Unit Plan

Grade 1 **Mathematics**

Unit 1

Scope and Sequence	Curriculum Map/Pacing Guide	Instructional Routines	Home Connections (English) (Spanish)

Fluency Games

Grade 1, Unit 1: Counting and Time

Duration- 2 weeks (10 days)
Consists of 10 lessons and 8 mini lessons

Unit Overview

Explanation of Content:
In the first unit, first graders apply counting and sequencing strategies from Kindergarten to introductory investigations with time. In these mathematical activities, students identify differences between AM and PM, sequence daily events, and investigate the relative position of the hour hand as they begin to tell time on digital and analog clocks.

Students continue applying initial counting strategies as they collect, organize, and represent categorical data through multiple displays including tally marks, T-charts, tables, object graphs, bar graphs, and pictographs. Teachers help students make connections between counting on and addition situations, as well as counting back and subtraction situations as students compare represented data.

In Unit 1, students also use counting strategies and their developing number sense to reinforce sums of 10, and begin extending the relations to sums of 20, with two whole number addends. Teachers facilitate foundational place value discussions that help students identify groups of 10 and single units across various representations of numbers 11 – 20 and the decade numbers. Through students' experiences building two-digit numbers, teachers emphasize embedded tens, particularly in the teen and decade numbers, and reinforce numerical relations through counting collections by tens and ones. Students' experiences with counting applications in Unit 1 provide opportunities to represent numbers in various ways and investigate patterns among the written numerals (e.g., 16), spoken words (e.g., "sixteen"), and concrete representations of two-digit numbers. These connected experiences encourage fluency with the counting sequence and a deep conceptual understanding of unitizing before first graders move to arithmetic and place value in subsequent units.

Throughout Unit 1, first grade students are introduced to routines and procedures that help develop a caring community of active learners who engage in mathematical problem solving and communication. As the students engage in mathematical activities and discourse, they gain content knowledge and practical skills related to counting and time, but the students also begin to use mathematics as a tool to explore connections between their classroom experiences and the world in which they live. Lessons

throughout Unit 1 are centered around “Me and My Community” and are designed to initiate conversations and observations about the greater Chicago area from a ‘bird’s eye view” of the city. While the first unit references more “tourist-centered” landmark locations, as the year progresses the units take on different themes to highlight the vast diversity that makes Chicago uniquely beautiful. Through an assortment of community-based mathematical explorations, cultural references, and established “Chicago” events, students can begin see themselves—or their neighborhoods—reflected in tasks and activities. In other mathematical investigations students have opportunities to view their city through a new lens as they open windows to a world they may not have experienced—even one right in their own backyard.

It is critical to recognize the unlikelihood that the written curriculum has the capacity to capture each and every valued element in this vastly diverse city. Classroom teachers know their students and their communities best, and classroom teachers are highly qualified individuals who have the power and privilege to reach their students through relevant and meaningful activities. Thus, while the lessons may provide local Chicago references, each facilitation guide also includes teacher suggestions to personalize connections to their students’ interests, school, neighborhood, landmark locations, or people that define what it means for their students to live in Chicago.

Content Standards:

- **CC.1.NBT.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.
- **CC.1.NBT.2** Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: -- a. 10 can be thought of as a bundle of ten ones — called a “ten.” -- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. -- c. 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- **CC.1.OA.5** Add and subtract within 20. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- **CC.1.MD.3** Tell and write time in hours and half-hours using analog and digital clocks.
- **CC.1.MD.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.

Refer to the Achieve the Core Coherence Map

Enduring Understandings:

As students engage with the tasks in this unit, the following enduring understandings are addressed:

- Quantity is an attribute of a set of objects, and numerals can be used to represent specific quantities.
- A quantity can be decomposed into two or more parts, and the parts can be joined together to compose the whole.
- Sets can be described by the number of objects or items in the set.
- Sets can be counted and then compared using terms such as more than, less than, and equal to.
- Sets can be changed by joining two or more sets, or separated by removing items from the set. Joining and separating situations can be related to addition and subtraction.
- Patterns follow a rule (e.g., repeated pattern core [repeating pattern], common difference [growing pattern]).
- Patterns, including repeating and growing patterns, can be represented in multiple ways, both inside and outside of mathematics.
- Data collection is used to generate answers to specific questions.
- Data can be collected, organized, and displayed in various forms.
- The selected display of data (e.g., table, bar graph, chart, line plot, line graph) aligns to the question and type of data collected (e.g., bar graphs represent categorical data).
- Representations of data can be interpreted, compared, and used to draw conclusions or generate hypotheses beyond the initial set of data.

Essential Questions:

- What is the difference between AM and PM?
- What clues help me sequence daily events?
- How do I tell time to the hour on an analog and digital clock?
- What tasks take about one hour to complete?
- What tasks take about one minute to complete?
- What is data?
- Why do we collect data?
- How can we represent data?
- What information can I learn from different graphs or charts?

- What patterns exist in the counting sequence?
- What does the position of the digits represent in a two-digit number?
- How can we represent numbers with words, objects, and pictures?
- What are the sums of 10 with two whole number addends?
- How can addition and subtraction be related to counting on or back?
- How are addition and subtraction related?

Acquisition / Skill Mastery:

- Tell time to the hour (including am/pm).
- Sequence daily events.
- Interpreting and comparing categories and representations of data.
- Identify sums of ten.
- Represent quantities using different formats.
- Count to 120, forward and backwards and by ones and tens.

