

Grade 2 Math Unit 1

Content Area: **Math**
Course(s):
Time Period: **Trimester 1**
Length: **3 Weeks**
Status: **Published**

Course Pacing Guide

Model

Unit	MP/Trimester	Weeks
Unit 1 Establishing Routines	1	3
Unit 2 Fact Strategies	1	4
Unit 3 More Fact Strategies	1	3
Unit 4 Place Value and Measurement	2	4
Unit 5 Addition and Subtraction	2	3
Unit 6 Whole Number Operations and Number Stories	2	3
Unit 7 Whole Number Operations and Measurement and Data	3	3
Unit 8 Geometry and Arrays	3	3
Unit 9 Equal Shares and Whole Number Operations	3	4

Unit Overview

In this unit, children work in an active, collaborative environment to learn both mathematics content and mathematical practices. Children's learning will focus on three clusters of the New Jersey State Learning Standards as well as in-depth work on two of the Mathematical Practices.

Enduring Understandings

- Numbers can represent quantity, position, location, and relationships.
- Patterns and relationships can be represented numerically, graphically, symbolically, and verbally.

Essential Questions

- Why are numbers important?
- What is a pattern?

New Jersey Student Learning Standards (No CCS)

MA.2.OA.B	Add and subtract within 20.
MA.2.OA.B.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
MA.2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MA.2.NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.
MA.2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MA.2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.
MA.2.NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
MA.2.NBT.B.7	Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
MA.2.NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
MA.2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.
MA.2.MD.B.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2,..., and represent whole-number sums and differences within 100 on a number line diagram.
MA.2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
MA.2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

Amistad Integration

Holocaust/Genocide Education

Interdisciplinary Connections

LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
LA.W.2.7	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
LA.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
LA.SL.2.1.A	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
LA.SL.2.1.B	Build on others' talk in conversations by linking their explicit comments to the remarks of others.
LA.SL.2.1.C	Ask for clarification and further explanation as needed about the topics and texts under discussion.
LA.SL.2.5	Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
LA.SL.2.6	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Technology Standards

TECH.8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e., games, museums).
TECH.8.1.2.A.CS1	Understand and use technology systems.
TECH.8.1.2.A.CS2	Select and use applications effectively and productively.
TECH.8.1.2.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.2.B.1	Illustrate and communicate original ideas and stories using multiple digital tools and resources.
TECH.8.1.2.C.1	Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.
TECH.8.1.2.C.CS1	Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media.
TECH.8.1.2.C.CS2	Communicate information and ideas to multiple audiences using a variety of media and formats.
TECH.8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.
TECH.8.2.2.E.1	List and demonstrate the steps to an everyday task.

21st Century Themes/Careers

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP6.1	Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Financial Literacy Integration

[Money in Our Community Part 2 \(Exchange of money for goods\)](#)

PFL.9.1.4.B.1	Differentiate between financial wants and needs.
PFL.9.1.4.B.2	Identify age-appropriate financial goals.
PFL.9.1.4.B.3	Explain what a budget is and why it is important.
PFL.9.1.4.B.4	Identify common household expense categories and sources of income.
PFL.9.1.4.B.5	Identify ways to earn and save.
PFL.9.1.4.C.1	Explain why people borrow money and the relationship between credit and debt.
PFL.9.1.4.C.2	Identify common sources of credit (e.g., banks, credit card companies) and types of credit (e.g., loans, credit cards, mortgages).
PFL.9.1.4.C.3	Compare and contrast credit cards and debit cards and the advantages and disadvantages of using each.
PFL.9.1.4.C.4	Determine the relationships among income, expenses, and interest.
PFL.9.1.4.C.5	Determine personal responsibility related to borrowing and lending.
PFL.9.1.4.C.6	Summarize ways to avoid credit problems.
PFL.9.1.4.D.1	Determine various ways to save.
PFL.9.1.4.D.2	Explain what it means to “invest.”
PFL.9.1.4.D.3	Distinguish between saving and investing.
PFL.9.1.4.E.1	Determine factors that influence consumer decisions related to money.
PFL.9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
PFL.9.1.4.F.1	Demonstrate an understanding of individual financial obligations and community financial obligations.
PFL.9.1.4.F.2	Explain the roles of philanthropy, volunteer service, and charitable contributions, and analyze their impact on community development and quality of living.
PFL.9.1.4.G.1	Describe how valuable items might be damaged or lost and ways to protect them.

