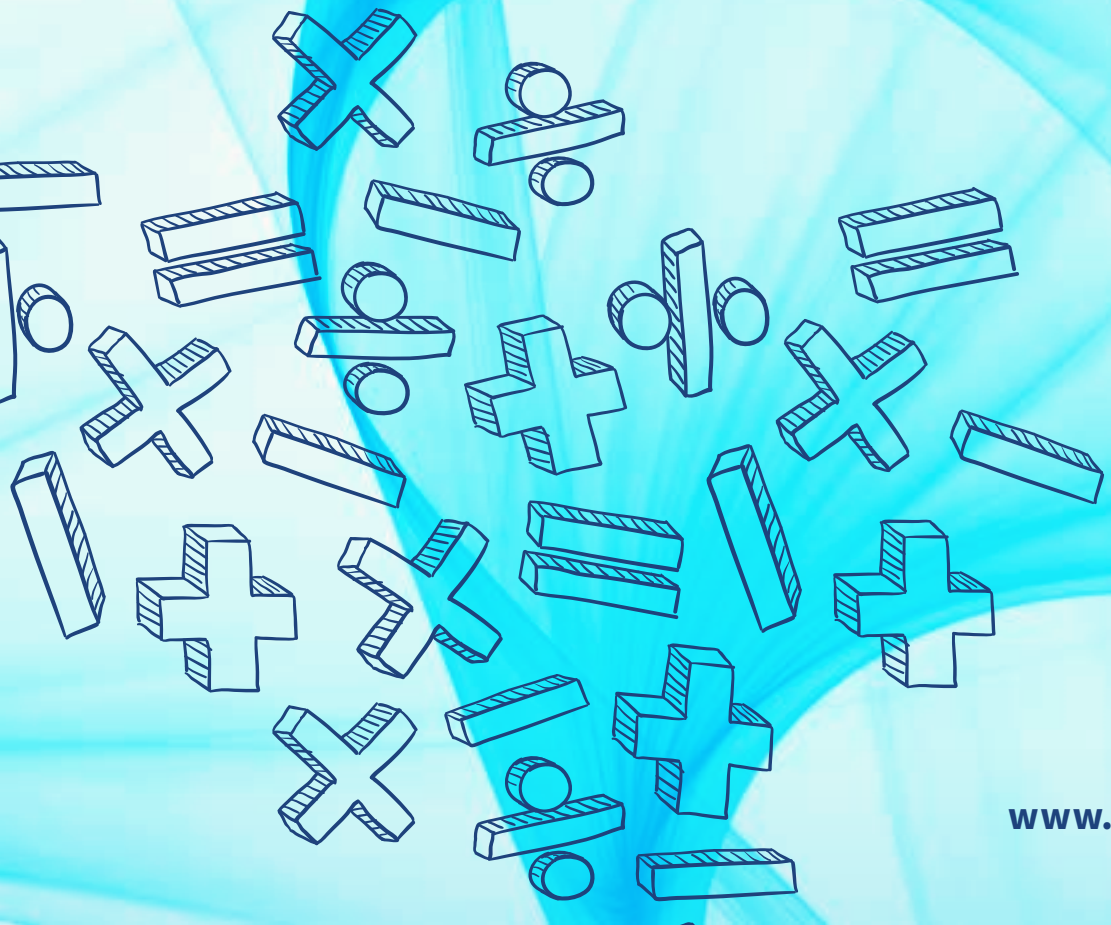
STEMscopes™ MATH

1ST GRADE
TEACHER LESSON SAMPLE

ADDITION & SUBTRACTION PROBLEM SOLVING



www.stemscopes.com/math

Discover the wonder of mathematics in our everyday world with STEMscopes Math. Built from the ground up by practicing educators using the flexible 5E lesson model, STEMscopes Math provides you with everything you need to create a meaningful learning experience.

LEARNING WITHIN A REAL-WORLD, RELEVANT CONTEXT

Student learning is rooted in real-world scenarios. Real-world connection provides teachers a way to foster an understanding and appreciation for numbers by focusing on the relationship between mathematical concepts and students' experiences and interests. When real-world connection is incorporated into lessons, students can see how math fits into their daily lives.

STEMscopes Math uses the Hook, Explore Activities, and Problem-Based Tasks to engage students in real-world situations where math skill is needed. Life Connections, Career Connections, Math Today! News, and Math Story incorporate math into the everyday experiences and careers that students may encounter outside of the classroom.

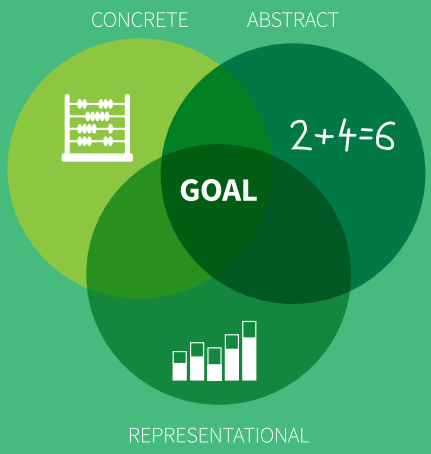
DESIGNED FOR NEW AND VETERAN TEACHERS

Every STEMscopes Math lesson is built to the standards, from the ground up. Chunking information into bite-size pieces, we make our units (called "scopes") digestible and engaging. Whether you're a new or veteran teacher, STEMscopes Math provides everything you need to create a meaningful learning experience.

CONCRETE-REPRESENTATIONAL-ABSTRACT (CRA) APPROACH

The CRA model is a powerful strategy for teaching new math concepts. It is a three-part constructivist process that transitions students from hands-on learning to the math we use as adults. As students progress through the Explore Activities (Lessons), they will transition from hands-on experiences with concrete objects to representational, pictorial models and ultimately arrive at symbolic representations, using only numbers, notations, and mathematical symbols.

Since state assessments often require students to solve problems at all three levels, the CRA model helps students succeed in high-stakes testing. Research-based studies show that students who use concrete materials to learn math develop more precise and comprehensive mental representations, show more motivation and on-task behavior, understand mathematical ideas, and better apply these ideas to life situations.



