

Englewood Public School District
Math
KINDERGARTEN
Unit 4: Addition and Subtraction Stories, and Measurement

Overview: In this unit, students will learn how to add and subtract numbers using models, number sentences, and objects. Students will also learn how to measure objects in different ways.

Time Frame: 45 Days

Enduring Understandings:

- *Numbers can be added or subtracted.*
- *Math story problems can be solved using objects.*
- *Objects can be compared, measured, and identified by their attributes.*
- *Objects, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations can help one understand problems and find solutions.*

Essential Questions: *Students will keep considering...*

- *How do numbers relate to one another?*
- *What happens when we put groups together or add to a group?*
- *Why do we need to add and subtract?*
- *What strategies can I use to add and subtract quickly?*
- *How does estimation help you find reasonable measurement?*
- *When do you need to measure?*
- *What attributes are measurable?*

Standards	Topics and Objectives	Activities	Resources	Assessments
<p>K.CC.A.1. Count to 100 by ones and by tens.</p> <p>K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)</p> <p>K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>K.CC.B.4a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.</p> <p>K.CC.B.4b. Understand that the last number name</p>	<p>Topics: Addition and subtraction stories</p> <p>Measurement</p> <p>Students will:</p> <ul style="list-style-type: none"> • Write addition sentences • Represent addition stories • Learn addition facts to 5 • Write subtraction stories • Represent subtraction stories • Write subtraction sentences • Compare sets • Learn subtraction facts to 5 • Compare objects of different weights • Compare duration of events • Learn different ways of measuring things • Identify coins by appearance and value 	<p>As part of exploring careers using math, students will watch a video and learn a song <i>What Do You Want to Be?</i>. Students will then discuss the reasons why people work and which jobs in the video require math. (9.2.4.A.1, 9.2.4.A.3, 9.2.4.A.4)</p> <p>Students will practice Calendar Patterns on a daily basis to learn days of the week and months of the year.</p> <p>Students will learn the names and value of coins. (6.1.4.C.10)</p> <p>Students will have daily math centers to reinforce previously taught math skills and to practice writing numbers. During centers students will be pulled for small group or differentiated instruction based upon student needs and math topics.</p>	<p>You tube: <i>What Do You Want to Be?</i> https://youtu.be/YNaG1WOUKw</p> <p>Math text: <i>Math In Focus Chapter 20</i></p> <ul style="list-style-type: none"> • <i>Coin Values Lesson 20.1</i> • <i>Counting Coins Lesson 20.2</i> <p>Materials:</p> <ul style="list-style-type: none"> • Calendar • <i>Every Day Counts: Calendar Math</i> <p>Materials:</p> <ul style="list-style-type: none"> • Exact path • Independent Practice • Hands-on-Math (manipulative/activity kit) 	<p>Benchmark Assessment:</p> <ul style="list-style-type: none"> • Exact Path <p>Formative Assessments: Instructors confer with students to investigate their knowledge of math strategies and number sense</p> <p>Teacher observation and anecdotal notes</p> <p>Class participation</p> <p>Do-Now</p> <p>Checks for Understanding</p> <p>Mathematical Discourse Questions Curriculum Associates <i>iReady: Promoting Mathematical Discourse</i> https://www2.curriculumassociates.com/products/ready-100-q-promoting-math-discourse.aspx</p>

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

K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.

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

K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal

As an introduction to the chapter, students will watch a short video about adding and subtracting. Students will discuss what they saw in the video. (CRP11) (SL.K.1)

Students will learn and extend the concept of number sentences by using connecting cubes and activity cards to create addition sentences.

Students will develop fluency with addition to 5 by practicing all the different ways to make five using virtual manipulatives. (8.1.2.B.1, 8.1.2.E.2)

Students will practice writing and solving addition stories and sentences working with a partner to solve different combinations that make 5. (CRP2, CRP4, CRP8) (RL.K.10, NJSLSA.W4)

Students will learn "minus" and "left" and be introduced to making subtraction sentences to represent subtraction situations. (NJSLSA.L4)

Math In Focus
Chapter 17
YouTube: Adding and Subtracting (song)
<https://youtu.be/NHI0ePgwlgu>

- Math In Focus**
Chapter 17
- Connecting cubes, 20 per pair (10 blue and 10 green)
 - Student numeral cards 1-10 (2 sets per group)
 - Symbol Cards + and = (TR49), 1 set per group
 - Student Book B, Part 2, pp. 19-23
 - Virtual manipulatives
 - Counters, 10 per group (5 yellow and 5 red)
 - Student Book B, Part 2, pp. 24-25

Math In Focus
Chapter 18

- Big Book B, pp. 42-43

Grab & Go Centers

Cross-Curricular Center Activities

Pair-sharing
Exact Path

Summative Assessments:

Student Assessments (chapter tests, unit tests & enrichment tests)

Performance Tasks/Projects

Exact Path

Alternate Assessments:

Students will respond to oral questioning and restate or rephrase response to animated math models

Students will participate in class discussions

explanations, expressions, or equations.

