

Englewood on the Palisades Charter School

Mathematics Curriculum

Grade 1

Aligned With the 2023 New Jersey Student Learning Standards

The Vision for Mathematics Education in New Jersey

A New Jersey education in Mathematics builds quantitatively and analytically literate citizens prepared to meet the demands of college and career, and to engage productively in an information-driven society. All students will have access to a high-quality mathematics education that fosters a population that:

- leverages data in decision-making and as a lens for discussing, analyzing, and responding to practical questions.
- persists to make sense of and model problems arising in everyday life, society, and the workplace.
- thinks critically and strategically to assess quantitative relationships and to solutions to complex problems.
- employs precise reasoning and constructs viable arguments to deduce conclusions, recognize false statements and assess peers' reasoning.
- interprets, evaluates and critiques the mathematics embedded in social, scientific and commercial systems, as well as the claims made in the private and public sectors.
- communicates precisely when conveying, representing, and justifying both qualitative and quantitative perspectives.

(NJ DOE, 2024)

Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

Standard	Mathematically Proficient Students ...
1. Make sense of problems and persevere in solving them	start by explaining to themselves the meaning of a problem and looking for entry points to its solution. check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?”
2. Reason abstractly and quantitatively	make sense of quantities and their relationships in problem situations.
3. Construct viable arguments and critique the reasoning of others	understand and use stated assumptions, definitions, and previously established results in constructing arguments.
4. Model with mathematics	apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later.
5. Use appropriate tools strategically	are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations.

6. Attend to precision	try to communicate precisely to others.
7. Look for and make use of structure	look closely to discern a pattern or structure
8. Look for and express regularity in repeated reasoning	notice if calculations are repeated, and look both for general methods and for shortcuts.

(NJ DOE, 2024)

New Jersey Legislative Statutes and Administrative Code Mathematics

Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i>
Radical Math : includes lessons on topics for social justice in mathematics African American Mathematician Bios
Holocaust Law: <i>N.J.S.A. 18A:35-28</i>
https://www.bbc.com/future/article/20191031-hilda-geiringer-mathematician-who-fled-the-nazis
LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>
https://prideinstem.org/ LGBTQA+ Mathematician Bios https://www.ngpf.org/blog/math/math-monday-celebrating-disabled-mathematicians/ Mathematicians with Disabilities
Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>

<http://www.ams.org/about-us/diversity>
<https://mathematicallygiftedandblack.com/>

Standards in Action: *Climate Change*

New Jersey became the first state in the nation to include climate change across content areas with the adoption of the 2020 New Jersey Student Learning Standards (NJSLs). The goal of inclusion of climate change education implementation is to foster generations of New Jersey students that can analyze, question, interpret, to think independently, and bring critical deduction to fulfill, and to lead in jobs created by burgeoning industries of the future green economy.

Suggestions for how to incorporate climate change examples into math instruction will be noted in **green text** throughout the units.

Math Curriculum **Grade One**

This first grade math curriculum aligns with the 2023 New Jersey Student Learning Standards (NJSLs) and provides a solid foundation for young learners to continue to develop number sense, problem-solving skills, and mathematical understanding. Throughout the year, lessons should include hands-on activities, games, and manipulatives to engage students and make learning math fun and interactive. Formative assessments, observations, and ongoing progress monitoring should be used to ensure that students are meeting the learning objectives. Instruction should be flexible and adaptable to meet the individual needs and learning styles of the students.

Instruction in grade one focuses broadly on four critical areas:

- developing understanding of addition, subtraction, and strategies for addition and subtraction within 20;
- developing understanding of whole number relationships and place value, including grouping in tens and ones;
- understanding of linear measurement and measuring lengths as iterating length units; and
- reasoning about attributes of, and composing and decomposing geometric shapes.

More learning time in first grade should be devoted to numbers than to other topics.

Domains and Cluster Areas

- **Operations and Algebraic Thinking**
 - Represent and solve problems involving addition and subtraction.
 - Understand and apply properties of operations and the relationship between addition and subtraction.
 - Add and subtract within 20.
 - Work with addition and subtraction equations.
- **Number and Operations in Base Ten**
 - Extend the counting sequence.
 - Understand place value.
 - Use place value understanding and properties of operations to add and subtract.
- **Measurement**
 - Measure lengths indirectly and by iterating length units.
 - Tell and write time.
- **Data Literacy**
 - Represent and interpret data
- **Geometry**
 - Reason with shapes and their attributes.

Emphases are given at the cluster level. Refer to the New Jersey Student Learning Standards for Mathematics for the specific standards that fall within each cluster. Even though the clusters have different levels of emphasis, this does not mean that standards can be omitted. All standards must be included in instruction throughout a grade level to ensure that students will be prepared for instruction at higher grade levels.

