Grade 2 Math Unit 5

Content Area: **Math**
Course(s):
Time Period: **Trimester 2**
Length: **3 Weeks**
Status: **Published**

Course Pacing Guide

This pacing guide should include the vision and mission of the course. It will be the same for all units in your course.

The simpler, the better. Pacing guide flaws come when they are too constricting, so big ideas is best (Cobb, McClain, de Silva Lamberg, & Dean, 2003; Wiggins, Wiggins, & McTighe, 2005)

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 review addition and subtraction problems in the context of money and number stories. They learn strategies for mentally adding and subtracting 10 and 100. Childrens's learning will focus on three clusters of the New Jersey State Learning Standards, as well as in-depth work on tow of the Mathematical Practices.

Enduring Understandings

- Money is represented in various denominations.
- Organizing information is an important strategy for problem solving.

Essential Questions

- What is money?
- How do you solve a problem?

New Jersey Student Learning Standards (No CCS)

MA.2.OA.A	Represent and solve problems involving addition and subtraction.
MA.2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
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.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MA.2.NBT.A.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
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.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.
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.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
MA.2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
MA.2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Amistad Integration

Holocaust/Genocide Education

Interdisciplinary Connections

LA.RI.2.7	Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
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.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.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Technology Standards

TECH.8.1.2.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
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	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
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.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.2.2.E	Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

21st Century Themes/Careers

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP8.1	Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP11.1	Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.
CRP.K-12.CRP12.1	Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

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.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 5-1 ~ Playing *Beat the Calculator*

Lesson 5-2 ~ Using Coins to Buy Things

Lesson 5-3 ~ Counting Up with Money

Lesson 5-4 ~ Coin Calculations

Lesson 5-5 ~ Explorations - Exploring Arrays, Time, and Shapes

Lesson 5-6 ~ Mentally Adding and Subtracting 10 and 100

Lesson 5-7 ~ Open Number Lines

Lesson 5-8 ~ Change-to-More Number Stories

Lesson 5-9 ~ Parts-and-Total Number Stories

Lesson 5-10 ~ Change Number Stories

Lesson 5-11 ~ Open Response - Adding Multidigit Numbers (2-Day Lesson)

Lesson 5-12 ~ Assessment - Unit 5 Progress Check (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 5 Progress Check

Benchmark Assessments

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

Alternate Assessments

Resources & Technology

Suggested Trade Books

The Big Buck Adventure by Shelley Gill and Deborah Tobola

Lemonade in Winter by Emily Jenkins

The Coin Counting Book by Rozanne Lanczak Williams

iPad Apps:

YouTube: Money Money Money

Websites:

vlc.cemseprojects.org (virtual learning community)

connectED.mheducation.com

Addition & Subtraction (Khan Academy)

BOE Approved Texts

McGraw-Hill Education: Everyday Mathematics

4th Edition

www.everydaymath,com

Closure

Such as:

- Kids write write a sample math problem or drawing to show what they learned
- Students complete and 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 thier summary.
- Students complete and "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

Such as:

- Alternate Responses
- Number Grids; Number Lines
- Extended Time
- Teacher Modeling
- Simplified Written and Verbal Instructions
- Frequent Breaks
- E-Dictionaires
- Google Translate
- Use of Manipulatives

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
- verbal testing

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