WIDA Standards Alignment

WIDA Standards have been used in the development of the course lessons. There are two WIDA standards that the lessons are aligned to. These include:

Standard 1: Social and Instructional Language

- Domains: Listening, Speaking

Standard 3: The Language of Mathematics

- Domains: Listening, Speaking, Writing

Language Standards:

Throughout the unit, the curriculum encourages reading, writing, speaking and listening, provides opportunities for discourse, both student to student and student to teacher, and incorporates Language Routines.

Each individual TFG provides more specificity at the lesson level. Reference the TFG for MPIs and specific supports provided for varied English proficiency levels.

EL Support Mini Lessons	Learning Objective and Language Objective
1U1L1-4 Mini Lesson A: Numbers on the Clock (This mini lesson can be used between Lessons 1-4) TFG • Playlist • Blackline Master: Numbers on the Clock • Spanish Playlist • Blackline Master in Spanish: Numbers on the Clock	• **Learning Objective:** I can tell what numbers tell the hour on a digital and analog clock. • **Language Objective:** Order, describe and justify the numbers on an analog and digital clock using digital tools and sentence frames orally and by reading the numbers.
1U1L5-7 Mini Lesson B: Making 20 (This mini lesson can be used between Lessons 5-7) TFG • Playlist • Blackline Master: Making 20 • Spanish Playlist • Blackline Master in Spanish: Making 20 • Scissors • Pencils • 2 Color Counters	• **Learning Objective:** I can make combinations to 20. • **Language Objective:** Support and restate strategies to make combinations of 20, orally and kinesthetically, using manipulatives and sentence frames.
1U1L5-9 Mini Lesson C: What Comes Next? (This mini lesson can be used between Lessons 5-9) TFG • Playlist • Blackline Master: 100 Chart • Spanish Playlist • Blackline Master in Spanish: 100 Chart • Whiteboards and markers for students	• **Learning Objective:** I can find patterns when counting. • **Language Objective:** Identify and describe patterns in the counting sequence to 100, orally and in writing, using sentence frames and a white board.

💙 SEL Standards Alignment

ISBE Social and Emotional Learning Standards: SEL Standards have been used in the development of the course lessons. Each individual TFG provides more specificity at the lesson level. Reference the TFG for specific supports.

- Goal 1: Develop self-awareness and self-management skills to achieve school and life success.
  - 1B. Recognize personal qualities and external supports.
    - 1B.1b Identify family, peer, school, and community strengths. (Lesson 5)
- Goal 2: Use social-awareness and interpersonal skills to establish and maintain positive relationships.
  - 2B Recognize individual and group similarities and differences.
    - 2B.1a Describe the ways that people are similar and different. (Lesson 3)
  - 2C Use communication and social skills to interact effectively with others.
    - 2C.1a Identify ways to work and play well with others. (Lesson 8)
    - 2C.1b Demonstrate appropriate social and classroom behavior. (Lessons 1 - 10)
- Goal 3: Develop self-awareness and self-management skills to achieve school and life success.
  - 3A Consider ethical, safety, and societal factors in making decisions.
    - 3A.1b Identify social norms and safety considerations that guide behavior. (Lessons 1, 2, 4)
  - 3B Apply decision-making skills to deal responsibly with daily academic and social situations.
    - 3B.1b Make positive choices when interacting with classmates. (Lesson 8)

Learner Relevance:

Counting is an essential part of daily life. Counting is related to number sense because quantities are used to describe the precise number of objects in a set, and quantities are determined through counting. Number sense and counting are important elements in developing a foundation for early mathematics. Students who understand the relation between the quantity of a set and the name associated with that quantity are developing cardinality. Cardinality is an essential foundation not only related to counting quantities, but also for arithmetic, magnitude, estimation, data analysis, and measurement.

Prior Learning Connections:
Students develop mathematical reasoning through relevant and meaningful experiences that help them make sense of their experiences in the world. Interactions with peers and adults that encourage problem solving, mathematical communication, and connecting mathematical representations foster students' mathematical growth and development.

In Unit 1, students relate numbers to a variety of personal contexts, and extend experiences from the counting, classifying, and data concepts learned in Grade K. Coming from Kindergarten, students should be counting to 100 by ones and tens and demonstrate an initial understanding of place value by building and counting groups of ten. In Grade 1, students extend these ideas using a variety of tools, such as the hundreds chart and proportional base ten materials (e.g., ten frames, 10-sticks built from unifix cubes) to discover patterns as they apply counting strategies to more complex situations.

Related Topics:
As students work with groups of 10, time and collecting, organizing and interpreting data they have opportunities to make connections to their community and across mathematical domains throughout this unit.

Opportunities for Discourse:
The lessons and teacher implementation support are designed to create a student-centered, problem-based classroom. Each lesson in this unit provides opportunities for student discourse, ranging from pairs to small groups to whole class discussion. Within each component of the lesson (math routine, launch, explore, and discuss), students are sharing their strategies and ideas related to the mathematical concept in each lesson. Students also engage in active listening as they listen and respond to their peers' explanations.

Assessment

Pre-Unit Assessments:
Opportunities are provided within the launch, explore, and discuss phases of each for the teacher to formatively assess students during the lesson. In addition, an opportunity to formatively assess students occurs in the Check for Understanding component of each lesson.

- A pre-unit assessment is located in Lesson 1 in (English) and (Spanish).

Formative Assessments:

Opportunities are provided within the launch, explore, and discuss phases of each for the teacher to formatively assess students during the lesson. In addition, these opportunities occur in the *Check for Understanding* component of each lesson.