Indicator	Type	Cluster Heading
1.OA.A	M	Represent and solve problems involving addition and subtraction
1.OA.B	M	Understand and apply properties of operations and the relationship between addition and subtraction
1.OA.C	M	Add and subtract within 20
1.OA.D	M	Work with addition and subtraction equations
1.NBT.A	M	Extend the counting sequence
1.NBT.B	M	Understand place value
1.NBT.C	M	Use place value understanding and properties of operations to add and subtract
1.M.A	M	Describe and compare measurable attributes
1.M.B	A	Tell and write time
1.M.C	S	Work with money
1.DL.A	S	Represent and interpret data
1.G.A	A	Reason with shapes and their attributes

Key: M — Major, S — Supporting Clusters, A — Additional Clusters

Required Fluencies in Grade 1: 1.OA.C.6 Add and subtract within 10

(NJDOE, 2024)

Grade 1 Units and Pacing	
Unit 1: Working with Data	3 weeks
Unit 2: Addition and Subtraction Story Problems	5 weeks
Unit 3: Adding and Subtracting Within 20	6 weeks
Unit 4: Numbers to 99	5 weeks
Unit 5: Adding Within 100	4 weeks
Unit 6: Measurement, Time, and Money	6 weeks
Unit 7: Geometry	3 weeks
Unit 8: Integrating Math Skills	3 weeks
Total Number of Weeks:	35 weeks

Unit 1: Adding and Subtracting Within 10 & Working with Data

Unit Goal: In this unit, students will expand on what they learned in kindergarten about addition and subtraction. Another focus will be that the equal sign indicates that both sides of an equation represent the same value. Additionally, students will extend what they know about organizing objects into categories and representing the quantities. They will explore concepts of data analysis involving up to three categories of data. Many problems about data are structured to represent a wide variety of addition and subtraction situations.

Duration: 3 weeks

Essential Questions:

- How do we organize and represent data?
- What do the best problem solvers do?
- What are ways to think about addition and subtraction?

- What strategies can you use while adding and subtracting?
- How can you solve problems by making a math argument using addition and subtraction?
- How can you draw a picture and use an equation to solve a problem?
- How can you use the structure of a table to identify patterns?

Enduring Understandings:

- Comparing two groups to find how many more objects are in one group than another group is one interpretation of subtraction. Subtraction equations can be used to show situations in which two quantities are compared.
- You can count on to find the sum for addition facts.
- Doubles facts have the same number for both addends and can be used to solve problems involving real world situations.
- Basic addition facts that are near doubles can be found using a related doubles fact.
- Facts with sums 6-10 can be broken into 5 plus some more.
- Two numbers can be added in any order, and the sum will stay the same.
- You can count back to find the difference for subtraction facts.
- Addition and subtraction have an inverse relationship. This relationship can be used to solve subtraction facts; every subtraction fact has a related addition fact.
- Drawings and equations can help you solve different types of word problems.
- The equal sign means "the same as."
- Tally charts are useful in recording and organizing some kinds of data.
- Picture graphs use pictures to show and organize data.
- Some problems can be solved by making, reading, and analyzing a tally chart or picture graph.
- Good math thinkers look for patterns in math to help solve problems.

Key NJSL Standards:

- **1.DL.A** Represent and interpret data
 - **1.DL.A.1** 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.
 - equations with a symbol for the unknown number to represent the problem. *Climate Change Example: Students may ask and answer questions about objects that may be reused, objects that may be recycled, and objects that must be placed in the trash. Students may organize used objects into those categories, and ask and answer questions about the total number of objects, how many are in each category, and how many more or fewer are in one category than in another.*

- **1.OA.B** Understand and apply properties of operations and the relationship between addition and subtraction.
 - **1.OA.B.4** Understand subtraction as an unknown-addend problem. For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.
- **1.OA.C** Add and subtract within 20
 - **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 accuracy and efficiency 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).
- **1.NBT.A** Extend the counting sequence
 - **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** Understand place value
 - **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:
 - a. 10 can be thought of as a bundle of ten ones — called a “ten.”
 - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Interdisciplinary Connections

- RL.1.1 Ask and answer questions about key details in a text.
- RL.1.7 Use illustrations and details in a story to describe its characters, setting, or events.
- SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

- SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL.1.6 Produce complete sentences when appropriate to task and situation.
- 1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
- K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

21st-Century Skills

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Career Ready Practices

- CRP 4 Communicate clearly and effectively and with reason during the Solve and Share portion of the lesson.
- CRP 8 Utilize critical thinking to make sense of problems and persevere in solving independent practice problems.
- CRP 11 Use technology to enhance productivity.

Technology Integration

- TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
- TECH.8.1.2.A.CS2 Select and use applications effectively and productively.
- TECH.8.2.2.C The design process is a systematic approach to solving problems.

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Sort objects into categories of their choice, describe their categories, and count the number of objects in each category Collect data by conducting a survey Record and organize data in a way that makes sense Represent the results using objects, symbols, tally marks, or numbers Interpret data representations to ask and answer questions. Add and subtract within 10, and represent and interpret categorical data.	Add and Subtract within 10 Count and Add Explore Expressions and Sums Add 1 or 2 More Work with 1 and 2 Explore Addition and Subtraction Show Us Your Data Sort Math Tools Sort and Count Shape Cards What is Your Favorite _____ ? What Does the Data Tell Us? Class Pet Surveys How Many? Questions About Data	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments	Materials: 10-Frames Number Cards (0-10) Dice Two-color counters Inch tiles Two-Column Table Three-Column Table Shape Cards Connecting cubes Collections of objects Activities: Number Race 5 in a Row Find the Pair Sort Objects Sort and Count Objects	Category Data Difference Sum Survey

		Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Sort Objects and Use Tally Marks to Represent the Number of Objects Sort Objects and Use Numerals to Represent the Number of Objects Graph the weather Survey and graph favorite healthy foods Put Together/Take Apart Story Problems Add and Subtract within 10 Mentor Texts: <i>Dinner at the Panda Palace</i> by Stephanie Calmenson <i>Domino Addition</i> by Lynette Long <i>More Bugs? Less Bugs?</i> by Don Curry <i>Math Fables: Lessons</i>	
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			<i>That Count</i> by Greg Tang	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPS and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments

	Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
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Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase. Use visuals. Introduce/highlight key vocabulary before lesson. Teacher models reading aloud daily. Provide peer tutoring. Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers. Guided notes and/or scaffold outline for written assignments. Provide students with English Learner leveled readers. Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts. Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum

	Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.
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Unit 2: Addition and Subtraction Story Problems

Unit Goal: Students will solve new types of story problems within 10 using the relationship between addition and subtraction. They will continue to develop an understanding of the meaning of the equal sign and connect story problems to equations. Additionally, students will develop a deeper understanding of addition and subtraction by working on “add to,” “put together,” “take from,” “take apart,” and “compare” problems. They will apply these understandings and learn several strategies to help them achieve fluency in these facts within 10.