PROMOTING EQUITY

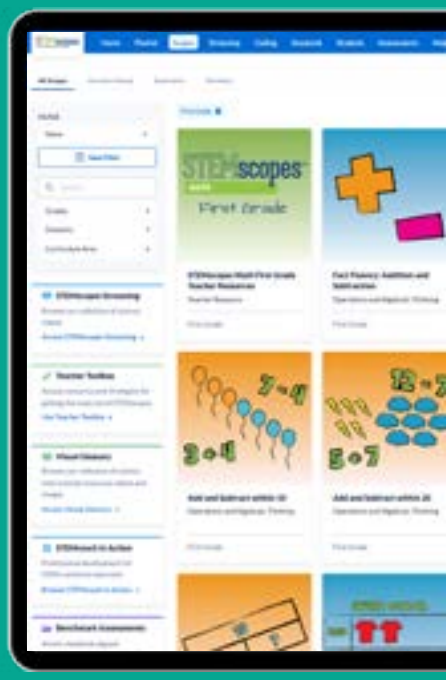
Implementing STEMscopes Math in the classroom provides every student access to high-quality, challenging learning opportunities. The activities within the program are scaffolded and differentiated so that all students find the content accessible, relatable, and challenging. The emphasis on collaborative learning and intentional discourse within the STEMscopes program promotes a sense of community in the classroom where students can learn from each other.

DIGITAL, PRINT, AND KITS

We are committed to delivering flexible, differentiated, student-centered instructional content through our digital platform, and we're all about making life easier for teachers.

DIGITAL CURRICULUM

Our **digital platform** allows you to assign work directly to student accounts, push content to Google Classroom, print materials on demand, and use our lessons in a whole-group or blended learning setting. Find coherent, 5E-based lessons that align with standards and seamlessly flow from one activity to the next.



Print and hands-on kits bring digital learning and real-world instruction together. These supplemental resources establish a concrete connection between school and home, helping teachers make education more equitable.

STUDENT PRINT

HANDS-ON KITS

STANDARDS

Aligning our math program to standards is at the core of what we do. STEMscopes Math fully supports your state standards, no matter where you are.

HOME

This is where you will find your lesson planning materials so you can facilitate fun, purposeful experiences for your students. Build your content knowledge, review the scope's standards, and access parent materials in the Home section.

ENGAGE

The Engage section lays the foundation for learning. You begin by pre-assessing students and filling knowledge gaps. The Hook lays out a storyline narrative to establish a purpose for learning and capture students' attention with real-world connections.

EXPLORE*

This is where students dig into the content. The Explore section includes scaffolded hands-on activities that build toward mastery of the standards. Each Explore prompt encourages rich mathematical discourse and student reasoning, and concludes with an Exit Ticket.

EXPLAIN*

Paired with Explore, the Explain section offers a variety of resources that connect the experiences of the Explore activities to the academic content students need to know. These resources include illustrated vocabulary cards, independent practice, and journal prompts that support the Explore activities and solidify student learning.

ELABORATE*

Workstations are a go! The Elaborate section makes differentiation a cinch with ready-made activities—digital and paper-based games, spiraled review, career connections, literacy connections, and more—perfect for rotations! Students continue learning while you make time for small group interventions and independent projects to support your struggling and advanced learners.

**Instructional elements in STEMscopes Mathematics are intended to work together. The elements in the Explain and Elaborate sections can be used to support student learning and provide opportunities for practice while students explore the concept.*

EVALUATE

Get the data you need from the assessment tools provided in the Evaluate section. From multiple choice-based assessments to an open-ended reasoning prompt, there's an evaluation for every student's learning style. You can also create your own assessments using the assessment builder tool.

INTERVENTION

Useful during Elaborate or as an after-school support, Intervention is a small hands-on activity designed to target students' conceptual misunderstanding while building their math skills. This is also a great re-teach and test prep tool!

ACCELERATION

Are your students ready to go above and beyond with what they've learned? In the Acceleration section, students complete a design challenge and relate learning to current events around the world. The activities prompt them to think more deeply about the content and its applications.

DIGITAL CURRICULUM SAMPLE

To review the lesson resources in the digital First Grade Scope, *Addition and Subtraction Problem Solving*, access our digital curriculum sample at **www.stemscopes.com/math/national/curriculum-sample** and choose the First Grade level on the left *Grades* menu bar.

First Grade
SAMPLE LESSON

SCOPE (UNIT) **Addition and Subtraction Problem Solving**
EXPLORE (LESSON) **Represent and Solve All Problem Types Involving Two Whole Numbers**

The following pages introduce resources to help you get the most out of your STEMscopes Math Grade 1 lesson. You will also notice we've provided supportive unit resources that would allow you to plan lessons throughout the year using STEMscopes Math.

This sample lesson ***does not include*** all the elements and features of our digital and print math curriculum.

RESOURCE LIST

The following resources, as well as additional resources not listed, can be found in the digital curriculum *Grade 1 Scope, Addition and Subtraction Problem Solving.*

HOME
- Student Expectations
- Key Concepts
- Scope Overview
- Parent Letter

TEACHER TOOLBOX
- Scope List
- Scope and Sequence
- Lesson Planning Guide for 1-3 Explores
- Lesson Planning Guide for 3-5 Explores

