Kot, Business Administrator and Board Secretary

David Greer, Assistant Superintendent

Marybeth Kopacz, Assistant Superintendent of Elementary Education and Intervention

CURRICULUM WRITING TEAM

We would like to thank the 2021-2022 Elementary Math Committee for all of their hard work throughout the school year. The team members included: Nicole Abbate, Nicole Belisario, Alexis Bellardino, Melany Castellanos, Kate Corcoran, Genevieve Dagan, Kathy Finkelstein, Erin McKeon, Eli Quinonez, Joe Reel, Gina Roof, Rachel Shanagher, and Pam Wilczynski.

We would also like to thank the Elementary Math Curriculum Writing team: Nicole Abbate, Alexis Bellardino, Kate Corcoran, Gen Dagan, Emily Goodman, Erin McKeon, Caryn Panarese, Rachel Shanagher, Pam Wilczynski, and Marybeth Kopacz.



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>



CURRICULUM PACING GUIDE

UNIT NUMBER	UNIT TITLE	SUGGESTED PACING	MATH CENTERS
1	Addition and Subtraction Situations	13 Days September/October	T-62 Center 1: Three in a Row Center 2: Skills Trainer Center 3: Add the Beads Center 4: How Many Fewer Center 5: Sticker Math
2	Fluency and Strategies within 10	13 Days October	T-124 Center 1: Add or Subtract Center 2: Skills Trainer Center 3: Rolling Dice Center 4: Addition Matching Cards Center 5: Two-Color Counter Toss
3	More Addition and Subtraction Situations	12 Days October/November	T-180 Center 1: Number Land Center 2: Skills Trainer Center 3: Concentration 10 Center 4: Equal or Not Equal? Center 5: Fact Families
4	Add Numbers within 20	12 Days November/December	T-240 Center 1: Roll and Cover Center 2: Skills Trainer Center 3: Doubles Flip and Find Center 4: Addition Puzzles Center 5: Three-Eyed Monster
5	Subtract Numbers within 20	11 Days December/January	T-290 Center 1: Three in a Row Center 2: Skills Trainer Center 3: Subtraction Trains Center 4: Making True Equations

6	Count and Write Numbers to 120	13 Days January/February	T-352 Center 1: Drop and Build Center 2: Skills Trainer Center 3: Bag of Rods and Cubes Center 4: Puzzle Time Center 5: Roll It, Build It, Sketch It
7	Compare Two-Digit Numbers	10 Days February	T-396 Center 1: Number Boss Center 2: Skills Trainer Center 3: Comparing Dice Center 4: Fishing for Numbers
8	Add and Subtract Tens	12 Days March	T-456 Center 1: 10 More or 10 Less Center 2: Skills and Trainer Center 3: Tens Beads Center 4: Roll on Addition Center 5: Adding Change
9	Add Two-Digit Numbers	10 Days March	T-500 Center 1: Race for 100 Center 2: Skills Trainer Center 3: Go Fish Nature Center 4: Addition Spinners
10	Measure and Compare Lengths	9 Days April	T-538 Center 1: Fish Measurement Center 2: Skills Trainer Center 3: Order Lengths Center 4: What is Longer? Center 5: Cartoon
11	Represent and Interpret Data	9 Days April/May	T-576 Center 1: Spin and Graph Center 2: Skills Trainer Center 3: Tally Mark Dominoes Center 4: Graph-Tac-Toe Center 5: Graph Dominoes
12	Tell Time	8 Days May	T-610 Center 1: Time Flip and Find Center 2: Skills Trainer Center 3: Race to Noon

			Center 4: Time Heads Up
13	Two- and Three-Dimensional Shapes	13 Days May/June	T-672 Center 1: Shape Roll and Build Center 2: Skills Trainer Center 3: Shape Dominoes Center 4: Shape Roll and Graph Center 5: Shape Castle Map
14	Equal Shares	7 Days June	T-696 Center 1: Three In a Row- Equal Shares Center 2: Skills Trainer Center 3: Coloring Shapes Center 4: Making Partitioned Shapes



UNIT TITLE				
Addition and Subtraction Situations				
CONTENT AREA:		Mathematics	GRADE LEVEL:	
			1	
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT				
Chapter 1 13 Days (September/October)				
UNIT FOCUS - SUMMARY OF UNIT				
<p>In this chapter, we reinforce addition and subtraction equations, and introduce the precise terms of <i>addend</i>, <i>sum</i>, <i>difference</i>, <i>equals (equal sign)</i> and <i>equations</i> as related to equations. Students will continue to use fingers, models, actions, and drawings to explore, make sense of, and represent addition and subtraction situations. This chapter presents various addition and subtraction problem types. The addition situations are: <i>add to with result unknown</i> and <i>with change unknown</i> and <i>put together with total unknown</i> and <i>both addends unknown</i>. The <i>add to with result unknown</i> problems are easiest for students to understand and model. <i>Add to with change unknown</i> problems are also known as <i>missing addend</i> problems, and often are challenging to students who have not yet thought this way. The subtraction situations in this chapter are both comparison problems. Students find <i>how many more</i> and <i>how many fewer</i>.</p>				
KEY UNDERSTANDINGS				
<p>MATHEMATICAL PRACTICES: https://www.nj.gov/education/standards/math/index.shtml</p>				
<p>NEW JERSEY STUDENT LEARNING STANDARDS:</p> <ul style="list-style-type: none"> ● 1.OA.A.1 <ul style="list-style-type: none"> ○ Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. ● 1.OA.C.6 				

- Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
- **1.OA.D.8**
 - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Represent addition and subtraction with various models and strategies.
- Solve addition and subtraction word problems within 10.
- Fluently add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify a Group of objects.
- Describe numbers as a group.
- Write an addition equation and a subtraction equation.
- Model addition and subtraction.

ESSENTIAL QUESTIONS:

- How can you model adding and subtracting within 10?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Students will understand addition.

STUDENTS WILL BE ABLE TO:

- SWBAT add to a group of objects and write an addition equation.
- SWBAT solve *add to* word problems.
- SWBAT solve *put together* word problems.
- SWBAT find addends for a given sum.
- SWBAT solve *take from* word problems.
- SWBAT solve *compare* word problems by finding how many more.
- SWBAT solve *compare* word problems by finding how many fewer.
- SWBAT solve *add to* word problems that involve a missing addend.
- SWBAT solve word problems that involve putting together and taking apart.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 1, Apple Picking Day!</i> By Candice Ransom(see <i>Math by the Book</i> Math Intervention binder)
1.1	<ul style="list-style-type: none"> ● Identify how many there are to start and how many join. ● Tell how many there are in all. ● Write the addition equation.
1.2	<ul style="list-style-type: none"> ● Identify the addends. ● Add to find the sum. ● Explain the parts (addends, sum) of an addition equation.
1.3	<ul style="list-style-type: none"> ● Identify the addends. ● Use a part-part-whole model to show addition. ● Find the sum.
1.4	<ul style="list-style-type: none"> ● Identify addends for a number to 10. ● Draw or model to show the parts. ● Write two different addition equations for the same sum.
1.5	<ul style="list-style-type: none"> ● Identify the start number and the amount taken away. ● Draw or model to show the difference. ● Write the subtraction equation.
1.6	<ul style="list-style-type: none"> ● Use matching to find how many more. ● Use subtraction to find how many more.