Duration: 5 weeks

Essential Question:

- How can objects, drawings, and equations help you solve different types of word problems?

Enduring Understandings:

- Understand various meanings of addition and subtraction in a variety of situations.
- Understand that creating and solving problems involves the use of addition and/or subtraction.
- Good math thinkers use math to explain their answer.
- Good math thinkers know how to think about words and numbers to solve problems.
- Good math thinkers are careful about what they write and say so their ideas about math are clear.

- Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck.

Key NJSLS Strands:

- **1.DL.A** Represent and Interpret Data
 - **1.DL.A.1** 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.
- **1.NBT.A** Extend the counting sequence
 - **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.OA.A** Represent and solve problems involving addition and subtraction
 - **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. *Climate Change Example: Given a number of light bulb stickers, students may determine how many total stickers they and a partner have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then determine, with their partner, who saves more electricity based on the number of light bulb stickers each has.*
 - **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. *Climate Change Example: Given a number of light bulb stickers, students may determine how many total stickers they and two partners have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then, with their partners, determine who saves the most electricity based on the number of light bulb stickers each has.*
- **1.OA.B** Understand and apply properties of operations and the relationship between addition and subtraction
 - **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** Add and subtract within 20
 - **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 accuracy and efficiency 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).

- **1.OA.D.** Work with addition and subtraction equations
 - **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 to three whole numbers.

Interdisciplinary Connections

- RL.1.1. Ask and answer questions about key details in a text.
- RL.1.7. Use illustrations and details in a story to describe its characters, setting, or events.
- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

21st-Century Skills

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Career Ready Practices

- CRP 4. Communicate clearly and effectively and with reason during the Solve and Share portion of the lesson.
- CRP 8. Utilize critical thinking to make sense of problems and persevere in solving independent practice problems.
- CRP 11. Use technology to enhance productivity.

Technology Integration

- TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
- TECH.8.1.2.A.CS2 Select and use applications effectively and productively.
- TECH.8.2.2.C The design process is a systematic approach to solving problems.

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Add and subtract within 10, and represent and interpret categorical data. Build toward fluency by adding and subtracting within 10 in a way that makes sense to them. Solve: • <i>Add To and Take From</i> • <i>Result Unknown and Add To</i> • <i>Change Unknown</i> story problems Understand the meaning of the equal sign. Solve <i>Put Together/Take</i>	<i>Add To</i> and <i>Take From</i> Story Problems Story Problems and Expressions Story Problems and Equations <i>Result or Change Unknown</i> <i>Put Together/Take Apart</i> Story Problems Compare Story Problems Make Them the Same Compare Favorite Art Supply Data Compare with Addition and Subtraction	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects	Materials: 10-frames Connecting cubes (singles) Two-color counters Tools for creating a visual display Cups Two-color counters Number cubes Connecting cubes in towers of 10 Number cards 0–10 Activities:	Add to Put together Take from Take apart Compare

<i>Apart</i> problems with the unknown in different positions. Write equations to represent problems. Relate addition and subtraction. Solve <i>Compare</i>, <i>Difference Unknown</i> problems. Apply understanding of the meaning of the equal sign to make sense of equations with a symbol for the unknown.	Different Types of Story Problems All Kinds of Story Problems How Do the Stories Compare? Equations with Unknowns	Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Mentor Texts: <i>Pigeon Math</i> by Asia Citro <i>10 Gulab Jamuns: Counting with an Indian Sweet Treat</i> by Sandhya Acharya	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson

	● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed

	Leveled texts according to ability Fine motor skill stations embedded in rotation as needed Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers Guided notes and/or scaffold outline for written assignments

	Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 3: Adding and Subtracting Within 20

Unit Goal: Students will expand on what they have already learned related to solving addition and subtraction problems to 10 and add and subtract within 20. They apply the properties of operations and the relationship between addition and subtraction. Students will adapt the strategies they learned and also use the *make 10 strategy* to add within 20. They will be introduced to several key strategies for solving subtraction facts to 20. These strategies will serve students by encouraging a deeper and more conceptual understanding of the relationship between addition and subtraction. The Associative Property of Addition is introduced as a way to group numbers flexibly to solve problems with three addends.

Duration: 6 weeks

Essential Questions:

- What strategies can you use for adding to 20?
- What strategies can you use while subtracting within 20?
- How can adding and subtracting help you solve or complete equations?

Enduring Understandings:

- Students can solve an addition problem by using a number line to count on.
- Doubles and near doubles facts can be used to solve problems involving real world situations, and near doubles can be solved by using a related doubles fact.
- Some addition facts can be solved by changing them to an equivalent fact with 10.
- When you subtract using a number line, you can count back the number of spaces you are subtracting or find the distance between the two numbers.
- Some subtraction facts can be simplified by making use of the numbers' relationships to 10.
- The inverse relationship between addition and subtraction can be used to find subtraction facts; every subtraction fact has at least one related addition fact.
- There are different ways to solve subtraction facts. Certain strategies may be easier to use for different facts.
- Models and the relationship between addition and subtraction can be used to solve equations with an unknown part.
- An addition or subtraction equation is true if the values on each side of the equal sign are the same. An addition or subtraction equation is false if the values on each side of the equal sign are not the same.
- Models, addition facts, and subtraction facts can be used to solve equations with an unknown part.
- Numbers can be grouped in different ways to solve word problems with three addends.