- Grade 1 Unit 1 Lesson 1: Formative Assessment
- Grade 1 Unit 1 Lesson 2: Formative Assessment
- Grade 1 Unit 1 Lesson 3: Formative Assessment
- Grade 1 Unit 1 Lesson 4: Formative Assessment
- Grade 1 Unit 1 Lesson 5: Formative Assessment
- Grade 1 Unit 1 Lesson 6: Formative Assessment
- Grade 1 Unit 1 Lesson 7: Formative Assessment
- Grade 1 Unit 1 Lesson 8: Formative Assessment
- Grade 1 Unit 1 Lesson 9: Formative Assessment
- Grade 1 Unit 1 Lesson 10: Formative Assessment

Post-Unit Assessment:

A post-unit assessment is available that may be given at the end of the unit.

- The post-unit assessment is located in lesson 10 in (English) and (Spanish).

Assignments & Performance Tasks:

Each lesson includes mathematical tasks for students to engage in. Lesson 10 provides an opportunity for students to apply their understanding of the mathematical concepts from the previous lessons.

Transfer

This unit provides a foundation for future work with groups of 10, time and collecting, organizing and interpreting data. The unit incorporates many real-world contexts as applications of each.

Grade 1, Unit 1: Counting and Time

Lesson 1 Overview: Sorting Out Names TFG and Playlist
Launch: Review the schedule of the first day. Remind students that each day they will follow a similar routine. Using think-pair-share, ask students to think about what school activities happen in the morning and what activities happen in the afternoon?
Explore:

- Read a "first day" story. Discuss the sequence of events. Which of the story events happened in the morning, and which happened in the afternoon or evening?
- Sorting through the day—Search magazines to identify pictures of daily routines, activities, or events that happen before midday (AM) and after midday (PM).
- Represent daily data—Represent data using T-charts, tables, or graphs.

Discuss: Compare and evaluate different representations of data. Hypothesize why the representations depicting morning activities, afternoon activities, or evening activities day may be different.

Learning Objectives:

- Identify activities that occur before (ante) midday (AM) and after (post) midday (PM).
- Sequence daily events from morning until evening.
- Represent and describe data collected from sorting daily activities.

Vocabulary:

- Data
- Bar Graph
- Total
- Hour-hand
- Digital
- Analog

Additional Resources:
Materials List
Formative Assessment

Lesson 2 Overview: It's About Time TFG and Playlist
Launch: Play "Clock Tac Toe".
Explore: Clock sorting—how many ways can your group sort the clocks?
Discuss: Connect and compare different displays of data.

Review Mini Lesson 2: Digital to Analog TFG

Learning Objectives:	Vocabulary:	Additional Resources:
• Identify the hour on digital and analog clocks. • Sort items (clocks) by a common attribute. • Interpret and compare represented data.	• Data • Bar Graph • Total • Hour-hand • Digital • Analog	Materials List Formative Assessment
Lesson 3 Overview: What's In a Name? **TFG** and **Playlist** **Launch:** Which One Doesn't Belong? How many letters? **Explore:** How many names will it take to equal the number of letters in "humuhumunukunukuapua'a"? **Discuss:** Connecting and comparing displays of data. Review Mini Lesson 3: Interpreting Data TFG Challenge Mini Lesson 3: Pictograph and Bar Graph TFG		
Learning Objectives:	**Vocabulary:**	**Additional Resources:**
• Demonstrate rules of counting (one-to-one correspondence, sequence, cardinality). • Demonstrate strategies to accurately represent a quantity. • Compare representations of data.	• Data • Line plot • Bar Graph • Join • Combine • Total	Materials List Formative Assessment
Lesson 4 Overview: Trip to the Shedd **TFG** and **Playlist** **Launch:** Which One Doesn't Belong (WODB)?: Digital and analog clocks **Explore**: Plan a trip to the Shedd Aquarium, or other favorite location around the city. What will you do at different times of the day? **Discuss:** Being purposeful with data: Cast your vote! Comparing displays of data. Review Mini Lesson 4: Up and Back on the Number Path TFG		

Learning Objectives: • Tell time to the hour on digital and analog clocks. • Interpret and compare categories of data. • Evaluate the clarity of graphs and charts.	**Vocabulary:** • Data • Bar Graph • Total • Hour-hand • Digital • Analog	**Additional Resources:** Materials List Formative Assessment
Lesson 5 Overview: Graph Match **TFG** and **Playlist** **Launch:** Notice and Wonder – What could this graph be about? **Explore:** Match graphs with pictures. **Discuss:** Evaluate data displays.		
Learning Objectives: • Interpret graphs to answer questions. • Connect data to graphs. • Compare representations of data. • Evaluate the clarity of graphs and charts.	**Vocabulary:** • Bar graph • Data • Compare • Same • Different • Represent • Tally • Tally chart	**Additional Resources:** Materials List Formative Assessment
Lesson 6 Overview: Sums of 10 **TFG** and **Playlist** **Launch:** Ten Flashing Fireflies **Explore:** Is it 10? Community photos **Discuss:** Composing and decomposing quantities Review Mini Lesson 6: Building Tens TFG Challenge Mini Lesson 6: Circuit Tens TFG		
Learning Objectives: • Represent quantities with numerals, objects, or pictures. • Recognize quantities can be decomposed into two or more parts.	**Vocabulary:** • Part • Whole • Total • Partner of 10 • Sum of Ten • Lightning Bug/Firefly	**Additional Resources:** Materials List Formative Assessment