	<ul style="list-style-type: none"> ● Explain that the difference answers the question of how many more.
1.7	<ul style="list-style-type: none"> ● Use matching to find how many fewer. ● Use subtraction to find how many fewer. ● Explain that the difference answers the question of how many fewer. <p>Math Musical: Game On</p>
1.8	<ul style="list-style-type: none"> ● Use a part-part-whole model to show a missing addend. ● Write an addition equation to solve for a missing part.
1.9	<ul style="list-style-type: none"> ● Model a story with a missing part. ● Write an addition and a subtraction equation to solve for a missing part. ● Explain how put together and take apart problems are related.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 3: Baby Goes to Market</i> by Atinuke (see <i>Math by the Book Math Intervention binder</i>) <p>Math Musicals: Celebration of Friendship</p>
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessments	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA- *Animals on Board* by Stuart J. Murphy (p. T-7)
- Science & Art- Discuss the roles that plants and trees play in combatting air pollution. Have students draw an outdoor scene with no trees or plants. Then write an addition equation as they draw plants or trees to represent their equation. (p. T-13)
- S.S.- Teach students about the Iditarod Sled Dogs race in Alaska. Have students act out word problems, pretending to be sled dogs. Write the corresponding addition equations on the board. (p. T-25)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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:

<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, including 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
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Fluency and Strategies within 10

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 2
13 days
(October)

UNIT FOCUS - SUMMARY OF UNIT

Students will be introduced to the mathematical vocabulary of *count back*, *count on*, *doubles*, *doubles plus one*, *doubles minus 1*, and *number line* within the context of strategies for addition and subtraction. In this chapter, we continue to build mathematical notation, including addition and subtraction equations written vertically and horizontally within the sum or difference written to the left of the equal sign ($7=5+2$). Students continue to work with the same addition and subtraction problem types using linking cubes, tens frames, and part-part-whole models and are introduced to number lines in Chapter 2. Chapter 2 continues to build on reasoning around addition and subtraction by considering adding and subtracting 0, subtracting all, and connecting adding and subtracting 1 to counting. Then strategies to add and subtract are developed, including doubles, near doubles (double plus or minus 1), investigating the Commutative Property, counting on and counting back, and thinking about addition in order to subtract.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.OA.A.1**

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all

positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.B.3**
 - Apply properties of operations as strategies to add and subtract.
- **1.OA.B.4**
 - Understand subtraction as an unknown-addend problem.
- **1.OA.C.5**
 - Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- **1.OA.C.6**
 - Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
- **1.OA.D.7**
 - Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
- **1.OA.D.8**
 - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Represent addition and subtraction with various models and strategies.
- Solve addition and subtraction word problems within 10.
- Fluency add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify strategies.
- Describe equations.
- Explain rules.
- Apply strategies.

ESSENTIAL QUESTIONS:

- How can we use our understanding of fluency and addition and subtraction strategies to solve problems?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand fluency and strategies.

STUDENTS WILL BE ABLE TO:

- SWBAT solve equations when an addend is 0.
- SWBAT subtract 0 and subtract all.
- SWBAT add and subtract 1.
- SWBAT find the sum of doubles from 1 to 5.
- SWBAT use the *doubles plus 1* and *doubles minus 1* strategies to find a sum.
- SWBAT add in any order to find a sum.

- SWBAT use the *count on* strategy to find a sum.
- SWBAT use the *count back* strategy to find a difference.
- SWBAT Use the *add to subtract* strategy to find a difference.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 4: Thanking the Moon: Celebrating the Mid-Autumn Moon Festival</i> by Grace Lin (see <i>Math by the Book</i> Math Intervention binder)
2.1	<ul style="list-style-type: none"> ● Add 0 to a number. ● Add a number to 0. ● Explain what happens when I add 0 to a number.
2.2	<ul style="list-style-type: none"> ● Subtract 0 from a number. ● Subtract a number from itself. ● Explain the rule of subtracting 0 or subtracting all.
2.3	<ul style="list-style-type: none"> ● Add 1 to a number.

	<ul style="list-style-type: none"> ● Subtract 1 from a number. ● Explain the patterns of adding and subtracting 1.
2.4	<ul style="list-style-type: none"> ● Explain what doubles are. ● Add doubles. ● Write an addition equation for a doubles fact. <p>Math Musical: I See Seashells</p>
2.5	<ul style="list-style-type: none"> ● Identify when to use the doubles plus (or minus) 1 strategy. ● Use a double to help find the sum. ● Explain the doubles plus (or minus) 1 strategy. ● <i>Math by the Book: Lesson 6: The Two Mutch Sisters</i> by Carol Brendler (see <i>Math by the Book</i> Math Intervention binder)
2.6	<ul style="list-style-type: none"> ● Use the same addends to write two addition equations. ● Explain what happens when the order of the addends change.
2.7	<ul style="list-style-type: none"> ● Use a number line to count on from a number. ● Count on to find the sum. ● Explain the count on strategy.
2.8	<ul style="list-style-type: none"> ● Use a number line to count back from a number. ● Count back to find the difference. ● Explain the count back strategy. <p>Math Musicals: Cora's New House</p>
2.9	<ul style="list-style-type: none"> ● Use a part-part-whole model to show a subtraction problem. ● Add to answer a subtraction problem. ● Explain the add-to-subtract strategy.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 5: David's Drawings</i> by Cathryn Falwell (see <i>Math by the Book</i> Math Intervention binder)
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA-
 - *Zero* by Kathryn Otoshi (p. T-69)
 - *Zero Is the Leaves on The Tree* by Betsy Franco (p. T-75)
 - *Double the Ducks* by Stuart J. Murphy (p. T-87)
- Art- Have students draw a number of objects. Have them color all the objects red and write an equation for the number of red and blue buttons. (p. T-69)
- P.E- Write + 1 and -1 on counters and place them in a bag. Place a number line on the floor. Have students hop to a number between 1-9 then choose a counter from a bag and perform the operation. Have other students write the equations modeled by the jumps. (p. T-81)
- Science- Discuss how fruits and vegetables grow. Show two different baskets with fruits or vegetables. Have students add to find the total number of vegetables. (p. T-105)
- S.S.- Display a road map or create one. Create several add to or subtract word problems for the class to solve. For example, count the total number of roads. (p. T-117)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)

- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

More Addition and Subtraction Situations

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 3
12 days
(October/November)

UNIT FOCUS - SUMMARY OF UNIT

Chapter 3 looks at various contexts for addition and subtraction with the unknown in all possible locations. Students will also engage with comparison word problems. Students are able to access multiple strategies to make sense of and solve problems. Students continue to use strategies from Chapter 2, such as part-part-whole, and are introduced to the comparison bar model. Students will be introduced to the vocabulary *Bar Model* and *Fact Family* in this chapter. We need to be careful that students do not always associate “more” with addition and “fewer” with subtraction. The words “more, greater, fewer, lesser, etc.” themselves often cause confusion for students.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.OA.A.1**
 - Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
- **1.OA.B.3**
 - Apply properties of operations as strategies to add and subtract.
- **1.OA.C.5**

- Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- **1.OA.C.6**
 - Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
- **1.OA.D.7**
 - Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
- **1.OA.D.8**
 - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Represent addition and subtraction with various models and strategies.
- Solve addition and subtraction word problems within 10.
- Fluently add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify problems.
- Describe fact families.
- Explain an equation.
- Apply strategies.

ESSENTIAL QUESTIONS:

- Why is it important to understand how to solve addition and subtraction problems?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand problem solving.

STUDENTS WILL BE ABLE TO:

- SWBAT solve for a missing addend given an addend and the sum.
- SWBAT solve a subtraction equation to find the missing part.
- SWBAT solve a subtraction equation to find the whole.
- SWBAT solve compare word problems when given how many more.
- SWBAT solve compare word problems when given how many fewer.
- SWBAT identify whether an equation is true or false.
- SWBAT find the missing addend that makes 10.
- SWBAT write related addition and subtraction equations to complete a fact family.

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 Assessment

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

Lesson Number	Success Criteria
Chapter Opener	<ul style="list-style-type: none"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 7: Monster Math Picnic</i> by Grace Maccarone (see <i>Math by the Book Math Intervention binder</i>)
3.1	<ul style="list-style-type: none"> ● Count from the given addend to the sum. ● Tell how many numbers I counted. ● Complete the addition equation.
3.2	<ul style="list-style-type: none"> ● Identify the whole and a part. ● Show how many are taken away. ● Identify the missing part. ● Complete the subtraction equation.
3.3	<ul style="list-style-type: none"> ● Identify the parts. ● Think addition to find the whole. ● Complete the subtraction equation.
3.4	<ul style="list-style-type: none"> ● Identify the given group.