Key NJSLS Strands:

- **1.NBT.A** Extend the counting sequence
 - **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** Understand place value
 - **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:
 - a. 10 can be thought of as a bundle of ten ones — called a “ten.”
 - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- **1.NBT.C** Use place value understanding and properties of operations to add and subtract
 - **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.OA.A** Represent and solve problems involving addition and subtraction
 - **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. **Climate Change Example:** Given a number of light bulb stickers, students may determine how many total stickers they and a partner have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then determine, with their partner, who saves more electricity based on the number of light bulb stickers each has.
 - **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. **Climate Change Example:** Given a number of light bulb stickers, students may determine how many total stickers they and two partners have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then, with their partners, determine who saves the most electricity based on the number of light bulb stickers each has.
- **1.OA.B** Understand and apply properties of operations and the relationship between addition and subtraction
 - **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** Add and subtract within 20
 - **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 accuracy and efficiency 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).
- **1.OA.D.** Work with addition and subtraction equations
 - **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 to three whole numbers.

Interdisciplinary Connections

- RI.1.2. Identify the main topic and retell key details of a text.
- RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

● K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
21st-Century Skills
● 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
Career Ready Practices
● 9.4.2.DC.2: Explain the importance of respecting the digital content of others.
Technology Integration
● TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. ● TECH.8.1.2.A.CS2 Select and use applications effectively and productively ● TECH.8.2.2.C The design process is a systematic approach to solving problems

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Build toward fluency with adding and subtracting within 10.	Develop Fluency with Addition and Subtraction within 10	Formative Assessments: Diagnostic Assessment	Materials: Bags (brown paper)	Teen number
Add and subtract one-digit numbers from teen numbers without composing or decomposing a ten.	Sums I Know	Mid-topic Checkpoint	Envelopes	Thirteen
	Relate Counting to Addition	Lesson Quizzes	Scissors	Fourteen
	Are the Expressions	Lesson Self-assessment	10-frames	Fifteen
		Teacher Observations	Connecting cubes	Sixteen
				Seventeen

Find the value that makes an addition or subtraction equation true, involving 10.	Equal?	Class Discussions	Two-color counters	Eighteen
Understand 10 ones as a ten and the numbers 11 to 19 as a ten and some ones.	Sums of 10	Classwork/ Homework	Crayons	Nineteen
Add within 20, including three addends.	Find the Difference	Exit Slips/Google Form	Cups	Twenty
Subtract within 20.	Story Problems within 10	Summative Assessments: Topic/Unit Assessments	Double 10-frames	
	Add and Subtract using Ten as a Unit	Constructed Response Questions	Number cards 0–10	
	Ten as a Unit	Projects	Number Cards 11-20	
	Addition With a Ten	Cumulative Tests	Double 10-frames	
	Addition and Subtraction with a Ten	Performance Assessments	Number Puzzles	
	Add to a Teen Number	Alternate and Benchmark Assessments: Progress Monitoring Assessments	Addition and Subtraction	
	Subtract From a Teen Number	Cumulative/Benchmark Assessments	Tools for creating a visual display	
	More Story Problems with Teen Numbers		Addition Cards to 20	
	Add within 20		Subtraction Cards to 20	
	Solve Story Problems with Three Numbers		Activities: Solve for results unknown: $6 - 2 = \underline{\quad}$ or $3 + \underline{\quad} = 8$	
	Add Three Numbers		Concrete models to introduce & solve addition & subtraction problems.	

	Make 10 to Add Patterns in Addition Methods for Addition Within 20 Subtract within 20 Subtract from Teen Numbers Use a Ten to Subtract Relate Counting to Addition and Subtraction		Picture drawings to solve word problems/and other addition and subtraction problems. Creation of art projects to depict addition & subtraction sentences. Mentor Texts: <i>12 Ways to Get 11</i> by Eve Merriam <i>Sixteen Runaway Pumpkins</i> by Dianne Ochiltree	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments

	● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed

	Leveled texts according to ability Fine motor skill stations embedded in rotation as needed Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers

	Guided notes and/or scaffold outline for written assignments Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 4: Numbers to 99

Unit Goal: Students will develop an understanding of place value for numbers up to 99. This unit will strengthen students' understanding of the place value system and prepare them for two-digit addition and subtraction. By counting by tens and ones, students will build an understanding of two-digit numbers and the base 10 number system. Students will also use this knowledge of place value to compare two-digit numbers.

Duration: 5 weeks

Essential Questions:

- How can you use what you already know about counting to count to 99?
- How can you count and add using tens and ones?
- How can you use a pattern to find all the ways to make a number by using tens and ones?
- What are ways to compare numbers to 99?
- How does a number change when you add or subtract one more, one less, 10 more, and 10 less?

Enduring Understandings:

- 1 and 10 are special units of numbers (e.g., 10 is 10 ones, but it is also 1 ten).
- Understand the ten-to-one relationship of ones and tens (10 ones equals 1 ten).
- Numbers are written to show how many tens and how many ones are in the number.
- Groups of tens and ones can be used to tell how many.