• Identify sums of 10 using two whole number addends.	• Expression • Addition • Subtraction • Jar • Container • Addend	
Lesson 7 Overview: Dugout Dilemma **TFG** and **Playlist** **Launch:** Dugout Dilemma **Explore:** Game Day **Discuss:** Making Connections: Decomposing Numbers within 20		
Learning Objectives: • Recall sums of 10 using two whole number addends. • Use counting strategies to find sums of two whole number addends (within 20). • Connect addition and subtraction to counting on or counting back. • Describe the relationship between addition and subtraction	**Vocabulary:** • Compose • Decompose • Add • Subtract • More • Less • Count on • Count back • Making a 10	**Additional Resources:** Materials List Formative Assessment
Lesson 8 Overview: Counting Collections **TFG** and **Playlist** **Launch:** How many do you hear? **Explore:** Counting Collections—What is the most efficient way to determine how many objects you have in your collection? **Discuss:** Comparing organization and counting strategies—How is your counting strategy similar to and different from others? Review Mini Lesson 8: Counting by Tens and One TFG		
Learning Objectives: • Demonstrate strategies to accurately count a set of objects.	**Vocabulary:** • Prediction	**Additional Resources:** Materials List Formative Assessment

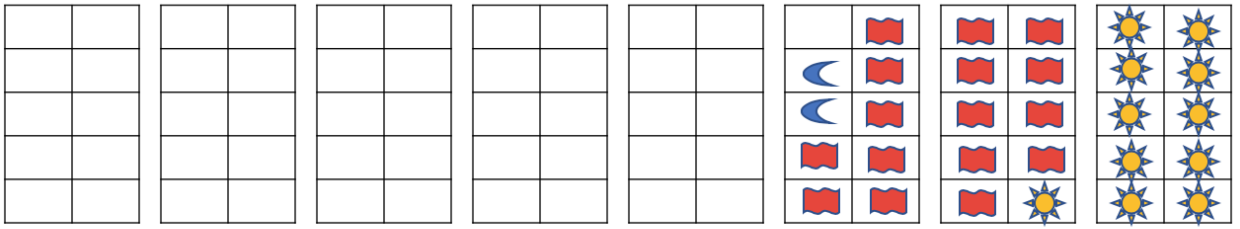
• Represent a quantity using a written numeral. • Describe data represented in different formats.		
Lesson 9 Overview: Mystery Numbers **TFG** and **Playlist** **Launch:** Sequence Showdown **Explore:** Mystery Numbers **Discuss**: Counting to 120: Analyzing the sequence Review Mini Lesson 9: Sequencing Numbers TFG		
Learning Objectives: • Count fluently in the range of 1-120. • Count on from any number in the range of 1-120. • Determine what numbers are missing in a counting sequence.	**Vocabulary:** • Sequence • Digit • Before • After • Least • Greatest • Between • More • Less	**Additional Resources:** Materials List Formative Assessment
Lesson 10 Overview: Hike to 100 **TFG** and **Playlist** **Launch:** Bruno's Backyard Bash **Explore:** Hike to 100 **Discuss:** Counting Patterns		
Learning Objectives: • Count to 120, forward and backward. • Count to 120 by ones and tens.	**Vocabulary:** • Skip counting • Pattern • Units • Decades	**Additional Resources:** Materials List Formative Assessment

Procedures & Routines:

Mathematizing our Day (variable minutes, suggested activities)

- **Arrival:** As students arrive each morning, they are presented with activities that reinforce key ideas in the unit. The arrival activities are arranged at each table in tubs or baggies, which students explore at their own pace. The structure of the hands-on materials and the openness of the supporting resources invite students to freely manipulate various objects, share observations, or complete challenges related to the mathematical content investigated in the connected unit.
    - During the arrival period teachers circle around the room as they prepare for the day; making observations of students' discoveries, inquiries, and interactions with the materials and peers. These observations can be integrated into the morning meeting, saved for documentation in the child's portfolio, or used as a discussion point in the later whole group mathematical investigation.
- **Calendar:** Connecting the calendar to mathematical opportunities can be beneficial. However, it is important to carefully consider the constraints and potential costs of "Calendar Math." Building a morning routine that connects a purposeful question and activity to a special event or daily routine can be beneficial. But, it is important to remember that even using the calendar should be intentional and engage students in ***understanding the big ideas of mathematics*** by ***doing mathematics.***
    - Due to the abstract representation of the Base 10, the underlying meaning of place value is often lost in direct instruction. Place value concepts are best reinforced through active explorations and constructions, such as decomposing numbers into tens and ones using snap cubes or ten frames and exploring place value patterns. Counting and representing the number of days in school using proportional models such as bundles of snap cubes, ten-frames, sticks, straws, or beans is helpful in that it can reinforce the structure of the Base 10 system. Adding a new day of school to the collection of ones (and when necessary bundling groups of ten, or eventually 100) can routinely reinforce place value in another part of the day.
    - Consider using ten-frames to represent the number of days first graders have been in school through clear models that encourage counting by initially tens and ones, and later bundling ten sets of ten into a hundred using yarn or other material.
        - The days school is in session each month can be represented by a specific symbol, which could be chosen by a class vote.

- Engage students in tasks beyond routine counting exercises. Promote problem solving by asking students to use the ten frames and symbols to count:
    - How many total days have we been in school?
    - How many days have we been in school this month?
    - How many fewer days have we been in school than last month?
- In addition to counting by tens and ones, teachers can reinforce different counting strategies such as counting by 2s, 5s, and 1s or, as in the example below, counting by tens (e.g., 10, 20, 30) and subtracting the "missing" day(s).



Potential Days in School: 17 – October 2
How many total days?
How many days in August (suns)?
How many days in September (flags)?
How many days in October (moons)?