	<ul style="list-style-type: none"> ● Tell how many more. ● Write an addition equation to find how many are in the other group.
3.5	<ul style="list-style-type: none"> ● Identify the given group. ● Tell how many fewer. ● Write an equation to find how many are in the other group. <p>Math Musical: Game On</p>
3.6	<ul style="list-style-type: none"> ● Tell the value of each side of an equation. ● Tell whether the values are equal or not. <p>Math Musical: The True of False Song</p>
3.7	<ul style="list-style-type: none"> ● Identify the given addend. ● Tell how many more are needed to make 10. ● Write the addition equation.
3.8	<ul style="list-style-type: none"> ● Explain what a fact family is. ● Write two addition equations for a fact family. ● Write two subtraction equations for a fact family. <p>Math Musical: Shine Sunflower Shine</p>
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 2: Saturday</i> by Oge Mora (see <i>Math by the Book Math Intervention binder</i>)
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoghlKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA:
 - *If You Were a Plus Sign* by Trisha Speed Shaskan (p. T-131)
 - *What's the Difference? An Endangered Animal Subtraction Story* by Suzanne Slade (p. T-143)
 - *Just Enough Carrots* by Stuart J. Murphy (p. T-155)
 - *One More Bunny: Adding from One to Ten* by Rick Walton (p. T-167)

- Science: Discuss what happens to trees in the fall. Have students draw a tree with different colors on half a piece of paper. On the other half, have them draw the same tree with few leaves. Have students write and solve a subtraction equation showing the total number of leaves, the number of leaves that fell on the ground as missing part, and number of leaves that still remain on the tree. (p. T-137)
- P.E.: Organize students into groups of three. Tell a compare problem and have students the corresponding number of jumping jacks. (p. T-149)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [Jack Hartmann](#)

COMPUTER SCIENCE AND DESIGN THINKING:

<https://www.nj.gov/education/cccs/2020/2020%20NJSLSCSDT.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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie’s Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Add Numbers within 20

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 4
12 Days
(November/December)

UNIT FOCUS - SUMMARY OF UNIT

Students will extend their prior knowledge of adding single-digit numbers to solve problems with sums up to twenty. Students will use strategies learned in Chapters 2 and 3 to help them solve problems. *Adding three numbers* and *making a 10 to add* or new strategies introduced in this chapter. *Make a 10* strategy is one of the most important strategies taught in primary grades since it is vital to number sense, place value, and base ten systems.

Most strategies in this chapter help build students' mental strategies for computation. Many lessons include examples of "think alouds" to model the required reasoning when using the strategy. Students need to hear examples of how to make sense of the strategy, especially when the strategy involves decision-making rather than a set of set procedures. Students are introduced to the Associative Property when adding three numbers but only by the concept and not by name.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.OA.A.1**

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all

positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.A.2**

- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.C.6**

- Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

- **1.OA.D.8**

- Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Represent addition and subtraction with various models and strategies.
- Solve addition and subtraction word problems within 10.
- Fluently add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify counting strategies.
- Describe equations.
- Explain the strategy I used.
- Apply strategies to solve word problems.

ESSENTIAL QUESTIONS:

- Why is it important to understand counting strategies to solve math addition problems?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand counting strategies.

STUDENTS WILL BE ABLE TO:

- SWBAT find the sum of doubles from 6 to 10.
- SWBAT use the doubles plus 1 and doubles minus 1 strategies to find a sum.
- SWBAT use the count on strategy to find a sum.
- SWBAT add three numbers.
- SWBAT use the make a 10 strategy to add three numbers
- SWBAT use the make a 10 strategy when adding 9.
- SWBAT use the make a 10 strategy to add two numbers
- SWBAT solve addition word problems.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 8: Math for All Seasons</i> by Greg Tang (see <i>Math by the Book Math Intervention binder</i>)
4.1	<ul style="list-style-type: none"> ● Explain what doubles are. ● Add doubles. ● Write an addition equation for a doubles fact <p style="margin-left: 20px;">Math Musical: Crack the Code</p>
4.2	<ul style="list-style-type: none"> ● Identify when to use the doubles plus (or minus) 1 strategy. ● Use a double to help find the sum. ● Explain the doubles plus (or minus) 1 strategy.
4.3	<ul style="list-style-type: none"> ● Use a number line to count on from a number. ● Count on to find the sum. ● Explain the count on strategy

4.4	<ul style="list-style-type: none"> ● Choose two numbers to add first. ● Add a third number to the sum. ● Explain the strategy I used to add three numbers.
4.5	<ul style="list-style-type: none"> ● Identify two numbers whose sum is 10. ● Add a third number to the sum. ● Explain how to use the make a 10 strategy to add three numbers.
4.6	<ul style="list-style-type: none"> ● Break apart one addend to help make a ten. ● Use a 10s fact to find the sum. ● Explain how to use the make a 10 strategy when adding 9.
4.7	<ul style="list-style-type: none"> ● Break apart one addend to help make a ten. ● Use a 10s fact to find the sum. ● Explain how to use the make a 10 strategy to add two numbers.
4.8	<ul style="list-style-type: none"> ● Identify what information I know in the word problem. ● Identify what the question is asking. ● Use a strategy to solve. ● Explain what strategy I used to solve.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 9: I Love Saturdays y dominoes</i> by Alma Flor Ada (see <i>Math by the Book</i> Math Intervention binder)
Connect Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoghlKcSPRxxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- P.E.: On one side of the board write “double plus 1” and on the other side “Double minus one”. Put five bins labeled 6-10 in the center of the room. Have students throw a ball in a bin, and two other students write the corresponding sums on the board. (p. T-197)
- S..S: Place a number line over a map. Give students an addition problem and have students state the place on the map where they start and where they end. (p. T-203)

- Art: Have students choose an object to draw and roll a die to determine the number of objects to draw. Form groups of three students and have each group write the equation for the sum of their object. (p. T-209)
- ELA:
 - *Spunky Monkeys on Parade* by Stuart J. Murphy (p. T-227)
- Science: Create word problems about science experiments or topics students are learning about. (p. T-233)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including 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
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Subtract Numbers within 20

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 5
12 Days
(December/January)

UNIT FOCUS - SUMMARY OF UNIT

Subtraction strategies introduced in chapter 2 are reviewed and used for subtraction within 20. A new strategy called to get to 10 is introduced where students will subtract in two steps. First, students subtract a number so that the difference is now 10 and then subtract the remaining amount. Strategies in this chapter continue to build students' overall number sense. Students are encouraged to understand *why* a strategy can be used and *how* it works, not just taught to use the strategy. Students will become mentally flexible with decomposing and recomposing numbers to make equivalent by similar problems. Students will also build number sense and work on fact fluency as they identify compatible numbers to subtract in multiple situations. Equations are developed in two lessons as students determine true equations and then find values to make equations true.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.OA.A.1**

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.B.3**
 - Apply properties of operations as strategies to add and subtract.
- **1.OA.B.4**
 - Understand subtraction as an unknown-addend problem.
- **1.OA.C.5**
 - Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- **1.OA.C.6**
 - Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
- **1.OA.D.7**
 - Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
- **1.OA.D.8**
 - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Represent addition and subtraction with various models and strategies.
- Solve addition and subtraction word problems within 10.
- Fluently add and subtract within 5.
- Find partner numbers for 10.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify counting back strategies.
- Describe subtraction equations.
- Explain the subtraction strategy I used.
- Compare addition and subtraction strategies.

ESSENTIAL QUESTIONS:

- Why is it important to understand subtraction strategies?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand subtraction strategies.