Key NJSLS Strands:

- **1.NBT.A** Extend the counting sequence
 - **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** Understand place value
 - **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:
 - a. 10 can be thought of as a bundle of ten ones — called a “ten.”
 - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
 - **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 $<$.
- **1.NBT.C** Use place value understanding and properties of operations to add and subtract
 - **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.OA.A** Represent and solve problems involving addition and subtraction
 - **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. *Climate Change Example: Given a number of light bulb stickers, students may determine how many total stickers they and a partner have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then determine, with their partner, who saves more electricity based on the number of light bulb stickers each has.*
 - **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. *Climate Change Example: Given a number of light bulb stickers, students may determine how many total stickers they and two partners have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then, with their partners, determine who saves the most electricity based on the number of light bulb stickers each has.*
- **1.OA.B** Understand and apply properties of operations and the relationship between addition and subtraction
 - **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** Add and subtract within 20
 - **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 accuracy and efficiency 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).

- **1.OA.D.** Work with addition and subtraction equations
 - **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 to three whole numbers.

Interdisciplinary Connections

- RI.1.2. Identify the main topic and retell key details of a text.
- RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- 1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
- 1-ESS1-2 Make observations at different times of year to relate the amount of daylight to the time of year

21st-Century Skills

- 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.IML.2: Represent data in a visual format to tell a story about the data

9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults
Career Ready Practices
9.4.2.DC.1: Explain differences between ownership and sharing of information.
Technology Integration
- TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. - TECH.8.1.2.A.CS2 Select and use applications effectively and productively

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Add and subtract multiples of 10. Represent the base-ten structure of numbers up to 99 using drawings, numbers, and words. Understand that the two digits of a two-digit number represent amounts of tens and ones. Compare 2 two-digit numbers based on the values of the tens and	Units of Ten Count Large Collections Match Representations of Tens Addition and Subtraction with Tens More Addition and Subtraction with Tens Tens and Ones Count Larger	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form	Materials: Bags Collections of objects Cups Double 10-frames Paper plates Connecting cubes (singles)	Estimate Greater than Less than Two-digit number

ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$. Represent two-digit numbers in different ways, using different amounts of tens and ones.	Collections Numbers With Tens and Ones Different Representations of Tens and Ones Write Two-digit Numbers Add Tens to Two-digit Numbers Mentally Add and Subtract Tens (optional) Compare Numbers to 99 Let's Compare Greater Than, Less Than Write Comparisons with Symbols Compare and Order Numbers Different Ways to Make a Number	Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Connecting cubes in towers of 10 Representations of Tens It's a Match (10-90) words, numbers, pictures Two-color counters Number cards 0–10 Number Cards, Multiples of 10 (0-90) Two-Digit Numbers Recording Sheet Base-ten blocks Representations of Tens and Ones Dry erase markers Sheet protectors	
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	Make Two-digit Numbers Make Two-Digit Numbers in Different Ways Compare Two-Digit Numbers Shown in Different Ways Two-Digit Numbers in Our World		Write the Number Paper clips Ordering Cards: Tens and Ones Estimating Quantities Cards Place Value Chart Activities: “Make a Splash” mat floor hundreds chart game 100 Chart Hopscotch Place Value Sort Place Value Match Build-a-Number Mentor Texts: <i>100 Days of School</i> by Trudy Harris <i>One Guinea Pig Is Not Enough</i> by	
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			Kate Duke <i>Tail Feather Fun</i> by Michael Dahl <i>Chicka Chicka 1, 2, 3</i> by Bill Martin Jr. and Michael Sampson <i>The Smushy Bus</i> by Leslie Helakoski <i>100 Mighty Dragons All Named Broccoli</i> by David LaRochelle <i>Alfie the Alligator</i> by Sandy Turley	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach

	Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed

	Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers Guided notes and/or scaffold outline for written assignments Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including

	Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 5: Adding Within 100

Unit Goal: Students use place value understanding and properties of operations to add within 100.

Duration: 4 weeks

Essential Questions:

- What are ways to use tens and ones to add?
- How is adding groups of ten like adding numbers less than 10?
- What are some different tools or strategies that you could use to solve an addition problem?
- How can you use what you know about subtraction to subtract tens?
- How is subtracting groups of ten like subtracting numbers less than 10?
- How can you use addition to help you solve subtraction problems?
- What are some different strategies that you could use to solve a subtraction problem?

Enduring Understandings:

- Adding groups of 10 is similar to adding numbers less than 10. Subtracting a multiple of 10 from another multiple of 10 is similar to subtracting numbers less than 10.
- When adding or subtracting tens to a two-digit number, the tens digit changes, and the ones digit remains unchanged.
- When a two-digit number is added to a one-digit number or another two-digit number, the ones are added to the ones and sometimes it is necessary to compose a ten. The tens are added to the tens.
- Subtracting multiples of 10 is like counting back by tens. You can show how to subtract a multiple of 10 from another multiple of 10 on a hundreds chart or an open number line.
- Addition and subtraction have an inverse relationship. This relationship can be used to solve subtraction equations; every subtraction equation has a related addition equation.
- You can use different strategies to solve addition and subtraction problems.
- Good math thinkers use math they know to show and solve problems.

Key NJSL Standards:

- **1.NBT.A** Extend the counting sequence

- **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** Understand place value
 - **1.NBT.B.2** Understand that the two digits of a two-digit number represent amounts of tens and 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 $<$.
- **1.NBT.C** Use place value understanding and properties of operations to add and subtract
 - **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.
- **1.OA.A** Represent and solve problems involving addition and subtraction
 - **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. *Climate Change Example: Given a number of light bulb stickers, students may determine how many total stickers they and a partner have. With support, students may ask and answer questions about how turning off lights and unplugging electronics saves electricity. Students may then determine, with their partner, who saves more electricity based on the number of light bulb stickers each has.*
- **1.OA.C** Add and subtract within 20
 - **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 accuracy and efficiency 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).