- **Morning Meetings:** As you read or write the morning message with your First Graders, consider incorporating a mathematical connection, challenge, or question to engage your students in real world situations related to mathematics. The teacher facilitation guides for each lesson include suggestions for the morning message, which are connected to the essential understandings in the unit. Whether the morning messages include teacher-generated tasks or suggested prompts from the facilitation guide, these brief connections provide teachers additional opportunities to emphasize mathematical content in a different setting. For example, as a brief "wake-up call" to problem-solving and thinking:

- Emphasize the date as you highlight the key elements of a friendly letter. Sometimes record the date in words (August, 8, 2020), and in others by the numerical representation (08/18/2020).
- Include a mystery number or math talk embedded in the morning message. Be sure the mystery number is intentionally connected not only to the unit focus, but also to a school or community event. For instance, share special events, daily routines, or connections to community issues:
    - "Today I was excited. When I reached in my pocket, I found some money! I pulled out 3 coins. How much money could I have with only those 3 coins?"
    - "Today is a great day. This morning I found thirteen Starbursts in my purse. Some were red. Some were orange. NONE were yellow! How many of each color could be in my pocket?"
    - "My Dad reminded me today that his birthday is in 10 days. Help me figure out when my Dad's birthday is, please."
    - "21 days ago we had to leave my Grandmother's house. I was feeling sad because she lives far away and I knew I would miss her. What day did I leave her house?"

- **Suggested Literature Connections:**
    - *All Are Welcome* by Alexandra Penfold
    - *The Day You Begin* by Jacqueline Woodson
    - *Goodbye Brings Hello: A Book of Firsts* by Dianne White
    - *Where the Sunrise Begins* by Douglass Wood
    - *Good Night, Chicago* by Adam Gamble
    - *Good Morning, City* by Pat Kiernan
    - *Rene Has Two Last Names* by René Colato Laínez
    - *Ten Flashing Fireflies* by Philemon Sturges
    - *Beaver is Lost* by Elisha Cooper

- **TIMEly statements**

- Take advantage of regularly occurring opportunities to check in with time throughout the school day. These observations should build on lessons focused around time to help students naturally practice and reinforce their skills with telling time to the hour.
    - It's time to head to recess. Our recess is at 11:00. What number should the hour hand point to when it is 11:00?
    - Our math time is at 1:50. That's a little bit before two o'clock. Where should the hour hand be pointing when it's time to start math, a little before 2, right at 2, or a little after 2?
    - Time to drop everything and read! Look at the hour hand, about what time is it right now?

- Daily data discussions can be another way to intentionally mathematize arrival procedures, the morning message, or make connections to the calendar of events. As students complete their morning routine, they can cast their vote on the data chart. Then, during calendar discussions or through the morning message, students can engage in partner talks sharing observations about the data collected, describing the relations among the represented data, and making inferences about the meaning of the data. Teachers can listen for unique inferences and encourage students to describe the represented data to support their ideas. To further extend the daily data description, the class can use shared writing to generate a single sentence, which can be added to the morning message, or record their own thoughts on whiteboards or notebook paper.
    - For instance, as students arrive they can check in with a "Mood meter". At the morning meeting, the teacher asks the students what they notice about the moods represented in the chart. Students may notice a number of students' faces in the worried section of the chart. Teachers can ask the class to turn and talk with a partner to figure out how to determine if the worried votes were cast most. Then, the class can draw inferences from the data to hypothesize why that feeling had the most votes. A student may say, "It is dark outside because the weather is getting stormy. My partner said there was a lot of lightning too. That makes us a little bit worried."
    - Topics for the daily data descriptions could include:
        - **Interesting questions of the day:** (especially child generated) to encourage students to self-reflect and learn about their classmates. *How old is your oldest living relative you can think of? Would you rather ride on an airplane or on a boat? Have you ever eaten asparagus? Does your family own a pet?*

        - **Weather trackers:** *What kind of precipitation will we get today? How many days will pass until it rains? How many days will be sunny this month? What time did the sun rise today?*
        - **Time tests:** *How many times can you jump in one minute? How many hours of sleep did you get last night? Do you eat lunch in one minute or one hour? Can you balance on one foot for one minute or one hour? Could we drive across Chicago in one minute?*
        - **Moon phases:** *What does the part of the moon we see look like tonight? Could you see the moon last night? What color did the moon look last night?*
    - Discussing the collected data also provides additional opportunities to represent the data in different ways and explore the most effective, or efficient, representation, as well as investigate relations among the different displays of data, such as:
        - Tally marks and charts
        - Tables
        - Object graphs
        - Pictographs
        - Bar graphs
        - Line plots*

2-Minute Transition to Math Task (2 – 5 minutes)

The “two-minute” transition to math tasks are designed to shift students’ focus toward mathematics and emphasize mathematical reasoning and justification. The transition tasks also provide a review of foundational content and build mathematical communication in a less formal context. Activities in the transition period may include lower-level questions or rote counting to review concepts or ideas, but the transition period can also emphasize strategic thinking such as with math talks or mystery clues.

Each teacher facilitation guide includes a brief task linked to the content emphasized in the core lesson for that day. Transition tasks are often built from activities such as:

- Math Talks—Building mental math strategies and developing number sense
- “I spy” searches—

    - Seeking quantities, or key vocabulary emphasized in the unit
- Counting collections
- What's My Rule?
- Which one doesn't belong?
- Songs, rhymes, chants, or fingerplays
- Skip counting or choral counting
- Mystery Minute—Using clues to uncover a mystery number or shape
    - Students ask the questions (yes/no)
    - Students solve based on teacher given clues

Core Lesson: Math Workshop (45 minutes)
The core lesson includes four elements: the launch, the exploration, the discussion, and the "check for understanding".