STUDENTS WILL BE ABLE TO:

- SWBAT use the count back strategy to find a difference.
- SWBAT use the add to subtract strategy to find a difference.
- SWBAT use the get to 10 strategy when subtracting 9.
- SWBAT use the get to 10 strategy to subtract.

- SWBAT identify whether an equation is true or false.
- SWBAT find the number that makes an equation true.
- SWBAT solve subtraction word problems.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction.
5.1	<ul style="list-style-type: none"> ● Use a number line to count back from a number. ● Count back to find the difference. Explain the count back strategy.
5.2	<ul style="list-style-type: none"> ● Explain how addition and subtraction are related. ● Explain the add to subtract strategy. ● Use addition to answer a subtraction equation.
5.3	<ul style="list-style-type: none"> ● Use partner numbers to get to 10 when subtracting. ● Subtract the remaining partner number from 10.

	Explain how to use the get to 10 strategy when subtracting 9.
5.4	<ul style="list-style-type: none"> ● Use partner numbers to get to 10 when subtracting. ● Subtract the remaining partner number from 10. ● Explain how to use the get to 10 strategy to subtract. Math Musical: Counting the Nights
5.5	<ul style="list-style-type: none"> ● Tell the value of each side of an equation. ● Tell whether the values are equal or not.
5.6	<ul style="list-style-type: none"> ● Understand what an equal sign means. ● Explain how to make both sides of the equation have the same value. ● Complete the equation. Math Musical: A True or False Song
5.7	<ul style="list-style-type: none"> ● Identify what information is given in the word problem. ● Identify what the question is asking. ● Use a strategy to solve. ● Explain what strategy I used to solve.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessments	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoqhIKcSPRxcgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA:
 - Elevator Magic by Stuart J. Murphy (p. T-247)
- S.S.: Discuss the different types of transportation. Have students act out subtraction problems using one type of transportation. Have the class write the corresponding addition equations. (p. T-253)
- Art: Divide students into groups. Give each group two bags of different items and have them choose different items. Have students work together to write equations that represent the problems, then have them draw a picture. (p. T-259)

- Science: Give each student a popsicle stick with a large “T” on one side and “F” on the other. Ask students about science facts they have already learned and have them show if the statement is true or false using the popsicle stick. Complete the same activity using equations. (p. T-271)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- Math Work Stations- by Debbie Diller
- BHPs Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Count and Write Numbers to 120

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 6
13 Days
(January/February)

UNIT FOCUS - SUMMARY OF UNIT

In this chapter, we extend on students' experience by counting and writing numbers to 120. Lessons are designed to progress from counting patterns to decomposing numbers into tens and ones in various ways, and back to counting patterns and writing numbers up to 120.

This chapter introduces or extends the following big ideas:

- Numbers can be decomposed, or broken apart, and composed, or joined together, in various ways.
- The location of a digit in a number determines its value.
- Place value is based on groups of ten. One ten is made up of ten ones and ten ones can be joined to make one ten.
- The groupings of ones and tens can be taken apart in different, but equivalent ways.
- There are patterns to the way numbers are formed.
- Patterns and grouping allow us to more efficiently count

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.NBT.A.1**
 - Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

- **1.NBT.B.2**

- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
 - 10 can be thought of as a bundle of ten ones — called a “ten.”
 - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

PREREQUISITE KNOWLEDGE AND SKILLS: (Progressions)

- Name, count, and write numbers to 20.
- Count by tens and ones to 100.
- Count from any number within 100.
- Understand the numbers 11 to 19 as a group of 10 ones and some more ones.

ENDURING UNDERSTANDINGS: (Chapter Success Criteria)

- Identify numbers on a chart.
- Describe numbers on a chart.
- Count on from a number.
- Write numbers.

ESSENTIAL QUESTIONS:

- How do you use place value to model, read, and write numbers to 120?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand counting.

STUDENTS WILL BE ABLE TO:

- SWBAT count to 120 by ones.
- SWBAT count to 120 by tens.
- SWBAT understand and write numbers from 11 to 19.
- SWBAT understand and write decade numbers.
- SWBAT count tens and ones to write numbers.
- SWBAT use quick sketches to model numbers as tens and ones.
- SWBAT understand the value of each digit in a two-digit number.
- SWBAT show different ways to write numbers.
- SWBAT count and write numbers to 120.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 11: The Wolf's Chicken Stew</i> by Keiko Kasza (see <i>Math by the Book Math Intervention binder</i>)
6.1	<ul style="list-style-type: none"> ● Use a chart to count to 120 by ones. ● Count on from a number. ● Write the numbers I am counting.
6.2	<ul style="list-style-type: none"> ● Use a chart to count to 120 by tens. ● Count on from a number by tens. ● Write the numbers I am counting. <p>Math Musical: 100 Waves</p>
6.3	<ul style="list-style-type: none"> ● Identify a group of ten. ● Identify how many ones remain. ● Write a teen number as 1 ten and more ones.
6.4	<ul style="list-style-type: none"> ● Identify a group of ten. ● Explain what a decade number is. ● Write a decade number as groups of ten and 0 ones.
6.5	<ul style="list-style-type: none"> ● Tell how many tens and ones are in a model. ● Write numerals in the tens place and ones place. ● Write the number.

6.6	<ul style="list-style-type: none"> ● Identify the number of tens and ones in a number. ● Draw a quick sketch to show the number of tens and ones.
6.7	<ul style="list-style-type: none"> ● Quick sketch the tens and ones in a two-digit number. ● Identify the value of the digit in the tens place. ● Identify the value of the digit in the ones place.
6.8	<ul style="list-style-type: none"> ● Quick sketch a two-digit number in more than one way. ● Tell how many tens and ones are in a quick sketch. ● Explain a strategy for modeling a two-digit number two ways.
6.9	<ul style="list-style-type: none"> ● Count a group of objects by tens and ones. ● Write the total number of objects.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 10: Monster Math</i> by Anne Miranda (see <i>Math by the Book Math Intervention</i> binder)
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessments	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA:
 - *Curious George Learns to Count from 1 to 100* by H.A. Rey (p. T-297)
 - *Monarch Migration: Counting by 10s* by Megan Atwood (p. T-303)
 - *Swimmy* by Leo Lionni (p. T-321)
 - *What's the Place Value* by Shirley Duke (p. T-333)
 - *Flowers Grow All in a Row* by Lisa Houck (p. T-339)
 - *Toasty Toes: Counting by Tens* by Michael Dahl (p. T-345)
- Art: Give students a copy of Animals Instructional Resource. Have students draw 10 stripes on a tiger's torso and between 1-9 stripes on the tail. Have students complete the sentence, "___ tens and ___ ones is ___." (p. T-309)
- S.S.: Give students a copy of the Map of the United States of America Instructional Resource. Have students use five different colors to color in groups of 10 states. Then have students copy and complete the sentence, "___ tens and ___ ones is ___." (p. T-315)

- Art: Give students a piece of construction paper and write a number between 40-50. Have students model the number using different supplies, pipe cleaners, craft sticks, string, buttons, and pom-poms. (p. T-327)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Comparing Two-Digit Numbers

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 7
10 days
(February)

UNIT FOCUS - SUMMARY OF UNIT

Chapter 7 focuses on comparing numbers. In this chapter, students will describe and analyze how place value determines the numbers that are great or less than another. They will be introduced to and use the inequality symbols greater than ($>$) and less than ($<$). As students work with writing the comparisons of numbers symbolically, it would be incorrect to instruct them to “write an equation.” You can give the instruction to “write a comparison sentence using symbols” or to “use symbols to show the comparison of numbers.”