EXPLORE
- Explore 1: Addition and Subtraction Problem Solving*

ELABORATE
- "Go Fish" Fluency Builder*

EXPLAIN
- Vocabulary Cards*

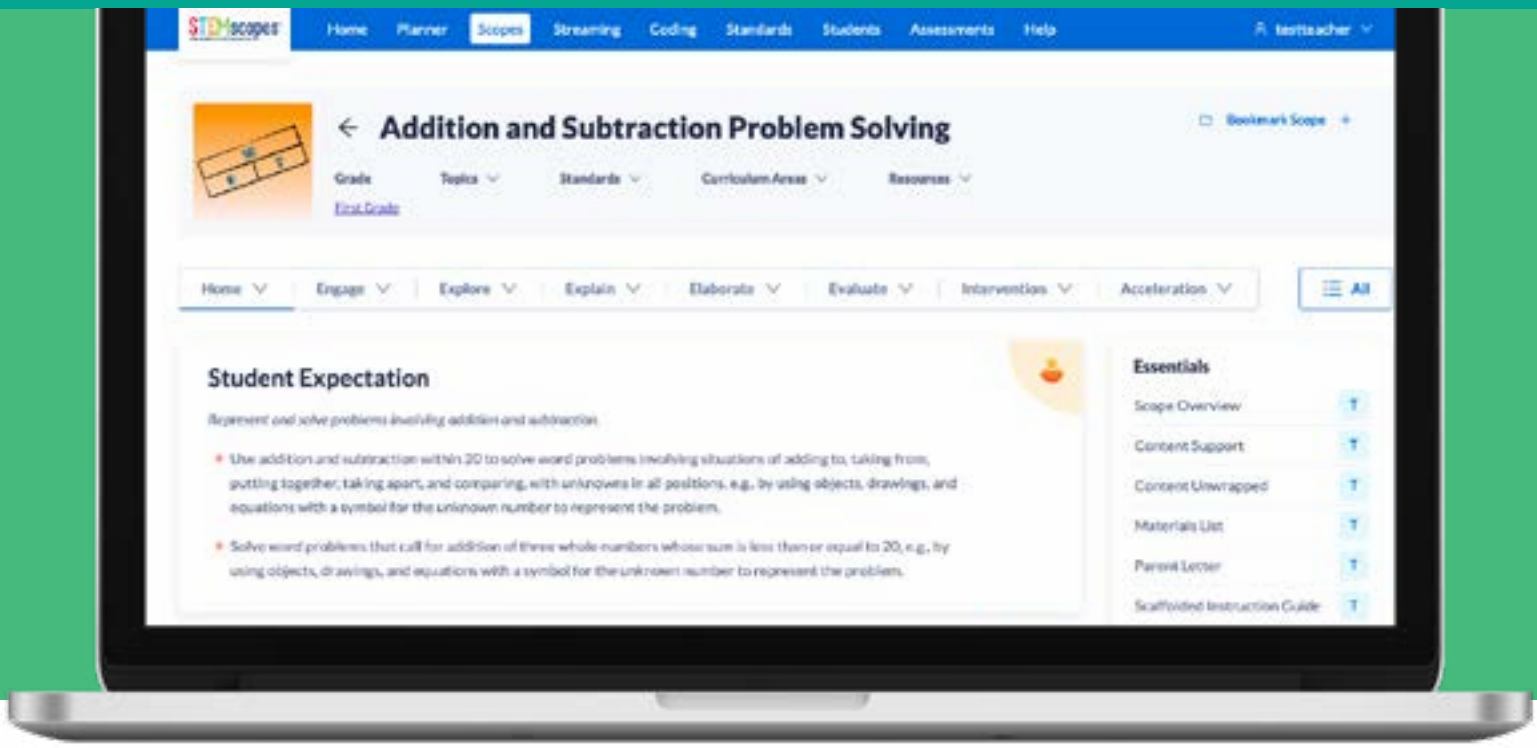
DAILY NUMERACY
- "Not Like the Others" Activity*

FACT FLUENCY
- "Plus 2" Mini-Lesson*

**These activities are samples and do not represent all the activities and resources within our digital and print curriculum.*

First Grade SAMPLE LESSON

SCOPE (UNIT) **Addition and Subtraction Problem Solving**



STUDENT EXPECTATIONS

Represent and solve problems involving addition and subtraction.

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Solve word problems that call for the addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

KEY CONCEPTS

- I can solve word problems using addition and subtraction within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using objects.
- I can solve word problems using addition and subtraction within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using addition and subtraction with drawings.
- I can solve word problems using addition and subtraction within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using addition and subtraction with equations that use a symbol for unknown values.
- I can solve word problems using addition of three whole numbers whose sum is less than or equal to 20 using objects.
- I can solve word problems using addition of three whole numbers whose sum is less than or equal to 20, by using drawings.
- I can solve word problems using addition of three whole numbers whose sum is less than or equal to 20, by using equations with a symbol for unknown values.

Scope Overview

Standards

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

If the APK reveals that students are not ready, move to the Foundation Builder!

Engage

- Accessing Prior Knowledge: Add and Subtract with a Ten Frame
- Foundation Builder: Add and Subtract with Counters
- Hook: Donating Stuffed Animals

Home

- Scope Overview
- Content Support
- Standards Unwrapped

Explore

- Skill Basics: Ways to Represent Addition and Subtraction
- Skill Basics: Problem-Solving Model
- Explore 1: Represent and Solve All Problem Types Involving Two Whole Numbers
  - Exit Ticket
  - Show What You Know: Part 1
- Explore 2: Represent and Solve Problems Types Involving Three Whole Numbers
  - Exit Ticket
  - Show What You Know: Part 2

Elaborate

- Fluency Builder
  - Go Fish
  - Problem Solving Match
- Spiraled Review: Rainy-Day Swimming
- Math Story: Another Garage Sale on Lake Street
- Problem-Based Task: Mystery Problem
- Interactive Practice
  - Alien Math
- Life Connections: Ticket Winner

Explain

- Picture Vocabulary
- Show What You Know
- My Math Thoughts
- Anchor Charts
- Interactive Notebook

Once all of the Explores have been taught, go back to the Hook for students to apply knowledge learned.

Evaluate

- Observation Checklist
- Show-and-Tell
- Skills Quiz

Intervention

- Small-Group Intervention
- Supplemental Aids

Acceleration

- Math Today: Mutton Bustin' Texas Style!
- Connection Station: Shell of Protection

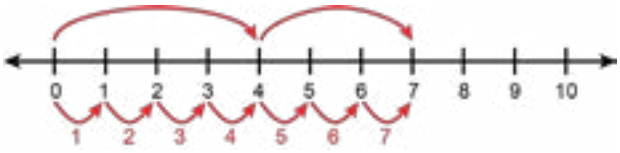
Instructional elements in STEMscopes Mathematics are intended to work together. The elements in the Explain and Elaborate sections can be used to support student learning and provide opportunities to practice while the students are exploring the concept.

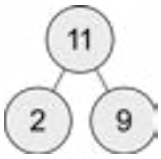
First Grade – Addition and Subtraction Problem Solving

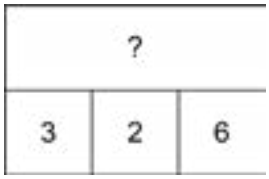
Dear Parents,

Your child is about to explore addition and subtraction problem solving. To master this skill, your child will build on his or her knowledge of adding and subtracting within 20 to solve word problems using objects, drawings, and equations. As your child extends his or her knowledge of this concept throughout first grade, he or she will learn the following concepts:

- How to solve one-step and multistep word problems with two or three numbers
- How to represent addition and subtraction using number paths, number lines, bar models, and number bonds:







While working with your child at home, you may find the following vocabulary terms helpful in your communication about addition and subtraction problem solving. These are terms your child will be encouraged to use throughout our explorations and during our Math Chats, which are short, whole-group discussions at the conclusion of each activity.