- **1.OA.D** Work with addition and subtraction equations
 - **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 to three whole numbers.

Interdisciplinary Connections

- RI.1.2. Identify the main topic and retell key details of a text.
- RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- 1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.

21st-Century Skills

- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
- 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet ,

9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults.
Career Ready Practices
9.1.2.CAP.2: Explain why employers are willing to pay individuals to work. - Income is received from work in different ways including regular payments, tips, commissions, and benefits.
Technology Integration
9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool.

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Add within 100 without composing a ten. Add a one-digit and a two-digit number within 100 by composing a ten. Add 2 two-digit numbers within 100, by composing a ten. Use equations to represent addition methods.	Add Without Making a Ten Add Tens or Ones How Did You Add? Add It, Explain It Make a Ten: Add One- and Two-digit Numbers Make a Ten Make a Ten and Make Sense of Equations	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form	Materials: Connecting cubes in singles Connecting cubes in towers of 10 Number cards 0–10 Paper clips (2-inch) Paper clips Two-color counters	category data difference estimate greater than less than sum survey teen number

	Does it Make a New Ten? Make a Ten: Add Within 100 Add 2 Two-digit Numbers Tens and Tens, Ones and Ones Add it Up	Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Number Puzzles Addition and Subtraction Number cards 0–10 Number Puzzles Addition Tools for creating a visual display Number cubes Activities: Addition Bingo Addition Matching Game Make a Ten Number Line Jumping Addition with Base Ten Blocks Two-Digit Addition Puzzles Equation Builder	two-digit number
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			Math Equation Storybook Mentor Texts: <i>Ten Apples Up On Top!</i> by Dr. Seuss <i>How Many Feet in the Bed?</i> by Danica McKellar <i>The Very Busy Spider</i> by Eric Carle	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach

	Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed

	Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers Guided notes and/or scaffold outline for written assignments Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including

	Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 6: Measurement, Time, and Money

Unit Goal: Students measure length and count up to 120 length units. They solve addition and subtraction story problems with unknowns in all positions. They tell time to the hour and half hour, compare values of coins, find equivalent monetary values, and

show monetary values in multiple ways.

Duration: 6 weeks

Essential Questions:

- How does "what" is measured influence "how" it is measured?
- What is the connection between the type of data and the type of display?
- How can we compare the size of objects when we can't put them next to each other?
- How can we be sure something is really bigger and agree on its size?
- What is money, and why is it important?
- How do we use coins and bills to buy things?
- What are some different ways we can show the value of money?
- How can we count and combine different coins to make specific amounts?
- What is the difference between physical money and digital money?
- Why is it important to know different ways to represent the value of money?

Enduring Understandings:

- Time is an essential skill needed to navigate everyday situations.
- Objects have distinct attributes that can be measured and compared using nonstandard units.
- Monetary values can be represented and understood in various ways, such as through coins and bills to help us buy things we need and want.

Key NJSLS Strands:

- **1.OA.C** Add and subtract within 20
 - **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 accuracy and efficiency 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).
- **1.M.A. Measure lengths indirectly and by iterating length units**

- **1.M.A.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- **1.M.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.
- **1.M.B. Tell and write time**
 - **1.M.B.3** Tell and write time in hours and half-hours using analog and digital clocks.
- **1.M.C. Work with money**
 - **1.M.C.4** Know the comparative values of coins and all dollar bills (e.g., a dime is of greater value than a nickel). Use appropriate notation (e.g., 69¢, \$10).
 - **1.M.C.5** Use dollars in the solutions of problems up to \$20. Find equivalent monetary values (e.g., a nickel is equivalent in value to five pennies). Show monetary values in multiple ways. For example, show 25¢ as two dimes and one nickel, and as five nickels. Show \$20 as two tens and as 20 ones.

Interdisciplinary Connections

- **RI.1.4** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- **RI.1.6** Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- **RI.1.7** Use the illustrations and details in a text to describe its key ideas.
- **SL.1.1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- **SL.1.2** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- **SL.1.3** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **SL.1.6** Produce complete sentences when appropriate to task and situation.
- **1-ESS1-2** Make observations at different times of year to relate the amount of daylight to the time of year.

21st-Century Skills

● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community
Career Ready Practices
● CRP 4. Communicate clearly and effectively and with reason when explaining how they solve the story problems.
Technology Integration
● TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Compare the lengths of objects indirectly. Order objects by length. Count groups of up to 120 objects and write a number to represent them. Lay length units end-to-end with no gaps or overlaps and count the units to determine length. Solve addition and subtraction story problems with unknowns in all	Compare Lengths Compare the Length of Objects Indirectly Choose Objects to Compare Length Indirectly Measure by Iterating up to 120 Length Units Measure with Connecting Cubes Measure with Paper Clips Measure Length with	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments	Materials: Connecting cubes (singles) Connecting cubes in towers of 10 Objects of various lengths Pencils Scissors String Number cards 0–10 Paper clips (1-inch)	One-fourth One-half Fourths Halves Half-past Length O'clock Penny Nickel Dime Quarter