Launch
The launch is intended to be a brief 5 – 10 minute exercise that stimulates students' background knowledge and prepares their minds to engage in the problem-solving exploration. The launch is NOT intended to provide examples for students to follow and later practice on their own. The launch is conducted with the whole group of students.

Explore
The exploration is a student-led mathematical investigation, which lasts approximately 15 - 20 minutes. The exploration activity may be done as a whole class, in small groups, with a partner, or individually. The teacher begins the exploration by introducing the task using pedagogical structures such as notice and wonder or three reads to help students make sense of the context. During the exploration, students actively engage in open-ended tasks that encourage high-levels of cognitive demand for each and every student. Tasks with "low floors and high ceilings" (Boaler, 2016) allow for multiple entry points. Thus, students with varying experiences and mathematical backgrounds have an opportunity to make observations, actively engage in problem solving, collect data, create novel tasks, or analyze strategies. As the students engage in the task, the teacher facilitates learning by monitoring students' interactions or approaches to the given problem. Teachers can also model mathematical talk by posing clarifying questions or initiating prompts that can

scaffold or extend students' thinking. In preparation for the discussion, the teacher also select key responses to closely examine in the discussion phase. Teachers' selection should reflect different strategies and representations that can be connected to build a deeper conceptual understanding of the underlying mathematical structures in the task. Selected responses should also provide opportunities for students to examine common misconceptions and unique approaches, or evaluate the generalizability, clarity, or efficiency of mathematical strategies and representations.

DISCUSS

The discussion phase of the core lesson is designed for students to share their strategic thinking and explain their solutions. During these 10 – 15 minutes, the teacher positions students to justify their approaches and fosters mathematical discussions around the big ideas of the lesson. Moreover, by intentionally **sequencing** the selected strategies and solutions, the teacher guides the discussion and supports students' understanding by helping students **connect** mathematical ideas. While the sequence of the discussion may change depending on the thinking that emerges in the exploration, teachers can generally structure the discussion sequence by:

- Sharing approaches from least complex, or concrete, to most complex, or abstract;
- Discussing relations among concrete, pictorial, and abstract representations;
- Examining common misconceptions or conducting error analyses;
- Deciphering unique representations;
- Applying concepts to novel situations or cross-curricular content

The strategies or solutions teachers select to share in the discussion may be unique to each classroom; yet, there are critical elements to the discussion phase that must be included. The discussion is intentionally designed to give students the opportunity to engage in mathematical conversations surrounding the big ideas in the lesson. Through the sharing sequence, the teacher highlights students' contributions toward the mathematical objectives and emphasizes the essential understandings by posing purposeful questions that encourage students to compare solutions, clarify critical content, communicate mathematically, and **connect** strategies or representations.

Check for Understanding
The brief checks allows students to demonstrate their developing understanding of the mathematical objectives. The format may change depending on the content or lesson. Sometimes the teacher may complete a checklist or record notes during the exploration phase, whereas other days students may complete a blackline master in independent practice to document their understanding of the big ideas in the unit.

Extension Centers (40 minutes—Upon full implementation 2 x 15 min. rotations/day)
Extension centers support differentiation practices as teachers can use these activities to reinforce, extend, and present content through a variety of contexts. Centers in First Grade include five areas that can be used to differentiate practice: Independent work, Guided Practice, Construction Cove, Data Detectives, and Game On (with both “pregame” and “replay” games). Each center, except for the guided practice, is designed to be learner self-directed and allows for free exploration of objects or strategic thinking through play in order to reinforce critical mathematical concepts. Structuring and managing the center rotations is unique to each classroom of students and their teacher. In fact, teachers may find themselves conducting centers differently each year in response to the personalities and dynamics of the students in the class. Despite the variation that may occur, some general guidelines exist.

Centers should be introduced gradually in First Grade. Unit One begins with the first two days establishing the routine of the core lesson: transition to math, launch, exploration, discussion, and check for understanding. Because the daily routines are being developed in the mathematical learning community in the first few days of school, the regular suggested time (45 minutes) for the core lesson may be overlooked, and the entire 90 minute block may be reserved to establish the procedures of the math workshop. In the first days of unit one, the designated period for the extension centers can be used to complete the “Check for Understanding” and reinforce the expectations for independent practice that best meet the needs for each unique community of learners. If time allows, teachers can use the remaining time to introduce center locations, additional procedures, and student “teams”. The term “team”, rather than group, is used in order to promote collaborative problem solving and peer support. The teams are dynamic; teachers should change team members depending on the unit focus and according to what mini-lessons reflect students’ needs.

The guided practice center is strategically introduced as the second open center. This sequence provides teachers the opportunity to situate children in the independent practice activities before pulling teams. Moreover, with guided practice as the second center introduced, teachers can use the first small group periods to model the center that would be opened in subsequent days. For example, during the extension centers on (approximately) Day 3 of the unit, students are engaged in the "Check for Understanding" activity as the teacher pulls teams to the Guided Practice center. At the center, the teacher describes the "Construction Cove" center that will open on Day 4. On Day 4, the teachers pull teams to the Guided Practice center to describe "Data Detectives ", and the same structure repeats for Day 5 where teachers use the Guided Practice center to introduce (one or more of) the games available in the "Game On!" center when that center opens on Day 6. This gradual introduction allows time to reinforce the routine expectations, practice the rotation movements, and introduce the centers to the students. The table below depicts the gradual introduction.