- **Addition**: To find the total or the sum of two or more numbers joined together
- **Subtraction**: Separating or taking away a number from another number
- **Sum**: The answer to an addition problem or equation
- **Difference**: The answer to a subtraction problem or equation
- **Equation**: A math sentence that uses numbers, one or more operation symbols, and an equal sign such as 3 + 2 = 5 or 5 + 3 – 2 = 6

We will do many explorations in class to help your child learn these concepts from firsthand experiences. Encourage your child to share these experiences with you and to teach you what he or she has learned. Ask your child to identify examples of what he or she is learning in everyday life, or use the attached page for ideas of activities to do at home to apply the concept your child is learning in class.

Thank you for your support as your child begins this new learning adventure.

Sincerely,

Tic-Tac-Toe: Try This at Home

Show and Tell 1. Let your child choose some objects of which he or she has several, like coins or toy cars. 2. Count the items with your child. 3. Use the objects to make addition or subtraction word problems. Here is one example: If I give 20 of the coins from my collection to my sister, how many would I have left? 4. Have your child solve the problem he or she created.	**Number Up or Down** 1. Draw a number line on a piece of paper. 2. Make up a word problem for your child to show on the number line. For example, Elizabeth reads for 15 minutes, and she writes for 5 minutes. How many total minutes does she read and write? 3. Work with your child to show the word problem on the number line. 4. Make sure to include addition and subtraction word problems. Also, allow your child to count up to solve subtraction.	**Toy-Hoop Number Bond** 1. Write the numbers 0–20 on index cards. 2. Use three toy hoops to create a number bond. (You can draw circles on paper if toy hoops are not available.) 3. Ask your child to use the numbers and the toy-hoop number bond to solve equations. For example, using the equation 20 – 5 = ?, your child would place 20 in the whole circle, 5 in one part, and 15 in the other part to solve for the unknown.
Roll a Bar Model 1. Have your child roll a die to generate two numbers. 2. Decide whether the two numbers are parts or one number is the total. 3. Work with your child to create a bar model and write a number sentence using the numbers.	Free Space	**Follow the Number Path** 1. Using sidewalk chalk, draw a horizontal line of connected boxes. Write the numbers 1 to 20, one number in each box, in numerical order. 2. Give your child a starting number and have him or her stand on the number. 3. Ask your child to add or subtract a number by moving back and forth on the path.
When Do We Compare? 1. Make a list of things that you can compare. 2. Here are some examples: We can compare the height of everyone in our family. We can compare the amount of candy in my bag to the amount of candy in your bag. 3. Pick one scenario from the list to act out.	**Reading + Math** 1. Read one of your child's favorite stories with him or her. 2. Work together to create a situation where one of the characters needs to add, needs to subtract, or needs to both add and subtract. 3. Solve the problems that you create, and draw a picture of the character acting out the word problem.	**Numberless Stories** 1. Tell your child a math story without any numbers. Example: I had some apples. I ate a few of the apples. How many apples do I have now? 2. Discuss whether your child would need to add or subtract based on the actions in the problem. 3. Ask your child to place numbers in the story to check if he or she is right.

First Grade Scope List

Scope Name	Explores	Suggested Pacing
Add and Subtract to 10	5 Explores	2 Weeks
Add and Subtract to 20	5 Explores	2 Weeks
Addition and Subtraction Strategies	5 Explores	2 Weeks
Addition and Subtraction Problem Solving	2 Explores	1 Week
Data Analysis	3 Explores	1 Week
Two-Dimensional Shapes	4 Explores	2 Weeks
Three-Dimensional Solids	4 Explores	2 Weeks
Fractions	3 Explores	1 Week
Time	3 Explores	1 Week
Length	3 Explores	1 Week
Represent Numbers to 100	4 Explores	2 Weeks
Compare Numbers to 100	4 Explores	2 Weeks
Addition and Subtraction Fact Fluency	2 Activities	October-May
Daily Numeracy	8 Activities	September - May

STEMscopes Math Suggested Scope and Sequence

The STEMscopes Math program is flexible, and there are variations in implementation within the guidelines provided here. This Scope and Sequence is meant to serve as a tool for you to lean on as you find how STEMscopes Math best meets the needs of the students in your classroom.

FIRST GRADE

Week	Scope	Clusters
1	• Establish classroom procedures • **Pre-Assessment Benchmark**	Major
2	• Add and Subtract within 10	Major
3	• Add and Subtract within 10	Major
4	• Show-and-Tell Rapid Assessment for Add and Subtract within 10	Major
5	• Add and Subtract within 20	Major
6	• Add and Subtract within 20	Major
7	• Show-and-Tell Rapid Assessment for Add and Subtract within 20	Major
8	• Addition and Subtraction Strategies	Major
9	• Addition and Subtraction Strategies	Major
10	• Show-and-Tell Rapid Assessment for Addition and Subtraction Strategies	Major
11	• Addition and Subtraction Problem Solving	Major
12	• Show-and-Tell Rapid Assessment for Addition and Subtraction Problem Solving	Major
13	• Data Analysis	Supporting
14	• Show-and-Tell Rapid Assessment for Data Analysis	Supporting
15	• Two-Dimensional Shapes	Additional
16	• Two-Dimensional Shapes	Additional
17	• Show-and-Tell Rapid Assessment for Two-Dimensional Shapes • **Mid-Assessment Benchmark**	Major
18	• Three-Dimensional Solids	Additional
19	• Three-Dimensional Solids	Additional
20	• Show-and-Tell Rapid Assessment for Three-Dimensional Solids	Additional
21	• Fractions	Additional
22	• Show-and-Tell Rapid Assessment for Fractions	Additional

Week	Scope	Clusters
23	• Time	Additional
24	• Show-and-Tell Rapid Assessment for Time	Additional
25	• Length	Major
26	• Show-and-Tell Rapid Assessment for Length	Major
27	• Represent Numbers to 100	Major
28	• Represent Numbers to 100	Major
29	• Represent Numbers to 100	Major
30	• Show-and-Tell Rapid Assessment for Represent Numbers to 100	Major
31	• Compare Numbers to 100	Major
32	• Compare Numbers to 100	Major
33	• Show-and-Tell Rapid Assessment for Compare Numbers to 100	Major
34	• **Post-Assessment Benchmark**	Major
35	Review: • Add and Subtract within 20 • Represent Numbers to 100 • Compare Numbers to 100	Major
36	Review: • Fractions • Time • Two-Dimensional Shapes • Three-Dimensional Solids	Additional

Week	Daily Numeracy	Clusters
All	Additional or repeated standards are addressed in Daily Numeracy. These activities should be rotated through daily. To see the full list of what standards are addressed in these activities, please see the Daily Numeracy: Standards by Activity section in the Daily Numeracy Teacher Toolbox.	Major