This chapter introduces or extends the following big ideas:

- There are patterns to the way numbers are formed.
- The location of a digit in a number determines its value.
- Place value is based on groups of ten. One ten is made up of ten ones, and ten ones can be joined to make one ten.
- Sets of tens and ones can also be considered as single units. It is not only a group of ten ones that come together to make one ten, but 5 tens and 3 ones is the same as 53 ones. This is our efficient way to write and compare numbers.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.NBT.B.2**
 - Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
 - 10 can be thought of as a bundle of ten ones — called a “ten.”
 - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- **1.NBT.B.3**
 - Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

PREREQUISITE KNOWLEDGE AND SKILLS: (Progressions)

- Use matching to compare the numbers of objects in two groups.
- Use counting to compare the numbers of objects in two groups.
- Compare two written numerals between 1 and 10.

ENDURING UNDERSTANDINGS: (Chapter Success Criteria)

- Identify two-digit numbers.
- Describe two-digit numbers.
- Locate two-digit numbers on a number line.
Locate two-digit numbers on a number line.
- Compare two-digit numbers.

ESSENTIAL QUESTIONS:

- How do you use place value to compare numbers?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand two-digit numbers.

STUDENTS WILL BE ABLE TO:

- SWBAT compare two numbers between 11 and 19.
- SWBAT compare two numbers within 100.
- SWBAT use place value to compare two numbers within 100.
- SWBAT use symbols to compare two numbers within 100.
- SWBAT use a number line to compare two numbers within 100.
- SWBAT identify numbers that are 1 more, 1 less, 10 more, and 10 less than a number.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book</i>: Lesson 13: <i>Too Many Mangoes</i> by Tammy Paikai (see <i>Math by the Book</i> Math Intervention binder)
7.1	<ul style="list-style-type: none"> ● Write a number modeled with base ten blocks. ● Use greater than and less than to compare two numbers.
7.2	<ul style="list-style-type: none"> ● Write a number modeled with base ten blocks. ● Use greater than and less than to compare two numbers.
7.3	<ul style="list-style-type: none"> ● Write the value of each digit using tens and ones. ● Identify the digit used to decide/compare. ● Use greater than and less than to compare two numbers.
7.4	<ul style="list-style-type: none"> ● Draw quick sketches to model two numbers. ● Write a symbol (=, <, or >) to compare the numbers. ● Write equal to, less than, or greater than to compare the numbers.
7.5	<ul style="list-style-type: none"> ● Locate each number on the number line. ● Write a symbol (=, <, or >) to compare the numbers. ● Explain how to use the number line to compare. <p>Math Musical: The Number Line</p>

7.6	<ul style="list-style-type: none"> ● Write the numbers that are one more and one less than a number. ● Write the numbers that are ten more and ten less than a number. ● Explain which digit changes when finding one more, one less, ten more, ten less.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessments	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- S.S.: Discuss the 100 seats in the United States Senate. Research the amount of Democrats, Republicans, and Independents that make up the Senate. Have students compare the numbers using a comparison statement. (p. T-365)
- ELA:
 - Alfie the Alligator by Sandy Turley (p. T-377)
- Science: Student the amount of eggs animals can lay in 1 day. Use a number line and symbols to compare the different amounts of eggs. Have students plot both numbers on a number line and compare using the correct symbol. (p. T-383)
- P.E.: Pass out two-digit numbers on index cards. Students will hop up, down, and from side to side to practice adding and subtracting 1 and 10 from their numbers. You can do this outside or in the gym using chalk or tape to create a square with “1 more, 1 less, 10 more, and 10 less”. (p. T-389)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE			
Add and Subtract Tens			
CONTENT AREA:		Mathematics	GRADE LEVEL:
			1
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Chapter 8 12 Days (March)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>Chapter 8 begins with the important learning of adding two-digit numbers based on place value. In this chapter, students will need to think of two-digit numbers in terms of tens and ones as they practice adding and subtracting groups of tens.</p> <p>This chapter introduces or extends the following big ideas:</p> <ul style="list-style-type: none"> ● Flexible methods for addition and subtraction involve decomposing and composing numbers based on place value. ● The location of a digit in a number determines its value. ● In addition and subtraction, tens are added or subtracted with tens, and ones with ones. ● Different models can show how place value and addition work together. These models can be used interchangeably. 			
KEY UNDERSTANDINGS			
<p>MATHEMATICAL PRACTICES: https://www.nj.gov/education/standards/math/Index.shtml</p>			
<p>NEW JERSEY STUDENT LEARNING STANDARDS:</p> <ul style="list-style-type: none"> ● 1.NBT.B.2 <ul style="list-style-type: none"> ○ Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 			

- 10 can be thought of as a bundle of ten ones — called a “ten.”
 - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- **1.NBT.C.4**
 - Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
- **1.NBT.C.5**
 - Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
- **1.NBT.C.6**
 - Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10- 90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Understand the numbers 11 to 19 as a group of 10 ones and some more ones.
- Represent addition and subtraction with various models and strategies.
- Add and subtract within 10.
- Fluently add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify the number ten.
- Describe what changes when adding or subtracting ten.
- Model adding and subtracting tens.
- Use a number line to show adding and subtracting tens.

ESSENTIAL QUESTIONS:

- Why is it important to understand adding and subtracting tens?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand adding and subtracting tens.

STUDENTS WILL BE ABLE TO:

- SWBAT use mental math to add 10.
- SWBAT use mental math to subtract 10.
- SWBAT add tens.

- SWBAT use an open number line to add tens.
- SWBAT subtract tens.
- SWBAT use an open number line to subtract tens.
- SWBAT use addition to subtract tens.
- SWBAT add tens to a number.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction.
8.1	<ul style="list-style-type: none"> ● Add 10 to a number and write the sum. ● Explain what changes when you add 10 to a number.
8.2	<ul style="list-style-type: none"> ● Subtract 10 from a number and write the difference. ● Explain what changes when you subtract 10 from a number. <p>Math Musical: Boxed In</p>
8.3	<ul style="list-style-type: none"> ● Use models to add tens. ● Tell how many tens are in the model. ● Write the addition equation that matches the model.

8.4	<ul style="list-style-type: none"> ● Use an open number line to show my starting number. ● Draw hops to show each ten I add. ● Write the sum.
8.5	<ul style="list-style-type: none"> ● Use models to subtract tens. ● Tell how many tens are left in the model. ● Write the subtraction equation that matches the model.
8.6	<ul style="list-style-type: none"> ● Use an open number line to show my starting number. ● Draw hops to show each ten I subtract. ● Write the difference.
8.7	<ul style="list-style-type: none"> ● Write an addition equation with a missing addend. ● Count on to find the missing addend. ● Use the missing addend to write the difference.
8.8	<ul style="list-style-type: none"> ● Use a model to count on by tens from a two-digit number. ● Write the sum. <p>Math Musical: Lonely Star</p>
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice ● <i>Math by the Book: Lesson 14: Pete the Pat: Snow Daze</i> by James Dean (see <i>Math by the Book</i> Math Intervention binder)
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- P.E.: Show $_ + 10 = _$ on the board. Write several numbers on sheets of paper. Have two students stand up. Hold one of the sheets of paper over the first blank. The first student to find the sum correctly stays standing and plays the next round against the next students. (p. T-407+ T-413)
- ELA:
 - *One is a Snail, Ten is a Crab: A Counting by Feet Book* by April Pulley Sayre and Jeff Sayre (p. T-425)