Sample Rotations with 6 teams (4 -5 students/team): Days 1 - 5

	Day 1	Day 2	Day 3	Day 4	Day 5
Independent practice	All students	All students	All students	Teams A,B,& C	Teams E, F
Guided practice	*Not open*	*Not open*	Call small groups to introduce "teams" and Construction Cove	Introduce Data Detectives at guided center; 3, 7-min rotations pulling Teams D – F from Construction Cove Switch teams at independent and Construction; 3, 7-min rotations pulling Teams A – C from Construction Cove;	Introduce Game on! at guided center; 2, 7-min rotations pulling Teams A, B from construction; Rotate teams at centers; 2, 7-min rotations pulling Teams C, D from construction; Rotate teams at centers; 2, 7-min rotations pulling Teams E, F from construction
Construction Cove	*Not open*	*Not open*	*Not open*	Teams D, E, & F	Teams C, D
Data Detectives	*Not open*	*Not open*	*Not open*	*Not open*	Teams A, B
Game on! Replay and Pregame	*Not open*	*Not open*	*Not open*	*Not open*	*Not open*

Once the center routines and procedures are established, teachers will conduct two rotations during the 40 minute extension period, with each rotation lasting approximately 15 minutes. While some teachers may allow for free choice and choose to call specific teams to the guided practice center, other teachers may prefer to conduct routine rotations. In either structure, the students should have the opportunity to visit each center throughout the week. An example of a potential rotation schedule is listed below, with the first 15-minute rotation in the white row for each team, and the second 15-minute rotation in the gray row for each team.

After Day 5, the *guided practice* center becomes the time where teams engage in *focused mini-lessons* that enrich students' access to the essential understandings of the unit while tailoring activities to address students' specific needs. Three types of mini lessons are included in each unit: (a) scaffolding **language support,** (b) **extending concepts** for accelerated learners, and (c) **supporting students demonstrating difficulty** with mathematical concepts. The list of mini-lessons is included in the center overview.

Sample Rotations with 5 teams (4 – 6 students/team): Days 6 – 10

	Day 6	Day 7	Day 8	Day 9	Day 10
Team A Rectangle	Independent practice	Guided practice	Data Detectives	Construction Cove	Game on! Pregame
	Game on! Replay	Data Detectives	Construction Cove	Guided practice	Independent practice
Team B Rhombus	Guided practice	Data Detectives	Construction Cove	Game on! Replay	Independent practice
	Data Detectives	Construction Cove	Guided practice	Independent practice	Game on! Pregame
Team C Circle	Data Detectives	Construction Cove	Game on! Pregame	Independent practice	Guided practice
	Construction Cove	Guided practice	Independent practice	Game on! Replay	Data Detectives
Team D Cylinder	Construction Cove	Game on! Pregame	Independent practice	Guided practice	Data Detectives
	Guided practice	Independent practice	Game on! Replay	Data Detectives	Construction Cove

Team E Triangle	Game on! Replay	Independent practice	Guided practice	Data Detectives	Construction Cove
	Independent practice	Game on! Replay	Data Detectives	Construction Cove	Guided Practice

Center Overviews—Opportunities for multiple presentations of content

- Independent Practice—Expectations and procedures introduced Day 1.
    - Seatwork—application of core lesson content in connected activity
- Guided Practice—ROTATIONS BEGIN DAY 3. MINI-LESSONS BEGIN DAY 6. Connected, teacher-facilitated (with virtual option for more self-guided activities) *mini-lessons* to enrich students' understanding of the essential ideas in the unit. Students are pulled to small group lessons based on learning needs. The student groups, referred to as "teams" are flexible. Each unit includes a menu of mini-lessons tied to the big ideas from the unit's essential understandings. The teacher chooses the appropriate mini-lesson from the foci and menu below:
    - **REVIEW** lessons that emphasize key terms for language learners
    - **REVIEW** tasks to reinforce concepts and build understanding
    - **CHALLENGE** activities for accelerated learners

- Construction Cove— Expectations and procedures introduced Day 3. CENTER OPENS AND ROTATIONS BEGIN DAY 4.
    - Manipulatives and loose parts materials combined with engineering challenges (e.g., building, designing, creating).
- Data Detectives—Expectations and procedures introduced Day 4. CENTER OPENS AND ROTATIONS BEGIN DAY 5.
    - Exploring various materials or ideas to answer a question or organize information. Data can also be connected to sorting and counting investigations, as well as the daily data descriptions. Unit 1 ideas:
        - Take your vote--Is it a duck or a rabbit or both?
        - Matching pictures to graphs
        - Counting collections of loose parts--how can you organize and count this set of objects? What would your data look like? How could you represent the information clearly?

- Game on—Expectations and procedures introduced Day 5. CENTER OPENS AND ROTATIONS BEGIN DAY 6.
    - Replay—Game to **reinforce and review** key ideas from the unit lesson or from previous units or lessons.
    - Pre-Game—Game or activity to **foreground future content** or to familiarize students with upcoming mathematical tools.

Universal Design for Learning (UDL)

The Skyline curriculum uses the Universal Design for Learning (UDL) framework, which guides the design of learning environments to ensure they are accessible and challenging for all. The UDL guidelines provide suggestions on how to support students through multiple means of engagement, representation, and action and expression. The tables below highlight UDL differentiation resources that are available for this unit.