Whole-Group Plan (Kindergarten–1st Grade)

1–3 Explores

*Based on 90-minute class period	Day 1	Day 2	Day 3	Day 4	Day 5
Whole Group	Fact Fluency/Daily Numeracy Accessing Prior Knowledge Foundation Builder[1] Hook (Pre-Explore) Begin Skill Basics/Explores if time allows. Anchor Chart	Fact Fluency/Daily Numeracy Skill Basics/Explores[2] Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Skill Basics/Explores (continued) Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Hook (Post-Explore) Interactive Notebook Teacher Choice[3] All students: • Picture Vocabulary • My Math Thoughts • Life Connection • Spiraled Review Mastery Level: • Connection Station • Math Today Meets Level: • Math Story • Problem-Based Task Approaching Level: • Interactive Practice • Skills Quiz	Fact Fluency/Daily Numeracy Small Group Intervention (for students who need it) Observation Checklist Fluency Builder (Choose one.) (For students who don't need intervention)
Assessment and Closure	Accessing Prior Knowledge to determine readiness Formative assessment based on APK and student performance on Explore Allow students to share what they felt successful with and what they struggled with today.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know – Part 1 as independent practice after first Explore.	Administer the Exit Ticket to assess student learning after the final Explores. Allow students to work on Show What You Know – Part 2 as independent practice after Explore 2.	Assess how students perform based on individual assignment chosen.	Show and Tell

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[1]Use as intervention if APK shows foundational gaps.
[2]Set your pace according to the number of Explores included in this scope. Use Exit Tickets as well as Show What You Knows for each Explore completed.
[3]Teachers can choose from the following elements. We have suggested activities for students including recommended tasks for students at each skill level.

Small-Group Plan (Kindergarten–1st Grade)

1–3 Explores

*Based on 90-minute class period	Day 1	Day 2	Day 3	Day 4	Day 5
Whole Group ***20 Minutes**	Daily Numeracy Accessing Prior Knowledge Foundation Builder[1] Hook (Pre-Explore) Introduce stations.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart Add Picture Vocabulary words to word wall based on terms introduced in the lessons.	Daily Numeracy Hook (Post-Explore) Review any Explore or Show What You Know problems that gave students trouble. Anchor Chart Interactive Notebook	Daily Numeracy Spiraled Review Observation Checklist
Small-Group Instruction *Small group/ Stations 70 Minutes	Pull small groups of students to do: 1. The Foundation Builder (if they need previous grade level content) 2. Skill Basics/Explore 1[2]	Pull students to work with you to finish Skill Basics/Explores 1–2. Observation Checklist	Pull students to work with you on Skill Basics/Explores 2–3. Observation Checklist	Pull students to do Small Group Intervention based on needs. Observation Checklist	None
Stations ***Options are flexible.**	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder 4. Life Connection 5. Spiraled Review 6. Show What You Know	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder 4. My Math Thoughts 5. Spiraled Review 6. Show What You Know	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder 4. Math Story 5. Spiraled Review 6. Show What You Know	Have students work in groups on the Problem-Based Task.	Have the following materials available for students who finish early. 1. Fact Fluency 3. Skills Quiz 4. Connection Station 5. Math Today 6. Spiraled Review
Assessment and Closure	Accessing Prior Knowledge to determine readiness Formative assessment based on APK and student performance to determine who needs to be pulled to small group Allow students to share what they felt successful with and what they struggled with today.	Administer the Exit Tickets to assess student learning after the Explores. Allow students to work on Show What You Knows as independent practice after Explores.	Administer the Exit Tickets to assess student learning.	Students can be assessed by their performance on the Problem-Based Task.	Show and Tell

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[1]Use as intervention if APK shows foundational gaps.
[2]Set your pace according to the number of Explores included in this scope. Use Exit Tickets as well as Show What You Knows for each Explore completed.

Whole-Group Plan (Kindergarten–1st Grade)

3–5 Explores

Week 1 *Based on 90-minute class period	Day 1	Day 2	Day 3	Day 4	Day 5
Whole Group	Fact Fluency/Daily Numeracy Accessing Prior Knowledge Foundation Builder[1] Hook (Pre-Explore)	Fact Fluency/Daily Numeracy Skill Basics/Explores[2] Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Skill Basics/Explores (continued) Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Skill Basics/Explores (continued) Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Skill Basics/Explores (continued) Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)
Assessment and Closure	Accessing Prior Knowledge to determine readiness Formative assessment based on APK and student performance on Explore Allow students to share what they felt successful with and what they struggled with today.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explores.	Administer the Exit Ticket to assess student learning after the Explores. Allow students to work on Show What You Know as independent practice after Explores.	Administer the Exit Ticket to assess student learning after the Explores. Allow students to work on Show What You Know as independent practice after Explores.	Administer the Exit Ticket to assess student learning after the Explores. Allow students to work on Show What You Know as independent practice after Explores.

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[1]Use as intervention if APK shows foundational gaps.
[2]Set your pace according to the number of Explores included in this scope. Use Exit Tickets as well as Show What You Knows for each Explore completed.

Whole-Group Plan (Kindergarten–1st Grade)

3–5 Explores

Week 2 *Based on 90-minute class period	Day 6	Day 7	Day 8	Day 9	Day 10
Whole Group	Fact Fluency/Daily Numeracy Skill Basics/Explores (continued) Anchor Chart Exit Ticket Show What You Know (Assist and reteach as needed.)	Fact Fluency/Daily Numeracy Hook (Post-Explore) Picture Vocabulary My Math Thoughts Math Today Life Connection	Fact Fluency/Daily Numeracy Interactive Notebook Math Story Problem-Based Task	Fact Fluency/Daily Numeracy Teacher Choice[3] Meets Level: • Connection Station • Spiraled Review Approaching Level: • Interactive Practice • Skills Quiz	Fact Fluency/Daily Numeracy Small Group Intervention (for students who need it) Observation Checklist Fluency Builder (Choose one.) (For students who do not need intervention)
Assessment and Closure	Allow students to share what they felt successful with and what they struggled with today.	Allow students to share what they felt successful with and what they struggled with today.	Assess how students perform on the Problem-Based Task.	Assess how students perform based on individual assessment chosen.	Show and Tell

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[3]Choose from the following elements. We have suggested activities for students, including recommended tasks for students at each skill level.