- P.E.: Use 3 partially filled water bottles as bowling pins. Students start with a score of 90 and roll a soft ball towards the pins. Each pin that is knocked down subtracts 10 from the student’s score. (p. T-437)
- P.E.: Divide the class into equal groups. Line groups up at a starting line a short distance from the board. Across each group, write a row of numbers on the board. Give one student a marker. When you say “Go” the first student from each group runs to the board, adds 10 to the first number, runs back to the group, and hands the marker to the next students. Repeat the process. (p. T-449)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPs Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE			
Add Two-Digit Numbers			
CONTENT AREA:		GRADE LEVEL:	
Mathematics		1	
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Chapter 9 10 Days (March)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>Chapter 9 continues adding two-digit numbers based on place value. Students use multiple strategies and models to add. Students will come to understand that sometimes the ones in a sum will need to be regrouped to form a ten. Chapter 9 continues to show that students' initial learning of strategies and models for addition is not for any particular group of numbers or situations.</p> <p>The same big ideas from Chapter 8 are extended in this chapter:</p> <ul style="list-style-type: none"> ● Flexible methods for addition and subtraction involve decomposing and composing numbers based on place value. ● The location of a digit in a number determines its value. ● In addition and subtraction, tens are added or subtracted with tens, and ones with ones. ● Different models can show how place value and addition work together. These models can be used interchangeably. 			
KEY UNDERSTANDINGS			
<p>MATHEMATICAL PRACTICES: https://www.nj.gov/education/standards/math/Index.shtml</p>			
<p>NEW JERSEY STUDENT LEARNING STANDARDS:</p> <ul style="list-style-type: none"> ● 1.NBT.B.2 <ul style="list-style-type: none"> ○ Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 			

- 10 can be thought of as a bundle of ten ones — called a “ten.”
 - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- **1.NBT.C.4**
 - Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Understand the numbers 11 to 19 as a group of 10 ones and some more ones.
- Represent addition and subtraction with various models and strategies.
- Add and subtract within 10.
- Fluently add and subtract within 5.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify two-digit numbers.
- Describe an addition strategy.
- Write a sum.
- Explain the strategy and the sum.

ESSENTIAL QUESTIONS:

- How can you add and subtract two-digit numbers?
- Why is it important to know this skill?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand adding two-digit numbers.

STUDENTS WILL BE ABLE TO:

- SWBAT add two numbers by adding the tens and adding the ones.
- SWBAT use a number line to add two numbers.
- SWBAT make a 10 to add a one-digit number and a two-digit number.
- SWBAT use place value to add two numbers.
- SWBAT choose a strategy to add two numbers.
- SWBAT solve addition word problems.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book</i>: Lesson 12: <i>Miss Nelson Has a Field Day</i> by Harry Allard and James Marshall (see <i>Math by the Book</i> Math Intervention binder)
9.1	<ul style="list-style-type: none"> ● Use quick sketches to model adding two numbers. ● Add the tens and add the ones. ● Write the sum.
9.2	<ul style="list-style-type: none"> ● Use an open number line to count on by tens and ones from the starting number. ● Write the sum.
9.3	<ul style="list-style-type: none"> ● Make a quick sketch to show both numbers. ● Tell whether I can make a 10. ● Add the tens and count on the ones.
9.4	<ul style="list-style-type: none"> ● Make a quick sketch to show both numbers. ● Tell whether I can make a 10. ● Add the tens and count on the ones.
9.5	<ul style="list-style-type: none"> ● Choose a strategy to add two numbers. ● Explain the strategy I used. ● Add the numbers and write the sum.
9.6	<ul style="list-style-type: none"> ● Identify what information is given in the word problem.

	<ul style="list-style-type: none"> ● Identify what the question is asking. ● Choose a strategy to solve. ● Explain the strategy I used to solve.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoghKcSPRxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- S.S.: Using numbers 1-50, number states on the Map of the United States Instructional Resources. Project the map for students to see. Have students find sums of pairs of states. Alternatively, have students choose two states they want to visit or have been to and find the sum. (p. T-469)
- ELA: Write spelling or sight words on the board. Have students circle consonants in one color and vowels in a different color. The total number of vowels should be a one-digit number and consonants should be a two-digit number. Students count the number of each and use the numbers as addends in an addition equation. (p. T-475)
 - A Fair Bear Share by Stuart J. Murphy (p. T-481)
- Art: Have students create a poster about their favorite strategy for adding two numbers. Students should include addition problems to model the strategy and draw a picture of the problem. (p. T-487)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including Splash Learning, Prodigy, XtraMath, BrainPOP

- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Measure and Compare Lengths

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 10
9 Days
(April)

UNIT FOCUS - SUMMARY OF UNIT

In this chapter, we build on kindergarten’s foundation and examine the measurable attribute of length. We begin the study of length and measurement by learning that length is found by locating where an object begins and ends when it is straight and then determining how far it is between the two endpoints. Students will also use a length of string to compare two objects and conclude which object is longer or shorter. Students will also use color tiles and large paper clips for units when measuring.

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.OA.A.1**
 - Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- **1.MD.A.1**
 - Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- **1.MD.A.2**

- Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Describe attributes that can be measured.
- Describe more than one attribute of an object.
- Compare the measurable attributes of two objects.
- Describe how the measurable attributes of two objects are different.
- Solve addition and subtraction word problems within 10.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify the lengths of objects.
- Order objects from longest to shortest.
- Compare different lengths.
- Measure the length of objects.

ESSENTIAL QUESTIONS:

- Why is it important to understand length?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand length.

STUDENTS WILL BE ABLE TO:

- SWBAT order objects by length.
- SWBAT compare the lengths of two objects using a third object.
- SWBAT use like objects to measure length.
- SWBAT measure an object in different ways.
- SWBAT solve compare word problems involving length.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 17: Hide and Snake</i> by Keight Baker (see <i>Math by the Book Math Intervention binder</i>)
10.1	<ul style="list-style-type: none"> ● Identify the longest object. ● Identify the shortest object. ● Order objects from longest to shortest or from shortest to longest.
10.2	<ul style="list-style-type: none"> ● Tell whether the first object is longer or shorter than the third object. ● Tell whether the second object is longer or shorter than the third object. ● Use the two comparisons to reason about the first and second object.
10.3	<ul style="list-style-type: none"> ● Start measuring at the beginning of the object and stop at the end. ● Measure the length with no gaps or overlays. ● Tell how many units long the object is.
10.4	<ul style="list-style-type: none"> ● Start measuring at the beginning of the object and stop at the end. ● Measure an object using one type of like unit. ● Measure an object using another type of like unit. ● Explain what happens when you measure an object in different ways. <p>Math Musical: We Use Our Paws</p>
10.5	<ul style="list-style-type: none"> ● Identify what information is given in the word problem. ● Identify what the question is asking. ● Use a bar model to solve a comparison problem. ● Explain the strategy I used to solve.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice

Connect and Grow	<ul style="list-style-type: none"> Centers
Chapter Assessments	<ul style="list-style-type: none"> Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- Science: Discuss how trees grow, what they need to survive, and how seasons and weather can affect them. Focus on the dropping of limbs and sticks. Have students collect sticks and order them from shortest to longest. (p. T-507)
- ELA:
 - How Long? Wacky Ways to Compare Length* by Jessica Gunderson (p. T-513)
- Science: Discuss the concept of force and motion. Set up an experiment involving a toy car going down a race track or ramp. Have students predict how far the car will go using certain units. Then measure the results. (p. T-525)
- S.S: List state names on the board. Have students select one and create it using letter tiles. They will compare the length of their state name to their partner's by looking at the number of tiles each student used. They will create word problems by describing how many more are used or whether they are the same amount. (p. T-531)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists

- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE			
Represent and Interpret Data			
CONTENT AREA:		Mathematics	GRADE LEVEL:
			1
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Chapter 11 9 Days (April/May)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>Chapter 11 introduces new ideas and representations to students involving data. Students will sort data into groups with defining characteristics. Students will ask and answer questions about data. This one-to-one recording system, a tally chart, is the most concrete representation of data. After making tally charts, students make picture graphs. In first grade, the symbol on a picture graph will always represent one item. The third representation students will work with is a bar graph.</p> <p>This chapter introduces the following foundational big ideas about data and statistics:</p> <ul style="list-style-type: none"> ● There is a four-step process for statistics: asking a question, collecting data, analyzing data, and interpreting data. ● Data can be organized to answer questions. ● Different types of data representations can more easily provide different kinds of information. ● Different models can show how place value and addition work together. These models can be used interchangeably. 			
KEY UNDERSTANDINGS			
<p>MATHEMATICAL PRACTICES: https://www.nj.gov/education/standards/math/Index.shtml</p>			
<p>NEW JERSEY STUDENT LEARNING STANDARDS:</p> <ul style="list-style-type: none"> ● 1.OA.A.1 <ul style="list-style-type: none"> ○ Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all 			

positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.OA.A.2**

- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

- **1.MD.C.4**

- Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Compare the measurable attributes of two objects.
- Solve addition and subtraction word problems within 10.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Record data on a tally chart.
- Use a tally chart.
- Compare data.
- Interpret data.