Course Differentiation Resources

Self Regulation	Sustaining Effort & Persistence	Recruiting Interest
• Growth Mindset in Math • Fixed/Growth Mindset (English)(Spanish) • SEL Check-In (English)(Spanish)	• Classroom Community Anchor Chart • Goal Setting (English)(Spanish) • Goal Setting II (English)(Spanish) • Group Roles (English)(Spanish)	• Student Survey (English)(Spanish) • Anchor Chart Activity
Comprehension	**Language & Symbols**	**Perception**
• Frayer Model Template (English)(Spanish) • Fluency Games	• EL Development Resource (English)(Spanish) • Word Wall *Coming soon!* • Math Toolbox (all unit resources) ○ Grade 1 (English)(Spanish)	• Math Cognate Table
Physical Action	**Executive Functions**	**Expression & Communication**
• Accessibility with Safari	• Student Standards Tracker (English)(Spanish) • Learning Objectives/Target Tracker (English)(Spanish)	• GeoGebra • Desmos • Three Reads Classroom Poster (English)(Spanish) • Sentence Starters Grades (English)(Spanish)

	• Self-Monitoring Reflection Checklist (English)(Spanish) • Math Language Routines • Student Discourse Rubrics (English)(Spanish) • Assessment Reflection (English)(Spanish)	• Conversation Cards (English)(Spanish)

Unit-Specific Differentiation Resources			
Unit Level			
• Google Practice Sets *(Found in each TFG)!* *(Self Regulation)* • Choice Board *Coming soon!* (English)(Spanish) *(Recruiting Interest)* • EL Support Mini Lessons (Language & Symbols) • Glossary *Coming soon!* (Language & Symbols)		• Khan Academy: Counting (Counting) (Executive Function) • Khan Academy: Measurement and Data (Time) (Executive Function)	
Lesson 2	• Review Mini Lesson (English)(Spanish) (Comprehension)	Lesson 3	• Review Mini Lesson (English)(Spanish) (Comprehension) • Challenge Mini Lesson (English)(Spanish) (Comprehension)
Lesson 4	• Review Mini Lesson (English)(Spanish) (Comprehension)	Lesson 6	• Review Mini Lesson (English)(Spanish) (Comprehension) • Challenge Mini Lesson (English)(Spanish) (Comprehension)
Lesson 8	• Review Mini Lesson (English)(Spanish) (Comprehension)	Lesson 9	• Review Mini Lesson (English)(Spanish) (Comprehension)

Accommodations For Students with an Individual Education Program (IEP) or 504 Plan

For students with an individualized Education Program or a 504 Plan, consult the individual document to plan and implement individual accommodations for all lessons in this unit.

🖨️Unit Materials

Materials A formative assessment is available with each lesson to formatively assess the students on the math content. All student facing materials are listed and linked below.

Below are all of the materials that can be assigned via Google Classroom or printed for use.

Lesson 1	Lesson 2	Lesson 3
Blackline Master: Sorting Cards Template Blackline Master in Spanish: Sorting Cards Template Blackline Master: Day and Night Images Blackline Master in Spanish: Day and Night Images Blackline Master: Sentence Frames Blackline Master in Spanish: Sentence Frames All Are Welcome by Alexandra Penfold 1-inch Graph Paper Magazines, Scissors, Glue Stick	Clock Tac Toe Clock Tac Toe in Spanish Numeral Cards Numeral Cards in Spanish Digital Analog Clock Cards Digital Analog Clock Cards in Spanish Blackline Master: It's Time! Blackline Master in Spanish: It's Time! Blackline Master: Real World Clocks Blackline Master in Spanish: Real World Clocks	Blackline Master: Marine Life Blackline Master in Spanish: Marine Life Blackline Master: Ten Frames Blackline Master in Spanish: Ten Frames Blackline Master: Number Paths 1-20 Blackline Master in Spanish: Number Paths 1-20 Blackline Master: Check for Understanding Blackline Master in Spanish: Check for Understanding CPS Three Reads Ten frames Hundreds charts Counters Unifix cubes or snap cubes
Lesson 4	**Lesson 5**	**Lesson 6**
Blackline Master: Which Book Blackline Master in Spanish: Which Book Blackline Master: Build Shedd Schedule Blackline Master in Spanish: Build Shedd Schedule Blackline Master: Digital Analog Clock Blackline Master in Spanish: Digital Analog Clock Blackline Master: Check for Understanding Blackline Master in Spanish: Check for Understanding 1 inch cubes or snap cubes Map of the Shedd Aquarium	Blackline Master: Neighborhoods Blackline Master in Spanish: Neighborhoods Blackline Master: Check for Understanding Blackline Master in Spanish: Check for Understanding Materials: 2 Six-sided dice	Blackline Master: Food Photo 5 Blackline Master in Spanish: Food Photo 5 Blackline Master: Food Photo 10 Blackline Master in Spanish: Food Photo 10 Blackline Master: Ten Frame Dot Cards Blackline Master in Spanish: Ten Frame Dot Cards Blackline Master: Number Path 1-10, 1-20 Blackline Master in Spanish: Number Path 1-10, 1-20 Blackline Master: Numeral Cards Blackline Master in Spanish: Numeral Cards Blackline Master: Spinner 1-10 Blackline Master in Spanish: Spinner 1-10 Ten Flashing Fireflies By Philemon Sturges Connecting cubes Two-color counters

		6 sided dice (with pips)
Lesson 7	**Lesson 8**	**Lesson 9**
Blackline Master: Number Path 1-10; 1-20 Blackline Master in Spanish: Number Path 1-10; 1-20 Blackline Master: Check for Understanding Blackline Master in Spanish: Check for Understanding Manipulatives: Counters, Cubes, Tiles	Blackline Master Blackline Master in Spanish Boxes or bags of 20 - 50 random items (e.g., blocks, cubes, counters, rocks, crayons, cotton balls, pom poms, buttons, etc.)— 1 box/bag per two students in the class, plus 3 additional bags	Blackline Master Blackline Master in Spanish
Lesson 10		
Blackline Master Blackline Master in Spanish		