Small-Group Plan (Kindergarten–1st Grade)

3–5 Explores

Week 1 *Based on 90-minute class period	Day 1	Day 2	Day 3	Day 4	Day 5
Whole Group *20 Minutes	Daily Numeracy Accessing Prior Knowledge Foundation Builder[1] Hook (Pre-Explore) Introduce stations.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart Review any Explore or Show What You Know problems that gave students trouble.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart Review any Explore or Show What You Know problems that gave students trouble.
Small-Group Instruction *Small group/ Stations 70 Minutes	Pull small groups of students to do the Foundation Builder (if they need previous grade-level content). Begin Skill Basics/Explores[2]	Pull students to work with you on Skill Basics/Explore 1. Observation Checklist	Pull students to work with you on Skill Basics/Explore 2. Observation Checklist	Pull students to work with you on Skill Basics/Explore 3. Observation Checklist	None
Stations	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder (from previous scope)	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder (from previous scope)	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder (from previous scope)	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder (from previous scope)	1. Fact Fluency 2. Interactive Practice 3. Fluency Builder (from previous scope)
Assessment and Closure	Accessing Prior Knowledge to determine readiness Formative assessment based on APK and student performance to determine who needs to be pulled to small group.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[1]Use as intervention if APK shows foundational gaps.
[2]Set your pace according to the number of Explores included in this scope. Use Exit Tickets as well as Show What You Knows for each Explore completed.

Small-Group Plan (Kindergarten–1st Grade)

3–5 Explores

Week 2 *Based on 90-minute class period	Day 6	Day 7	Day 8	Day 9	Day 10
Whole Group *20 Minutes	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart Review any Explore or Show What You Know problems that gave students trouble.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Anchor Chart Review any Explore or Show What You Know problems that gave students trouble.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Add Picture Vocabulary words to word wall based on terms introduced in the lessons.	Daily Numeracy Allow students to share what they learned yesterday. Discuss what students worked on. Review any Explore or Show What You Know problems that gave students trouble.	Daily Numeracy Spiraled Review Observation Checklist
Small-Group Instruction *Small group/ Stations 70 Minutes	Pull students to work with you on Skill Basics/Explore 4. Observation Checklist	Pull students to work with you on Skill Basics/Explore 5. Observation Checklist	Hook (Post-Explore) Interactive Notebook	Small Group Intervention Observation Checklist	None
Stations	1. Life Connection 2. Spiraled Review 3. Show What You Know	1. My Math Thoughts 2. Spiraled Review 3. Show What You Know	1. Math Story 2. Spiraled Review 3. Show What You Know	1. Problem-Based Task 2. Skills Quiz	Have the following materials available for students who finish early. 1. Connection Station 2. Math Today 3. Spiraled Review
Assessment and Closure	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.	Administer the Exit Ticket to assess student learning after the Explore. Allow students to work on Show What You Know as independent practice after Explore.	Administer the Exit Tickets to assess student learning.	Students can be assessed by their performance on the Problem-Based Task.	Show and Tell

The essential elements are highlighted. If time is limited, teach these elements to fully cover the standards.
[1]Use as intervention if APK shows foundational gaps.
[2]Set your pace according to the number of Explores included in this scope. Use Exit Tickets as well as Show What You Knows for each Explore completed.

Addition and Subtraction Problem Solving

SAMPLE

Explore 1 - Represent and Solve All Problem Types Involving Two Whole Numbers

Prior to completing this Explore, have students complete **Skill Basics - Ways to Represent Addition and Subtraction** and **Skill Basics - Problem-Solving Model** so they can apply the skill to this concept.

Description

Students represent and solve addition and subtraction problems involving two whole numbers using models and number sentences.

Standards for Mathematical Practice

- **MP.1 Make sense of problems and persevere in solving them:** Students explain the meaning of a problem and look for ways to solve it. Students check their thinking by asking if the answer makes sense, and if not, they try other approaches.
- **MP.6 Attend to precision:** Students develop their communication skills by effectively explaining the reasoning and strategies used to solve problems.

Materials

Printed

1 Student Journal (per student)
1 Set of Circus Circuit Cards (per class)
1 Exit Ticket (per student)

Reusable

1 Container of two-color counters (per class)
1 Container of linking cubes (per class)
1 Container of bear counters (per class)

Preparation

- Plan to divide the class into pairs to complete this activity.
- Print the Circus Circuit Cards and hang in easy-to-access areas of your classroom. They should be close enough to the floor that students can read them while they sit on the floor in front of them and work.
- Prepare a manipulatives table with multiple items that students can access if needed. Items could include linking cubes, two-color counters, and bear counters. Make sure that each pair of students has access to 20 of at least one type of manipulative.
- Print the Student Journal and Exit Ticket for each student.

- **Go Digital!** Have students explore or present their solutions using virtual manipulatives! The manipulatives used in this lesson can be found in the Explore drop-down menu and can be digitally assigned to students.
- For students who need more support in recalling information, please see our Open Number Line,1–20 Number Chart, and Sharing Mat Supplemental Aids element in the Intervention section.

Procedure and Facilitation Points

1. Read the following scenario: *Come one, come all! The circus has come to town. The performers and animals are practicing their skills to get ready to perform. As I walk around and watch them preparing for the performance, I see many performers doing different things. I can use addition and subtraction to keep track of the tasks they are practicing. Can you help me model the different things each act is performing?*
2. Divide the class into pairs and direct students' attention to the manipulatives table. Discuss with students how and when they access the manipulatives.
3. Assign each pair to a scenario card and instruct students to read and discuss with their partner how they can solve the problem. They may use any strategy they would like to solve the problem including manipulatives, pictorial models, number lines, number paths, number bonds, or bar models.
4. Give each student a copy of the Student Journal and ask students to record their work. Instruct students to draw their chosen model and write the answer to the problem using a number sentence. They use their answer to help them find the next card to move to.
    a. Explain to students that the answer in the box at the bottom of each card is not the answer for that scenario. When students have completed the scenario card and have found the answer, they move around the room looking for the scenario card that has the answer they just found in the bottom right corner. This allows the students to check their work as they go. If the students cannot find their answer on any of the scenario cards, their answer must be incorrect.
    b. Encourage students to raise their hands for reading assistance if needed.
5. Monitor and talk with students as needed to check for understanding by using the following guiding questions:
    a. **DOK-2** What does your pictorial model show me? Answers will vary; for example, an elephant is playing with some yellow and green rings, so I drew 8 green circles and 12 yellow circles to represent the rings.

b. **DOK-1** What action was happening in this story? Answers will vary; for example, the elephant was playing with some rings. He had 8 green rings and 12 yellow rings. He had 20 rings in all.
c. **DOK-2** What strategy did you use to solve? Answers will vary; for example, I used a number line, began at 8, and hopped 12 hops. I landed on 20.
d. **DOK-3** Is there a different way you could solve this problem? Answers will vary; for example, yes, I could have started at 12 and then hopped 8 more. I would still have landed on 20.