positions. Tell and write time in hours and half-hours. Compare the values of coins and dollar bills Use appropriate notation (dollar and cents signs) Solve word problems with money, up to \$20. Identify equivalent monetary values (eg. 1 nickel = 5 pennies) Show monetary values in more than one way (eg. one quarter, two dimes)	Different Length Units Groups Up to 110 Write Numbers to 120 All Kinds of Story Problems How Long Are Our Shoes? Compare Measurements Solve Take From Story Problems Which Equation Matches? Write Equations for Story Problems Hours and Half Hours It's Time to Learn About Clocks Half of the Clock Write Times Hard Times Coin Sort	Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Paper clips (2-inch) Tape (painter's or masking) Base-ten blocks Base-ten blocks Representations of Numbers Over 80 Tools for creating a visual display Activities: Mentor Texts: <i>Telling Time with Big Mama Cat</i> by Dan Harper <i>Telling Time</i> by Jules Older <i>Measuring Penny</i> by Loreen Leedy <i>How Big is a Foot?</i> by Rolf Myller	Dollar Cents
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	Coin Counting Show an Amount Four Ways		<i>Alexander, Who Used to Be Rich Last Sunday</i> by Judith Viorst <i>The Coin Counting Book</i> by Rozanne Lanczak Williams <i>Bunny Money</i> by Rosemary Wells	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction ● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts

Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work.
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	Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers Guided notes and/or scaffold outline for written assignments Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers

	1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 7: Geometry

Unit Goal: Students reason with shapes and their attributes, and partition shapes into equal pieces. This unit will deepen the students' understanding of defining and non-defining attributes of two-dimensional and three-dimensional shapes. Students will put together various shapes to create new shapes. The students will begin a conceptual foundation for fractions, partitioning circles and rectangles into two or four equal shares.

Duration: 3 weeks

Essential Questions:

- How can shapes be broken into simpler parts?
- What attributes are important for naming shapes?
- When is one object or shape bigger than another?

Enduring Understandings:

- Shapes can be classified by their attributes.
- Geometric properties can be used to construct two dimensional figures.
- Equal shares can be represented in different ways.

Key NJSLS Strands:

- **1.G.A Reason with shapes and their attributes**
 - **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. (Clarification: Students do not need to learn formal names such as “right rectangular prism.”)
 - **1.G.A.3** Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
- **NBT.C. Use place value understanding and properties of operations to add and subtract**
 - **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.

- **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.OA.C. Add and subtract within 20**
 - **1.OA.C. 6** Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction.
- **1.OA.D Work with addition and subtraction equations**
 - **1.OA.D.7** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

Interdisciplinary Connections

- **RI.1.2.** Identify the main topic and retell key details of a text.
- **RI.1.4.** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- **RI.1.6.** Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- **RI.1.7.** Use the illustrations and details in a text to describe its key ideas.
- **SL.1.1.** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- **SL.1.2.** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- **SL.1.3.** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **SL.1.6.** Produce complete sentences when appropriate to task and situation.
- **K-2-ETS1-1.** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **K-2-ETS1-2.** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

21st-Century Skills
● 9.4.2.CT.3 Use a variety of types of thinking to solve problems.
Career Ready Practices
● CRP 4: Communicate clearly and effectively and with reason when explaining how they solved the problem solving questions. ● CRP 6: Demonstrate creativity and innovation while at their Math Center Challenges. ● CRP 8: Utilize critical thinking to make sense of independent practice problems and persevere in solving them.
Technology Integration
● TECH.8.1.2 All students will use digital tools to access, manage, evaluate and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Build and draw shapes to possess defining attributes.	Shapes That Are Solid	Formative Assessments: Diagnostic Assessment	Materials: Bags (brown paper)	Solid
Compose two-dimensional or three-dimensional shapes to create a composite shape.	Build Shapes from Other Shapes	Mid-topic Checkpoint	Geoblocks	Flat
Describe attributes of two-dimensional and three-dimensional	Shapes That Are Flat	Lesson Quizzes	Solid shapes	Two-dimensional
	Draw Flat Shapes	Lesson Self-assessment	Flat Shape Cards	Three-dimensional
	Some Triangles, All Triangles	Teacher Observations	Centimeter Dot Paper - Standard	Cone
	Rectangles and Squares	Class Discussions		Sphere
		Classwork/ Homework		Cylinder

shapes. Partition circles and rectangles into two and four equal pieces and describe the pieces with words (halves and fourths).	Put Together Flat Shapes Halves and Quarters Equal Pieces One of the Pieces, All of the Pieces A Bigger Piece	Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments Cumulative/Benchmark Assessments	Pattern blocks Picture books Flat Shapes Puzzles Circles and Squares Pieces of Circles Shaded Parts Cards Two-color counters Activities: Sort and describe shapes in ways that make sense to you Make shapes from smaller shapes Decompose shapes Fold paper shapes into equal parts Mentor Texts: <i>Building With Shapes</i> by Rebecca Weber <i>When a Line</i>	Cube Square Rectangle Triangle Rhombus Hexagon Equal Halves Fourths
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			<i>Bends...A Shape Begins</i> by Rhonda Gowler Greene <i>Windows, Rings, and Grapes-A Look at Different Shapes</i> by Brian P. Cleary <i>Round is a Tortilla</i> by Roseanne Thong <i>Fraction Fun</i> by David Adler <i>Give Me Half!</i> by Stuart J. Murphy	
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Modifications and Accommodations	
Tier II and III Strategies	Small group instruction (Tier II) ● Explicit instruction ● Schema-based instruction ● Use visuals ● Use manipulatives ● Use a multi-sensory approach ● Guided notes and/or scaffold outline for written assignments ● Introduce key vocabulary before lesson ● Lesson taught again using a differentiated approach Small group or Individual instruction (Tier III) ● Intensive instruction

	● Practice fact retrieval ● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed

	Modified or constrained spelling word lists Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Multi-language Learners	<u>Mathematical Language Development and Access for English Learners</u> Work toward longer passages as skills in English increase Use visuals Introduce/highlight key vocabulary before lesson Teacher models reading aloud daily Provide peer tutoring Utilize translation supports including bilingual dictionary, translation device, assistive technology, and peers Guided notes and/or scaffold outline for written assignments Provide students with English Learner leveled readers Support recommended by the grade specific “can do” list outlined by WIDA, including

	Key Uses Edition and Descriptor Name Charts Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

Unit 8: Integrating Math Skills

Unit Goal: Students consolidate and solidify their understanding of various concepts and skills on major work of the grade. They also continue to work toward fluency goals of adding and subtracting within 10.

