01. Establishing Routines

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **4 weeks**
Status: **Published**

General Overview, Course Description or Course Philosophy

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
- number lines
- number grids
- quick looks routine
- combinations of 10
- odd/even patterns

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Enduring Understandings:

- There are many ways to represent a number.
- Number sense develops through experience.
- Operations create relationships between numbers.
- The relationships among the operations and their properties promote computational fluency.
- Patterns provide insights into potential relationships.
- There can be different strategies to solve a problem, but some are more effective and efficient than others are.

Essential Questions:

- How do I determine the best numerical representation (pictorial, symbolic, objects) for a given situation?
- How does finding the common characteristics among similar problems help me to be a more efficient problem solver?
- How do mathematical operations relate to each other?
- How do I know which computational method and resources to use?
- How do I describe a pattern?
- How can patterns be used to make predictions?
- How do I decide what strategy will work best in a given problem situation?
- What do I do when I get stuck?

CONTENT AREA STANDARDS

2.OA

A. Represent and solve problems involving addition and subtraction

B. Add and subtract within 20

C. Work with equal groups of objects to gain foundations for multiplication

2.NBT

A. Understand place value

B. Use place value understanding and properties of operations to add and subtract

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.K-12.5	Use appropriate tools strategically.
MA.K-12.7	Look for and make use of structure.
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.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.

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

Read Aloud- Lessons 1-3 & 1-9

Written Explanation and Revisions- Lesson 1-5

LA.W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.
LA.W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
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.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

TECH.9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
TECH.9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

STUDENT LEARNING TARGETS

- I can create a number line with:
    - Evenly spaced points
    - Corresponding whole numbers starting from 0
- I can use a number line diagram to model whole number sums and differences within 100
- I can describe the process followed to find solutions to addition and subtraction problems using a number line diagram
- I can add fluently within 20 showing: accuracy (correct answer), efficiency, and flexibility.
- I can subtract fluently within 20 showing: accuracy (correct answer), efficiency, and flexibility.
- I can count on or count back from any number within 1000
- I can look for and make use of structure
- I can read and write numbers up to 1000
- I can illustrate whether the number of a group of objects is even or odd
- I can explain how to determine whether the number of a group of objects is even or odd

Declarative Knowledge

Students will understand that:

- whole numbers on a number line represent lengths from 0 with equally spaced points corresponding to the numbers 0, 1, 2,...,
- accuracy, efficiency, and flexibility are essential when adding and subtracting within 20
- structure and patterns can be used to read and write numbers up to 1000
- tools, such as number grids and number lines, can be valuable to complete addition and subtraction tasks
- determining whether a number is odd or even is based on pairing objects or counting them by 2s

Procedural Knowledge

Students will be able to:

- add and subtract within 20 mentally and fluently
- count within 1000
- read numbers to 1000
- write numbers to 1000
- Represent whole numbers as lengths from 0 on a number line diagram.

- Represent whole-number sums and differences within 100 on a number line diagram.
- Determine whether a group of objects (up to 20) has an odd or even number of members.

EVIDENCE OF LEARNING

Refer to the 'Formative, Summative, and Benchmark Assessments' sections.

Alternate Assessments

- Portfolios
- Verbal Assessment (instead of written)
- Multiple choice
- Modified Rubrics
- Performance Based Assessments

Formative Assessments

- Journal Pages
- Self-Assessments/Student Friendly Scales
- White board responses
- Exit/Entrance Tickets
- Math Talks
- 2.MD.B6 Illustrative Math Task- https://tasks.illustrativemathematics.org/content-standards/2/MD/B/6/tasks/1081

Summative Assessments

- BOY Benchmark Assessment/SGO Assessment
- End of Unit Assessment
- Fact Fluency Assessments
- End of Unit Self Assessment

Benchmark Assessments

- EDM BOY Assessment
- IXL Screener / Diagnostic Snapshot BOY
- IXL Diagnostic Snapshot MOY
- IXL Diagnostic Snapshot EOY

RESOURCES (Instructional, Supplemental, Intervention Materials)

Core Instructional Materials:

- Everyday Math Grade 2 Unit 1 Resources
    - Math Masters
    - Student Journal Volume 1
    - ConnectED

Supplemental Materials:

- IXL
- Illustrative Math Tasks
- EM Games
- Calendar Math

Lessons:

- Build a Math Community Lesson 1 (link)
- 1-1
- 1-2
- 1-4
- 1-5
- 1-6
- (Independent) Problem Solving 1a
- 1-7
- 1-9
- 1-10
- 1-11
- (Independent) Problem Solving 1b

Additional Content-related Tasks:

Task 1: Price It

Task 2: Missing Numbers

Back to School Color-by-addition (within 20)

INTERDISCIPLINARY CONNECTIONS

ELA:

Read Alouds-

Lots of Ladybugs! Counting by Fives by Michael Dahl

Even Steven and Odd Todd by Kathryn Cristald

- Career Readiness: Utilize Critical Thinking to Make Sense of Problems and Persevere in Solving Them
- Technology/Multimedia: Educational Tech Application
- Science & Health: Social Emotional Learning
- Social Studies: Current Events

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.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

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

See link to Accommodations & Modifications document in course folder.