6. Students have completed the entire circuit when their final answer leads them back to the scenario card where they started. Once students have completed the Student Journal, bring the class together as a whole group.
7. After the Explore, invite the class to a Math Chat to share their observations and learning.

Math Chat	
Questions	**Sample Student Responses**
DOK-3 What problem-solving strategy did you feel was the easiest for you to use when solving the problems today? Why?	Answers will vary but may include the following: I thought it was easiest to use the number path because I could use my finger to count up or down to find the solution.
DOK-3 Did you choose a different way of solving depending on the problem? Give me an example of two problems that you solved using two different strategies.	Answers will vary but may include the following: Yes, I used different strategies depending upon the problem. I used manipulatives on one that put groups together. I was able to use a number line when I wanted to count back.
DOK-3 Which problem(s) seemed difficult to solve? Why?	Answers will vary but may include the following: I had the most trouble when I had larger numbers (like in the high teens) and I had to take away because I am not as comfortable with bigger numbers yet.

DOK-3 How are number lines and number paths similar?	Answers will vary but may include the following: Number lines and number paths are similar because they both line up numbers in a row from least to greatest.
DOK-3 How are they different?	Answers will vary but may include the following: They are different because the number line is marked on a line and shows how far a number is from zero. A number path has numbers inside rectangles in a row.
DOK-3 Which do you prefer and why?	Answers will vary but may include the following: I prefer number paths because I can use my finger to count each number forward for addition or backward for subtraction. I don't lose my place as easily as I do with number lines.
DOK-3 Why do you think it is important for you to be able to use multiple strategies to solve problems?	Answers will vary but may include the following: Sometimes one strategy is easier to use on one type of problem, so it is smart to know how to use them all. Plus, I can use one type of strategy to solve a problem and another type of strategy to check it.

8. When students are done, have them complete the Exit Ticket to formatively assess their understanding of the concept.

Instructional Supports

1. Review how to complete an activity circuit so students know how to move from one card to the next.
2. Students may find it much easier to practice one strategy that works reliably first rather than to learn a few different ways of doing it right away.
3. If students are struggling to use the bar model, label the sections as "part," "part," and "whole" (or "total").
4. If students are struggling with creating the number line, provide students with a premade number line with benchmark numbers labeled.
5. Some students may still need concrete objects (at least at first) to represent the problem. Prompt them to move toward the abstract stage, but allow them to use manipulatives (such as linking cubes, two-color counters, or bear counters) if they still need conceptual support. Make it a goal to remove the manipulatives toward the end of the problems.
6. If a student is getting overwhelmed and confused with the process of how to complete the circuit around the room, consider providing the student his or her own copy of the Circuit Cards and allowing him or her to work in order starting with Scenario Card 1.

Language Acquisition Strategy

The following Language Acquisition Strategy is supported in this Explore activity. See the strategies below for ways to support a student's language development.

When reading silently and independently, students will increase their duration and ability to comprehend text.

Beginner: Model fluent, expressive reading while having students echo read each scenario card in small chunks to support later silent reading.

Intermediate: Support students with reading silently by prompting partners to read the scenario card aloud to each other once, and then again silently.

Advanced: Pair students, and have students alternate in reading a scenario card while the other partner explains the scenario in his or her own words.

Name: _____ Date: _____

Represent and Solve All Problem Types Involving Two Whole Numbers

Read the scenario card. Draw a model (picture, bar model, number line, number path, or number bond) and solve. Record your solution using a number sentence.

Card	Model	Solution
1		Number Sentence Answer ☐
2		Number Sentence Answer ☐
3		Number Sentence Answer ☐
4		Number Sentence Answer ☐

Explore

Addition and Subtraction Problem Solving
Explore 1

Card	Model	Answer
5		Number Sentence Answer
6		Number Sentence Answer
7		Number Sentence Answer
8		Number Sentence Answer

Explore

Represent and Solve All Problem Types Involving Two Whole Numbers - Circus Circuit

Scenario Card 1 – 11

Scenario Card 2 – 20

Scenario Card 3 – 14

Scenario Card 4 – 10

Scenario Card 5 – 9

Scenario Card 6 – 17

Scenario Card 7 – 8

Scenario Card 8 – 2

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 1

A seal balanced some beach balls on his nose. Then he put 2 more balls on his nose, so he had 13 balls on his nose. How many beach balls did the seal balance on his nose at the start?

17

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 2

The elephant was playing with 8 green rings and 12 yellow rings. How many rings was the elephant playing with?

11

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 3

Paul was training 19 lions. There were 5 lions standing up. The rest were lying down. How many lions were lying down?

2

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 4

There were 7 clowns riding in the car. Some more clowns got into the car. Then there were 17 clowns in the car. How many clowns got into the car?

20

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 5

The tiger jumped through 16 hoops. He knocked over some hoops, so only 7 hoops were still standing. How many hoops did the tiger knock over?

8

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 6

Some trapeze artists were performing. Then 5 of them fell into the net, and 12 of them were still performing. How many trapeze artists were there at the beginning?

14

Explore

Addition and Subtraction Problem Solving
Explore 1

Scenario Card 7

Freddy bought 3 tickets to the circus. His mom gave him some more tickets, and now Freddy has 11 tickets. How many tickets did Freddy's mom give him?

10

Explore

Scenario Card 8

It takes 20 steps to walk from one end of the tightrope to the other. The performer took 18 steps across the rope. How many more steps does she have to take to get to the end of the rope?

9

Name: _____ Date: _____

Represent and Solve All Problem Types Involving Two Whole Numbers Exit Ticket

Read each problem. Draw a model to solve.

1. Jamie bought 16 pieces of candy, and 9 were chocolate. How many pieces of candy were not chocolate?

Answer: _____

2. Jorgé had 10 lollipops. His brother gave him 4 more. How many lollipops does he have now?

Answer: _____

Math Chat

Math Chat
What problem-solving strategy did you feel was the easiest for you to use when solving the problems today? Why?
Did you choose a different way of solving depending on the problem? Give me an example of two problems that you solved using two different strategies.
Which problem(s) seemed difficult to solve? Why?
How are number lines and number paths similar?
How are they different?
Which do you prefer and why?
Why do you think it is important for you to be able to use multiple strategies to solve problems?