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

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

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

K.OA.A.5. Demonstrate fluency for addition and

Students will use hands on materials to create subtraction sentences. Students will work in pairs to apply the knowledge of subtraction situations by writing number sentences. (SL.K.1, NJSLSA.W4)

Students will make a connection between pairing objects in two different sets and finding how many more one set has than the other. Students will work in pairs to create sets to compare using manipulatives. (CRP2, CRP4, CRP8) (SL.K.1)

Students will develop fluency with subtraction by working with a partner and using connecting cubes to subtract and by using their student book to practice writing and solving subtraction sentences. (CRP2, CRP4, CRP8) (SL.K.1, NJSLSA.W4, NJSLSA.SL1)

Students will watch a video about different ways to measure things and measuring related vocabulary. Careers which use measurements will also be discussed in the video.

- Connecting cubes, 10 per pair
- Teacher Numeral Cards 0-10, Symbol Cards – and =
- Virtual manipulatives
- Student Book B, Part 2, pp. 26-30
- Paper (1 sheet per child)
- Student Numeral Cards 1-10 (2 sets per group)
- Symbol Cards – and = (TR50) (1 set per group)
- Connecting cubes, 18 (9 red and 9 yellow),
- Student Numeral Cards 1-10 (2 sets),
- Symbol Cards – and =
- Connecting cubes, 5 per pair
- Student Book B, Part 2, pp. 36-37
- Virtual manipulatives

subtraction within 5 (by the end of Kindergarten).

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

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

K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has “more of” “less of” the attribute, and describe the differences.

(8.1.2.B.1) (9.2.4.A.3, 9.2.4.A.4)

Students will work in small groups to use a balance scale to identify heavier and lighter objects and to compare the weights of objects. (CRP8, CRP4)

Students will fill various containers and determine which container holds more or holds less.

Students will compare events in time based upon the duration of an activity: Students will play “Which Takes Longer”, teacher will show pairs of pictures of different activities and students will say which one takes more time or which one takes less time. (CRP8)

You Tube: Math for Kids: Measurement, “How Do You Measure Up”

<https://youtu.be/zsv7bYSrzMU>

- Balance scale
- Connecting cubes
- Classroom objects such as pencils, books, erasers, staplers, and markers
- A fork
- A wallet
- A paper cup
- A brown paper bag
- Paper
- An ice cream tub
- Plastic cups
- Containers
- A measuring cup

Recommended Reading:

- Axelrod, Amy. *Pigs Will Be Pigs*. New York: Four Winds Press, 1994. (ISBN 0-02-765415-X)
- Hoban, Tana. *Twenty-Six Letters and Ninety-*

For example, directly compare the heights of two children and describe one child as taller/shorter.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.4 Model with mathematics.

MP.5 Use appropriate tools strategically.

MP.7 Look for and make use of structure.

MP.8 Look for and express regularity in repeated reasoning

Nine Cents. New York: Greenwillow Books, 1987. (ISBN 0-688-06362-4)

- Leedy, Loreen. *The Monster Money Book*. New York: Holiday House, 1992. (ISBN 0-8234-0922-8)
- Maestro, Betsy. *The Story of Money*. New York: Clarion Books, 1993. (ISBN 0-395-56242-2)
- McMillan, Bruce. *Counting Wildflowers*. New York: Lothrop, Lee & Shepard, 1986. (ISBN 0-688-02859-4)
- Micklethwait, Lucy. *I Spy Two Eyes: Numbers in Art*. New York: Greenwillow Books, 1993. (ISBN 0-688-12640-5)
- Moerbeek, Kees and Carla Dijs. *Six Brave Explorers*. Los Angeles: Price Stern Sloan, 1988. (ISBN 0-8431-2253-6)
- Pittman, Helena Clare. *Counting Jennie*. Minneapolis, MN: Carolrhoda Books, Inc., 1994. (ISBN 0-87614-745-7)

- Pluckrose, Henry.
Numbers. New York:
Franklin Watts, 1988.
(ISBN 0-531-10453-2)
- Trinca, Rod and Kerry
Argent. *One Woolly
Wombat*. New York:
Kane/Miller Book
Publishers, 1985.
(ISBN 0-916291-00-6)

**Core Instructional/
supplemental materials:**

Think Central

[https://www-
k6.thinkcentral.com/ePC/login.do](https://www-k6.thinkcentral.com/ePC/login.do)

Ten Frames

Watch this [video](#) to further
build your knowledge about
ten frames.