ESSENTIAL QUESTIONS:

- How can graphs and charts help you organize, represent, and interpret data?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Read and interpret data.

STUDENTS WILL BE ABLE TO:

- SWBAT make a tally chart to organize and understand data.
- SWBAT understand the data shown by a picture graph.
- SWBAT understand the data shown by a bar graph.
- SWBAT make picture graphs and bar graphs.
- SWBAT use data from graphs to answer questions.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 18: Dale, Dale, Dale/ Hit it, Hit it, Hit it: Una Fiesta De Numeros/ A Fiesta of Numbers</i> by Rene Saldana Jr. (see <i>Math by the Book</i> Math Intervention binder)
11.1	<ul style="list-style-type: none"> ● Record data in a tally chart. ● Use a tally chart to answer questions.
11.2	<ul style="list-style-type: none"> ● Read the data in a picture graph to answer questions. ● Compare the data in a picture graph.
11.3	<ul style="list-style-type: none"> ● Read the data in a bar graph to answer questions. ● Compare the data in a bar graph. <p>Math Musical: We're Going To Have a Party</p>
11.4	<ul style="list-style-type: none"> ● Count the tally marks in each category. ● Represent the data using a tally chart. ● Represent the data using a picture graph or bar graph.
11.5	<ul style="list-style-type: none"> ● Read different types of graphs. ● Compare amounts in each category. ● Write a question that reading a graph will answer.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessments	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

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

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- Art: Put a collection of three different types of stickers together for each student. Have students sort the stickers and then create a tally chart showing the types of stickers using cotton swabs, toothpicks, or craft sticks. (p. T-545)
- ELA:
 - Let's Make a Picture Graph by Robin Nelson (p. T-551)
 - Provide students with 3 spelling or sight words on the board. Have them roll a die for each word to determine how many times they will write that word on a sheet of paper. The partner first tallies how many times each sight word is written and then they create a bar graph of the results. (p. T-563)
- Science: Discuss the characteristics of three planets with students. Then ask students what their favorite planet is. Record their results by graphing them in a bar graph on the board, or have students come up one at a time to fill in part of the bar that reflects their choice. (p. T-557)
- S.S.: Divide a map of the United States into three shaded regions. Have students create a tally mark chart to keep track of the number of states in each region. Then have them create a bar graph or picture graph. Finally, have them write a question about the graph and include its answer. (p. T-569)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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 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, including 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
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Telling Time

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 12

8 Days

(May)

UNIT FOCUS - SUMMARY OF UNIT

Most first-grade students do not have any notion of time. They do not understand how long an hour is, or what 3:00 means. To help students get a sense of time, set alarms or timers to alert you on the hour for Lesson 12.1 and half hour for Lesson 12.2. In this chapter, students learn about telling time to the hour and half hour. They use the phrases *o'clock* and *half past* to describe the time until the final lesson, when digital time is taught.

This chapter introduces the following foundational big ideas about time:

- Time is a measurable period described by units. In first grade, the units are an hour, half hour or minute.
- Time is shown on two types of clocks: analog and digital. Both clocks show the hour and minutes.
- Minutes are smaller units that make up a half hour (30 minutes) or an hour (60 minutes).

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.MD.B.3**
 - Tell and write time in hours and half-hours using analog and digital clocks.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Write numbers from 0 to 20.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify numbers on a clock.
- Explain how to tell time to the hour.
- Compare different times on the clock.
- Draw to show the time.

ESSENTIAL QUESTIONS:

- Why is it important to understand time and know how to tell time?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand time.

STUDENTS WILL BE ABLE TO:

- SWBAT use the hour hand to tell time to the hour.
- SWBAT use the hour hand to tell time to the half hour.
- SWBAT use the hour and minute hands to tell time to the hour and half hour.
- SWBAT use analog and digital clocks to tell time.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book: Lesson 19: Hickory Dickory Dock!</i> By Keith Baker (see <i>Math by the Book</i> Math Intervention binder)
12.1	<ul style="list-style-type: none"> ● Tell what number the hour hand is pointing to. ● Explain how to tell time to the hour. ● Draw to show the time to an hour. ● Tell what one hour earlier or later is.
12.2	<ul style="list-style-type: none"> ● Tell what numbers the hour hand is pointing between. ● Explain how to tell time to the half hour. ● Draw to show the time to the half hour.
12.3	<ul style="list-style-type: none"> ● Tell where the hour and minute hands are pointing. ● Write and tell the time in two ways. ● Draw to show the time to the hour or half hour. <p>Math Musical: Racing the Clock!</p>
12.4	<ul style="list-style-type: none"> ● Read and write hours and half hours on analog and digital clocks. ● Tell when analog and digital clocks are the same. ● Tell and draw what one hour earlier or later is.
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoqhlKcSPRxxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA
 - What Time Is It, Mr. Crocodile? by Judy Sierra (p. T-587)
 - Show students an example of a television schedule. Ask them to look for a half-hour show and model the times it begins and ends on clocks. Then have students make their own television schedule. Students record the day, channel, and time, and draw clocks indicating when a show begins and ends. (p. T-593)

- Art: Show students pictures of cuckoo clocks. Then have students draw their own cuckoo clock. Provide students a time to show on their clock. (p. T-599)
- Science: Complete a dying flowers science experiment. Place white flowers, such as chrysanthemums, into water with food coloring. Have students draw what the flowers look like each half hour. Under their drawing, have the students draw and write the time. (p. T-605)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [Jack Hartmann](#)

COMPUTER SCIENCE AND DESIGN THINKING:

<https://www.nj.gov/education/cccs/2020/2020%20NJSL-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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations*- by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE

Two- and Three-Dimensional Shapes

CONTENT AREA:

Mathematics

GRADE LEVEL:

1

UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT

Chapter 13
13 Days
(May/June)

UNIT FOCUS - SUMMARY OF UNIT

Chapter 13 continues to develop students' spatial reasoning and vocabulary around geometric shapes, both two-dimensional and three-dimensional. In this chapter, students continue to work with shapes from kindergarten, including triangles, rectangles, squares, hexagons, circles, cubes, spheres, cones and cylinders. We add to this list rhombi (plural of rhombus), trapezoids and rectangular prisms. Students experience and classify shapes with greater precision, including describing two-dimensional shapes as open or closed and continuing to recognize the number of sides and vertices. With three-dimensional figures, students add descriptions of surfaces as curved or flat, and describe edges and vertices. Students continue to determine what makes a defining attribute (number of sides or types of surface for example) as opposed to non-defining attributes (color, orientation, size).

KEY UNDERSTANDINGS

MATHEMATICAL PRACTICES:

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

NEW JERSEY STUDENT LEARNING STANDARDS:

- **1.G.A.1**
 - Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
- **1.G.A.2**

- Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

PREREQUISITE KNOWLEDGE AND SKILLS: (*Progressions*)

- Classify objects into categories.
- Analyze shapes and their attributes.
- Build and draw shapes.
- Put shapes together to make a new shape.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify shapes.
- Describe two- and three-dimensional shapes.
- Compare shapes.
- Create shapes.

ESSENTIAL QUESTIONS:

- How do you identify and describe two- and three-dimensional shapes?
- How/why are shapes important in the real world?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand two- and three-dimensional shapes.
- Understand how shapes are used/can be found in the real world.

