

01 Math Routines and Counting

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **3 weeks**
Status: **Published**

General Overview, Course Description or Course Philosophy

The First Grade Math Curriculum focuses on the domains Operations & Algebraic Thinking and Numbers & Operations in Base Ten. Throughout the year, students will be given the opportunity to strengthen their number sense skills in preparation for exploring addition and subtraction strategies. These strategies, along with understanding the components of place value will assist students in solving basic operations and number stories. Students will also explore the Geometry and Measurement and Data and will define attributes of shapes, work with data and representations of data and explore time.

In this unit, students will focus on the following skills and concepts:

- Building a collaborative environment to learn both mathematics content and mathematical practices
- Establishing Calendar Math routines
- Quick Look Cards
- Estimation
- Comparing numbers
- Counting
- Tally marks
- Recording data with tally marks
- Using the number grid

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Enduring Understandings:

- The counting sequence can be extended and applied to add and subtract within 20.
- Data can be organized, represented, and interpreted using tally marks.
- Number lines and number grids are tools for developing number sense, place value understanding, and solving addition and subtraction number models and stories.

Essential Questions:

- How can counting relate to addition?
- How can counting relate to subtraction?
- How can tally marks represent data?
- How can tools be used to help with number sense, place value, and solving addition and subtraction number models and stories?

CONTENT AREA STANDARDS

1.OA

A. Represent and solve problems involving addition and subtraction

B. Understand and apply properties of operations and the relationship between addition and subtraction

C. Add and subtract within 20

D. Work with addition and subtraction equations

1.NBT

A. Extend the counting sequence

B. Understand place value

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.1.OA.C.5	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
MA.1.OA.C.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
MA.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.
MA.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 $<$.
MA.1.MD.C.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

LA.SL.1.1	Participate in collaborative conversations with diverse partners about grade 1 topics and
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	texts with peers and adults in small and larger groups.
LA.SL.1.1.A	Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
LA.SL.1.5	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
WRK.K-12.P.1	Act as a responsible and contributing community members and employee.
WRK.K-12.P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
TECH.9.4.2.IML.2	Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).

STUDENT LEARNING TARGETS

- I can compare two two-digit numbers based on meanings of the tens and ones digits.
- I can record the results of comparisons with the symbols $>$, $<$, and $=$.
- I can organize and represent data with up to three categories.
- I can interpret data with up to three categories.
- I can add within 20 using strategies.
- I can subtract within 20 using strategies.
- I can relate counting to addition.
- I can relate counting to subtraction.
- I can represent a number of objects with a written numeral between 0-120.
- I can read and write numerals to 120.
- I can count to 120, starting at any number less than 120.
- I can demonstrate fluency for addition and subtraction within 10.

Declarative Knowledge

Students will understand that:

- Numbers can be compared based on the value of the digit.
- Data can be organized, represented, and interpreted using tally marks.
- Counting can be used to add and subtract.
- Objects can be counted using one-to-one correspondence.

Procedural Knowledge

Students will be able to:

- Count to 120, starting at any number less than 120.
- Represent a number of objects with a written numeral between 0-120.
- Read numerals to 120.
- Write numerals to 120.
- Compare numbers based on the value of digits in the tens and ones.

- Record the results of comparison with the symbols $>$, $<$ and $=$.
- Add within 20 using strategies.
- Subtract within 20 using strategies.
- Relate counting to addition.
- Relate counting to subtraction.
- Represent data using tally marks.
- Interpret data using tally marks.
- Fluently add within 10.
- Fluently subtract within 10.

EVIDENCE OF LEARNING

Benchmark Assessments

Benchmark Assessments conducted three times per year, using

-Pear Assessment (Standards Based Assessments)

-iXL

Alternate Assessments

- Portfolios
- Verbal Assessment (instead of written)
- Multiple choice

Summative Assessments

- BOY Benchmark Assessment/SGO Assessment
- End of Unit Assessment
- End of Unit Self Assessment
- End of Unit Challenge (optional - if time allows)
- End of Unit Open Assessment (optional - if time allows)

Formative Assessments

- Journal Pages
- Home Links/Worksheets
- Self-Assessments/Student Friendly Scales
- White board responses
- Entrance/Exit Tickets
- Participation
- Teacher Observation
- IXL

INTERDISCIPLINARY CONNECTIONS

- Technology/Multimedia: Educational Tech Applications
- Career Readiness: Utilize critical thinking to make sense of problems and persevere in solving them.

RESOURCES (Instructional, Supplemental, Intervention Materials)

Calendar Math

EDM Lessons:

- Lesson 1-1
- Lesson 1-2
- Lesson 1-4
- Lesson 1-5
- Lesson 1-6
- Lesson 1-7
- Lesson 1-8
- Lesson 1-9 (if time permits)
- Lesson 1-10
- Lesson 1-11

Games:

- Monster Squeeze (Lessons 1-2, 1-6): Comparing numbers
- Penny-Dice (Lessons 1-3, 1-5, 1-7): Counting

- Bunny Hop (Lessons 1-5, 1-9, 1-10, 1-11): Counting
- Top-It (Lessons 1-6, 1-8, 1-11): Comparing numbers
- Rock, Paper, Scissors (Lesson 1-8): Recording data with tally marks
- Rock, Paper, Scissors, Pencil (Lesson 1-8): Recording data with tally marks
- Rolling for 50 (Lesson 1-11): Using the number grid

Brain Pop Jr.:

- Comparing Numbers
- Counting

IXL

Read Alouds/Literature Links:

- Tally O'Malley (*by Stuart J. Murphy*)
- The Water Hole (*by Graeme Base*)
- Color Zoo (*by Lois Ehlert*)
- How Many Snails? (*by Paul Giganti*)

Manipulatives Tool Kits (<https://www.hand2mind.com/item/individual-student-manipulative-kits-grades-k-2-set-of-4>)

Materials: See Unit 1 Materials List on page 40 of Teacher's Lesson Guide 1 for needs beyond manipulatives

Additional Resource charts and tools:

- number line
- number grid
- tally charts

See Shared Drive First Grade/Math for additional resources to support units:

https://drive.google.com/drive/u/1/folders/0B1b4mf8z6FE-UmhUSUxzemRVZ2M?resourcekey=0-DWNrdgPPiT7uDqFqM_7Ogw

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

See link to Accommodations & Modifications document in course folder.

- modify activity

- simplify directions
- check-ins
- visuals
- manipulatives
- graphic organizers
- sentence starters
- wait time
- additional time for tasks
- verbal responses
- illustrations