Instructional Strategies & Learning Activities

Planning Lesson Parts and Features:

- Lesson Opener (Before You Begin...)
- Differentiation Options

Instruction:

- Mental Math
- Daily Calendar/Weather/ School Day Count Routines
- Math Message
- Math Message Follow-up
- Focus Activities
- Assessment Check-In
- Practice Activity ~ Practice Page or Game
- Math Boxes ~ Spiral Review
- Home Link ~ At-Home Practice

Lessons:

Lesson 1-1 ~ Numbers All Around

Lesson 1-2 ~ Number Lines and Partnerships Principles

Lesson 1-3 ~ Math Tools

Lesson 1-4 ~ Class Number Scroll

Lesson 1-5 ~ Open Response - Number Grid Puzzle (2-Day Lesson)

Lesson 1-6 ~ Equivalent Names for Numbers

Lesson 1-7 ~ Playing Fishing for 10

Lesson 1-8 ~ *My Reference Book*, Quarters, and Math Boxes

Lesson 1-9 ~ Even and Odd Number Patterns

Lesson 1-10 ~ Skip-Counting Patterns

Lesson 1-11 ~ Comparing Numbers and Home Links

Lesson 1-12 ~ Explorations - Explore Base-10 Blocks, Area, and Dominoes

Lesson 1-13 ~ Assessment - Unit 1 Progress (2-Day Assessment)

Differentiated Instruction

- Use of Base-10 BLocks and other manipulatives
- Access to Number Line/ Number Grid
- Inquiry/Problem-Based Learning
- Learning preferences integration (visual, auditory, kinesthetic)
- Sentence & Discussion Stems
- Tiered Learning Targets
- Learning Through Play
- Meaningful Student Voice & Choice
- Relationship-Building & Team-Building
- Self-Directed Learning
- Choice Boards
- Student Data Inventories
- Mastery Learning (feedback toward goal)
- Goal-Setting & Learning Contracts
- Game-Based Learning
- Grouping
- Rubrics
- Learning Menus
- Jigsaws
- Learning Through Workstations
- Concept Attainment
- Mentoring
- Assessment Design & Backwards Planning

Formative Assessments

Mental Math Responses

Lesson Practice Book Pages

Math Boxes

Exit Slips

Responses to Questions

Completed Homework

Summative Assessment

EM4 Unit 1 Progress Check

Benchmark Assessments

End-of- the-Year Cumulative Second Grade Math Assessment

Alternate Assessments

Resources & Technology

Suggested Trade Books:

A Day with No Math By Marilyn Kaye

Lots of Ladybugs! Counting by Fives by Michael Dahl

Even Steven and Odd Todd by Katheryn Cristaldi

iPad Apps

Xtra Math

EM4 Math Apps and Games

YouTube: Number Line

Websites:

vlc.cemseprojects.org (virtual learning community)

connectED.mheducation.com

www.khanacademy.com

BOE Approved Texts

McGraw-Hill Education: Everyday Mathematics

4th Edition

www.everydaymath.com

Closure

Such as:

- Kids write a sample math problem or drawing to show what they learned
- Students complete a Post-It Note denoting "What stuck with me today...?"
- Parent Hotline - Give students an interesting question about the lesson without further discussion. Email their guardians the answer so that the topic can be discussed over dinner.
- DJ Summary - Learners write what they learned in the form of a favorite song. Offer to let one or two sing their summary.
- Students complete an "Exit Slip" that contains a math problem to be solved using the math strategy learned in the lesson
- Low-Stakes Quizzes - Give a short quiz using technologies like Kahoot or a Google form.
- Have students write down three quiz/math problems questions (to ask at the beginning of the next class).
- Kids answer the following prompts: "What takeaways from the lesson will be important to know three years from now? Why?"
- Have students dramatize a real-life application of a skill.
- Have kids orally describe a concept, procedure, or skill in terms so simple that a child in first grade would get it.
- Direct kids to raise their hands if they can answer your questions. Classmates agree (thumbs up) or disagree (thumbs down) with the response.
- Have kids create a cheat sheet of information that would be useful for a quiz on the day's topic. .
- Have students complete the following sentence: "The [concept, skill, word] is like _____ because _____."
- Ask students to write what they learned, and any lingering questions on an "exit ticket". Before they leave class, have them put their exit tickets in a folder or bin labeled either "Got It," "More Practice, Please," or "I Need Some Help!"
- Question Stems - Have students write questions about the lesson on cards, using [question stems framed around Bloom's Taxonomy](#). Have students exchange cards and answer the question they have acquired.

ELL

Examples of accommodations in 504 plans include but are not limited to:

- preferential seating
- extended time on tests and assignments
- reduced homework or classwork
- verbal, visual, or technology aids
- modified textbooks or audio-video materials
- behavior management support
- verbal testing

Special Education

List is not inclusive but may include examples such as:

- Use of manipulatives such as Base-10 Blocks to model Math Problems
- Shorten assignments to focus on mastery of key concepts.
- Specify and list exactly what the student will need to do to complete the task.
- Give directions in small steps and in as few words as possible.
- Have student repeat the directions for a task.
- Provide visual aids.
- Go over directions orally.
- Number and sequence the steps in a task.
- Evaluate the classroom structure against the student's needs (flexible structure, firm limits, etc.).
- Keep workspaces clear of unrelated materials.
- Offer and provide Privacy Shields for students who need quiet or are easily distracted
- Reduce visual distractions in the classroom (mobiles, etc.).
- Provide a computer for written work.
- Seat the student close to the teacher or a positive role model.
- Provide an unobstructed view of the teacher, whiteboard, math charts etc.
- Keep extra supplies of classroom materials (pencils, books) on hand.
- Maintain adequate space between desks.
- Provide a vocabulary list with definitions.
- Permit as much time as needed to finish tests.
- Allow tests to be taken in a room with few distractions (e.g., the library).
- Have test materials read to the student, and allow oral responses.
- Divide tests into small sections of similar questions or problems.
- Allow the student to complete an independent project as an alternative test.
- Show a model of the end product of directions (e.g., a completed math problem or finished quiz).
- Stand near the student when giving directions or presenting a lesson.
- Mark the correct answers rather than the incorrect ones.
- Permit a student to rework missed problems for a better grade.
- Average grades out when assignments are reworked, or grade on corrected work.
- Use a pass-fail or an alternative grading system when the student is assessed on his or her own growth.

504

Examples of accommodations in 504 plans include but are not limited to:

- preferential seating
- extended time on tests and assignments
- reduced homework or classwork
- verbal, visual, or technology aids

- modified textbooks or audio-video materials
- behavior management support
- adjusted class schedules or grading
- verbal testing
- excused lateness, absence, or missed classwork
- pre-approved nurse's office visits and accompaniment to visits
- occupational or physical therapy

*Add to or remove any of these as you see fit.

At Risk

Examples may include:

- Use of manipulatives
- Math sheets with highlighted instructions
- Graph paper to assist in organizing or lining up math problems
- Use of mnemonics
- Have student restate information
- Provision of notes or outlines
- Concrete examples
- Use of a study carrel
- Assistance in maintaining uncluttered space
- Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
- Follow a routine/schedule
- Teach time management skills
- Verbal and visual cues regarding directions and staying on task
- Adjusted assignment timelines
- Visual daily schedule
- Immediate feedback
- Work-in-progress check
- Preview test procedures
- Cue/model expected behavior
- Use de-escalating strategies
- Use peer supports and mentoring
- Have parent sign homework/behavior chart
- Chart progress and maintain data

Gifted and Talented

Examples may include:

- Offer challenge choices
- Encourage risk taking
- Provide challenge independent practice alternate work
- Allow G/T students to work together
- Tiered learning
- Focus on effort and practice