STUDENTS WILL BE ABLE TO:

- SWBAT sort two-dimensional shapes.
- SWBAT describe two-dimensional shapes.
- SWBAT join two-dimensional shapes to make another shape.
- SWBAT join two-dimensional shapes to make a new shape. Use the new shape to make a larger shape.
- SWBAT take apart two-dimensional shapes.
- SWBAT sort three-dimensional shapes.
- SWBAT describe three-dimensional shapes.
- SWBAT join three-dimensional shapes to make another shape.
- SWBAT take apart three-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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book</i>: Lesson 15: <i>Quinto's Neighborhood</i> by Ina Cumpiano (see <i>Math by the Book</i> Math Intervention binder)
13.1	<ul style="list-style-type: none"> ● Use a sorting rule to identify shapes. ● Explain different ways to sort two-dimensional shapes.
13.2	<ul style="list-style-type: none"> ● Draw two-dimensional shapes. ● Identify the number of straight sides. ● Identify the number of vertices. ● Identify a shape from given information.
13.3	<ul style="list-style-type: none"> ● Join shapes to make another shape. ● Tell how many of each shape I used.
13.4	<ul style="list-style-type: none"> ● Join shapes to make a new shape. ● Tell how many of each shape I used. ● Use the new shape to make a larger shape.
13.5	<ul style="list-style-type: none"> ● Tell what shapes make up a given shape. ● Draw a line to show the parts of a given shape.
13.6	<ul style="list-style-type: none"> ● Use a sorting rule to identify shapes. ● Explain different ways to sort three-dimensional shapes.

13.7	<ul style="list-style-type: none"> ● Make three-dimensional shapes. ● Identify the number of flat surfaces, vertices, and edges. ● Identify a shape from given information.
13.8	<ul style="list-style-type: none"> ● Join shapes to make another shape. ● Tell which shape I used.
13.9	<ul style="list-style-type: none"> ● Tell what shapes make up a given shape. ● Show the parts of a given shape. <p>Math Musical: Splendah's Challenge</p>
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQoghIKcSPRxxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- P.E.: Make different shapes that students have learned on the floor in a scattered arrangement or patterned array. Use shape printouts, tape, or draw the shapes with chalk outside. Have students take turns sorting the shapes by jumping on the same kind of shape. Assign another student to sort by jumping on a different shape. Students can put markers such as bean bags or counters down on the shapes they have already jumped on. Play until everyone gets at least one turn. (p. T-617)
- ELA:
 - Go over descriptions of the different shapes with students. Have each student pick a shape, draw or trace it using a pattern or attribute block, and write a caption or short poem about it. Look for students to be detailed and creative. (p. T-623)
 - Have students draw a shape and then cut it into two other shapes. They can write a story about how the shapes met and became a new shapes once they got together. Have them decorate the shapes with faces and other details. (p. T-635)
- Art: Have students use pattern blocks to join shapes and then trace them. They can then make designs or pictures of their shapes using crayons, colored pencils, or paint. (p. T-629)
- S.S.: Show pictures of cities and ask students what shapes they see. Focus on different three-dimensional shapes like rectangular prisms, cubes, cones, and cylinders. Have students create their own map of a city with different three-dimensional shapes. They can create each

shape using craft sticks and clay, folding paper, or by drawing the flat surfaces of each shape on the paper and labeling them. Be sure students provide a map key. (p. T-653)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations-* by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES



UNIT TITLE			
Equal Shares			
CONTENT AREA:	Mathematics	GRADE LEVEL:	1
UNIT NUMBER and SUGGESTED PACING GUIDE FOR UNIT			
Chapter 14 7 days (June)			
UNIT FOCUS - SUMMARY OF UNIT			
<p>In this chapter, students begin to think about fractional parts, although the word <i>fraction</i> is never used or discussed. Developmentally, the first goal is for students to develop the idea of dividing a shape to result in equal-sized pieces. In the first lesson, students identify <i>equal shares</i> and <i>unequal shares</i>. This is a natural transition from Chapter 13 where students have worked extensively with shapes. In the first lesson, students will progress from determining if these familiar shapes have been divided into equal or unequal parts to dividing the shapes themselves. The next lesson introduces the names and concepts of <i>half of</i> and dividing into <i>halves</i>. The final lesson explores <i>fourths</i> or <i>quarters</i>.</p>			
KEY UNDERSTANDINGS			
MATHEMATICAL PRACTICES: https://www.nj.gov/education/standards/math/Index.shtml			
NEW JERSEY STUDENT LEARNING STANDARDS:			
<ul style="list-style-type: none">● 1.G.A.3<ul style="list-style-type: none">○ Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.			
PREREQUISITE KNOWLEDGE AND SKILLS: (Progressions)			

- Build and draw shapes.
- Put shapes together to make a new shape.

ENDURING UNDERSTANDINGS: (*Chapter Success Criteria*)

- Identify shapes that show equal shares.
- Explain which shapes are equal.
- Compare shares.
- Draw to show shares.

ESSENTIAL QUESTIONS:

- Why is it important to understand equal shares?

UNIT LEARNING TARGETS (STUDENTS WILL KNOW):

- Understand equal shares.

STUDENTS WILL BE ABLE TO:

- SWBAT identify equal shares in two-dimensional shapes.
- SWBAT identify shapes that show halves.
- SWBAT identify shapes that show fourths.

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"> ● Introduction of vocabulary, optional pre-test, and center introduction. ● <i>Math by the Book</i>: Lesson 16: <i>If You Give a Mouse a Brownie</i> by Laura Numeroff (see <i>Math by the Book</i> Math Intervention binder)
14.1	<ul style="list-style-type: none"> ● Identify shapes that show equal shares. ● Explain how I know the shares are equal. ● Tell how many equal shares are in the shape.
14.2	<ul style="list-style-type: none"> ● Tell whether there are two equal shares. ● Use halves to name the shares. ● Draw to show halves.
14.3	<ul style="list-style-type: none"> ● Tell whether there are four equal shares. ● Use fourths or quarters to name the shares. ● Draw to show fourths. <p>Math Musical: We Need a Hero</p>
Connect and Grow	<ul style="list-style-type: none"> ● Performance Task (optional) ● Activity ● Chapter Practice
Connect and Grow	<ul style="list-style-type: none"> ● Centers
Chapter Assessment	<ul style="list-style-type: none"> ● Chapter Test B

OPPORTUNITIES FOR DIFFERENTIATION (SUPPORT AND ENRICHMENT):

- <https://docs.google.com/document/d/1v5NF2k0cQogh1KcSPRxxgvj7AUejTkr0Dnz2J92-9qe4/edit?usp=sharing>

INTERDISCIPLINARY CONNECTIONS AND CROSS-CONTENT STANDARDS:

- ELA:
 - ● *Equal Schmequal* by Virginia Kroll (p. T-679)
- S.S.: Display images of flags that show halves, such as the flag of Poland or the flag of Ukraine. Discuss these with students. Display other flags that show equal shares, such as the flag of Ireland or the flag of Jamaica, and ask students if the flags show halves or only equal shares. (p. T-685)
- Art: Show students how to make origami that involves folding into fourths, such as fortune-tellers. Demonstrate for students or have each student follow along with their own. After each of the first three steps, ask students how many equal parts they see. (p. T-691)

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.nj.gov/education/safety/wellness/selearning/>

SEL Learning Activities:

[Casel Framework](#)

[Math Musical SEL](#)

[Guiding Questions for Classroom Discussions](#)

Brain Breaks- [Go Noodle](#), [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:**

<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, including Splash Learning, Prodigy, XtraMath, BrainPOP
- *Math by the Book* series

HUMAN AND PROFESSIONAL RESOURCES

- *Math Work Stations-* by Debbie Diller
- BHPS Math Specialists
- Laurie's Notes from Big Ideas
- *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
- [NCTM Professional Development Resources](#)
- [K-5 Math Center Ideas](#)

TEACHER NOTES