Math Facts

Check out these [games](#) that
help students to learn their
math facts. If you are
interested to know what the
required math fluencies are
for each grade level from K-6,
according to the NJSL and
PARCC, you can view
them [here](#).

[Math is Fun](http://www.mathsisfun.com) (K-12)
www.mathsisfun.com
 This site offer mathematics in
 an enjoyable and easy-to-
 learn manner, and covers
 content from Kindergarten
 through 12th grade.

Integration of 21st Century Standards NJSL 9:

9.2.4.A.1: Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.

9.2.4.A.3: Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.

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

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered. Additional safety precautions will be made along with additional staff so all student can fully participate in the standards associated with this Math curriculum.

ELL/ESL students: Students will be supported according to the recommendations for “can do’s” as outlined by WIDA - https://www.wida.us/standards/CAN_DOs/
 This particular unit has limited language barriers due to the physical nature of the curriculum.

Students at risk of school failure: Formative and summative data will be used to monitor student success at first signs of failure student work will be reviewed to determine support this may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

Gifted and Talented Students: Students excelling in mastery of standards will be challenged with complex, high level challenges related to the complexity of the Math requirements. This will include allowing more opportunities to demonstrate creativity and the design of original choreography.

English Language Learners	Special Education <ul style="list-style-type: none"> Utilize modifications & 	At-Risk <ul style="list-style-type: none"> Using visual demonstrations, 	Gifted and Talented <ul style="list-style-type: none"> Curriculum compacting
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<ul style="list-style-type: none"> ● Speak and display terminology and movement ● Teacher modeling ● Peer modeling ● Develop and post routines ● Label Math and classroom materials ● Word walls ● Use visuals ● Provide peer tutoring ● Chants, songs, choral reading ● Work toward longer passages as skills in English increase ● Introduce key vocabulary before lesson ● Teacher reads aloud daily ● Preferential seating ● Small group instruction ● Use audio books ● Allow extra time to complete assignments or tests ● Assign a picture or movement to vocabulary words ● Small group instruction-guided reading and guided writing ● Oral prompts can be given. 	<p>accommodations delineated in the student's IEP</p> <ul style="list-style-type: none"> ● Work with paraprofessional ● Use multi-sensory teaching approaches to provide helpful visual, auditory, and tactile reinforcement of ideas. ● Work with a partner ● Provide concrete examples and relate all new concepts to previously learned concepts or to typical life skills. ● Solidify and refine concepts through repetition. ● Change work requirements to reduce activity time ● Preferential seating ● Pre-teaching and re-teaching skills and concepts ● Front load vocabulary ● Chants, songs, choral reading ● Introduce key vocabulary before lesson ● Teacher reads aloud daily ● Use audio books ● Allow extra time to complete assignments or tests ● Use a scribe for non-writers ● Large print texts and or Braille, or audio books ● Augmentative communication system ● Assistive Technology ● Oral prompts can be given. ● Allow answers to be given orally or dictated 	<p>illustrations, and models</p> <ul style="list-style-type: none"> ● Allow extra time to complete assignments or tests ● Peer modeling ● Teacher modeling ● Give directions/instructions verbally and in simple written format. ● Peer Support ● Increase one on one time ● Teachers may modify instructions by modeling what the student is expected to do ● Instructions may be printed out in large print and hung up for the student to see during the time of the lesson. ● Review behavior expectations and make adjustments for personal space or other behaviors as needed. ● Oral prompts can be given. ● Allow answers to be given orally or dictated 	<ul style="list-style-type: none"> ● Inquiry-based instruction ● Independent study ● Higher order thinking skills ● Adjusting the pace of lessons ● Interest based content ● Real world scenarios ● Student Driven Instruction ● Ask open-ended questions ● Use centers and group students according to ability and interest ● Create an enhanced set of introductory activities ● Organize and offer flexible small group learning activities ● Use centers, contracts, or stations ● Debrief students
Interdisciplinary Connections:			

Social Studies:

6.1.4.C.10 Explain the role of money, savings, debt, and investment in individuals' lives.

ELA - NJSLS/ELA:

RL.K.10. Actively engage in group reading activities with purpose and understanding.

SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

Integration of Technology Standards NJSLS 8:

8.1.2.A.1: Identify the basic features of a digital device and explain its purpose.

8.1.2.E.1: Use digital tools and online resources to explore a problem or issue.

8.1.2.B.1: Illustrate and communicate original ideas and stories using multiple digital tools and [resources](#).

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Vocabulary: Plus, Is Equal To, Number Sentence, Minus, Left, How Many More, Heavy, Light, Heavier, Lighter, Hold More, Hold Less, Hold the Same Amount, More Time, Less Time, money, coins, penny, nickel, dime, quarter