Duration: 3 weeks

Essential Questions:

- What is the best way to count?
- What makes a strategy for computing effective and efficient?
- How is math a language?

Enduring Understandings:

- Computation involves taking apart and combining numbers using a variety of approaches.
- Flexible methods of computation involve grouping numbers in strategic ways.
- Developing number sense helps to solve problems in a variety of ways.

Key NJSLS Strands:

- **1.OA.C** Add and subtract within 20
 - **1.OA.C.6** Add and subtract within 20, demonstrating accuracy and efficiency 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).
- **1.OA.D** Work with addition and subtraction equations
 - **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 to three whole numbers.
- **1.NBT.A** Extend the counting sequence
 - **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** Understand place value
 - **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 $<$.
- **1.NBT.C** Use place value understanding and properties of operations to add and subtract
 - **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.

Interdisciplinary Connections

- **RL.1.1** Ask and answer questions about key details in a text.
- **RL.1.7** Use illustrations and details in a story to describe its characters, setting, or events.
- 1-ESS1-2
- Make observations at different times of year to relate the amount of daylight to the time of year.

21st-Century Skills

- **9.2.4.A.4** Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Career Ready Practices

- **CRP 4** Communicate clearly and effectively and with reason during the whole group part of the lesson.
- **CRP 8** Utilize critical thinking.

Technology Integration

- **TECH.8.1.2.A.CS2** Select and use applications effectively and productively
- **TECH.8.2.2.C** The design process is a systematic approach to solving problems

Skills	Instructional Topics	Assessment	Resources	Vocabulary
Add and subtract within 20. Fluently add and subtract within 10. Solve <i>Add To and Take From, Change Unknown Compare, Difference Unknown Put Together/Take Apart, Addend Unknown</i> story problems in a way that makes sense to them. Apply place value understanding to represent a quantity with written numerals and expressions. Count a group of up to 120 objects.	Addition Fluency Within 10 Relate Addition and Subtraction Add and Subtract Within 20 Change Unknown Story Problems Put Together and Take Apart Story Problems Compare Story Problems Count Large Collections Show Me All the Ways Solve Number Riddles Write Number Riddles	Formative Assessments: Diagnostic Assessment Mid-topic Checkpoint Lesson Quizzes Lesson Self-assessment Teacher Observations Class Discussions Classwork/ Homework Exit Slips/Google Form Summative Assessments: Topic/Unit Assessments Constructed Response Questions Projects Cumulative Tests Performance Assessments Alternate and Benchmark Assessments: Progress Monitoring Assessments	Materials: Colored pencils Index cards Connecting cubes (singles) Connecting cubes in towers of 10 Number cards 0–10 Tools for creating a visual display Collections of objects (toy cars, small toys, decorative erasers, etc.) Cups Double 10-frames Paper plates Bags or envelopes	Category Data Difference Estimate Greater than Less than Sum Survey Teen number Two-digit number

		Cumulative/Benchmark Assessments	Number Riddle Cards 120s charts Dice Dominoes Jenga Activities: Addition/Subtraction fluency games Story Problems 120s Grid to Number Line 120 Puzzles Race to 120 Solve the mystery number Read and write number riddles Mentor Texts:	
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			<i>Ten Little Ladybugs</i> by Melanie Gerth <i>The Doorbell Rang</i> by Pat Hutchins <i>Place Value</i> by David A. Adler <i>Counting on Frank</i> by Rod Clement	
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Modifications and Accommodations	
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	● Lesson taught again using a differentiated approach ● Allow answers to be given orally or dictated ● Use visuals / Anchor Charts
Students with IEPs and 504 Plans	<u>Universal Design for Learning and Access for Students with Disabilities</u> <u>Movematics (dyscalculia.org)</u> Follow all the IEP/504 plan modifications Allow extra time to complete assignments or tests Guided notes and/or scaffold outline for written assignments Work in a small group Solidify and refine concepts through repetition Allow answers to be given orally or dictated Use multi-sensory teaching approaches Utilize assistive technology and materials Use large print books, Braille, or books on CD (digital text) Text to speech/audio recorded selections Amplification system as needed Leveled texts according to ability Fine motor skill stations embedded in rotation as needed Modified or constrained spelling word lists

	Provide anchor charts with high frequency words and phonemic patterns Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work. Invite students to plan a strategy before they begin working. If time allows, invite students to share their plan with a partner. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
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	Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud. Invite students to use gestures as they count their collections aloud.
Accelerating Students	<u>Accelerating Students Guide</u> Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles) Provide options, alternatives and choices to differentiate and broaden the curriculum Organize and offer flexible small group learning activities Provide whole group enrichment explorations Teach cognitive and methodological skills Use center, stations, or contracts Organize integrated problem-solving simulations Propose interest-based extension activities Expose students to beyond level texts.

(NJ DOE, 2024)

Prepared by Julie Lang, MA

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