Math Chat

Math Chat
What problem-solving strategy did you feel was the easiest for you to use when solving the problems today? Why?
Did you choose a different way of solving depending on the problem? Give me an example of two problems that you solved using two different strategies.
Which problem(s) seemed difficult to solve? Why?
How are number lines and number paths similar?
How are they different?
Which do you prefer and why?
Why do you think it is important for you to be able to use multiple strategies to solve problems?

Question 1:

What problem-solving strategy did you feel was the easiest for you to use when solving the problems today? Why?

Math Chat

Question 2:

Did you choose a different way of solving depending on the problem? Give me an example of two problems that you solved using two different strategies.

Question 3:

Which problem(s) seemed difficult to solve? Why?

Math Chat

Question 4:

How are number lines and number paths similar?

Question 5:

How are they different?

Question 6:

Which do you prefer and why?

Question 7:

Why do you think it is important for you to be able to use multiple strategies to solve problems?

Addition and Subtraction Problem Solving SAMPLE

Fluency Builder - Go Fish

Description

Students work in small groups to play a Go Fish card game in which the goal is to match an addition or subtraction model or equation with the corresponding word problem.

Materials

Printed
1 Instruction Sheet (per group)
1 Set of Go Fish Cards (per group)
1 Student Recording Sheet (per student)

Reusable
1 Envelope or resealable bag (per group)

Preparation

- Print and cut enough sets of Go Fish Cards for students to share in small groups (no more than four students per group). When printing the cards, be sure to print them front to back so the game logo is on one side of each card. It is suggested that you laminate each set and place them in an envelope or resealable bag for long-term use.
- Print a Student Recording Sheet for every student.

Procedure and Facilitation Points

1. Demonstrate a few rounds of this game with a group of students.
    a. Each player is dealt five cards. Players place all other cards facedown in a pile.
    b. Moving clockwise, each player chooses one card from his or her hand and asks another player for a match. If someone asks a player for a card in his or her possession, the player must give it to him or her. If the player does not have that type of card, the opponent must “go fish” by taking a card from the facedown pile.
    c. Players put any matches they receive face up on the table in front of them. A card showing an addition or subtraction model or equation may be matched with a card that shows the corresponding word problem (or vice versa). Matching pairs also have matching fish images.
    d. The game continues until all hands are empty and there are no more cards to be drawn.
    e. Each pair of matching cards is worth one point. The winner is the player with the most points.
    f. Have students choose one match from the game to complete the Student Recording Sheet.
2. Distribute the materials.
3. Have students play the game.

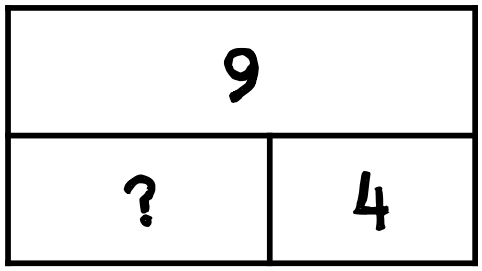
Fluency Builder

Go Fish Cards (Front of Page 1)

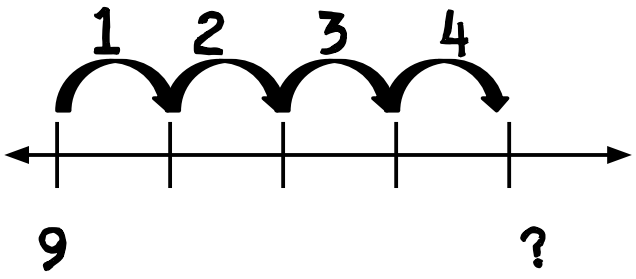
There are 20 monkeys at the zoo. 12 of them are playing with toys. How many are not playing with toys?

$20 - 12 = ?$

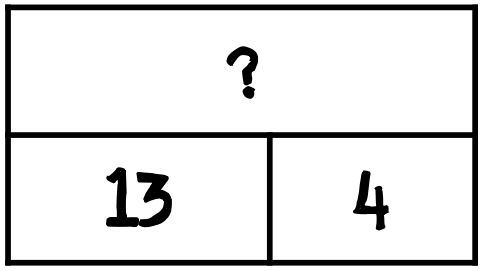
9 monkeys are napping in the grass. 4 monkeys wake up. How many monkeys are still napping?



The alligator swam 9 feet to catch its prey. Then it swam another 4 feet to get to the other side of the pond. How far did the alligator swim?



The aquarium at the zoo had 13 blue fish and 4 green fish. How many total fish were at the aquarium?



Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Back of Page 1)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

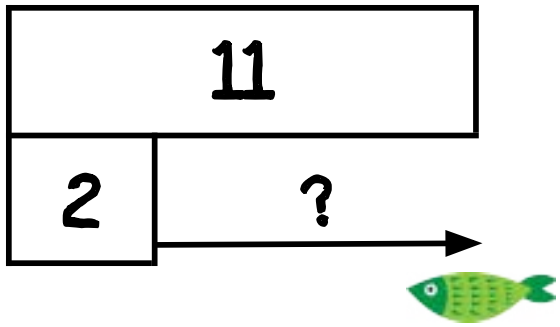
Go Fish!

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Front of Page 2)

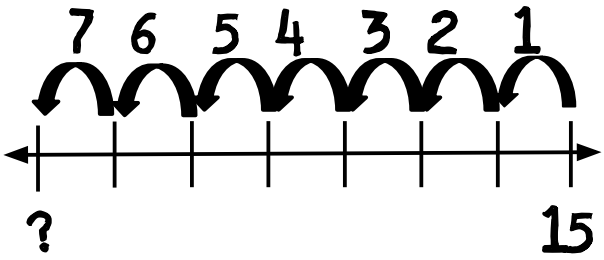
The adult blue tang fish is 11 inches long. The baby blue tang fish is 2 inches long. How much longer is the adult than the baby fish?



There were some hippos playing in the water. Then, 2 more hippos got in the water. Now there are 11 hippos. How many hippos were playing at the beginning?

$? + 2 = 11$

There were 15 tree frogs sitting on a branch. 7 frogs jumped off the branch. How many tree frogs were left sitting on the branch?



There are 7 white ducks and 3 brown ducks. How many ducks are there?

$7 + 3 = ?$

Fluency Builder

Go Fish Cards (Back of Page 2)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Front of Page 3)

The zoo has 14 adult elephants and some baby elephants. There are 18 elephants in all. How many baby elephants are at the zoo?

$14 + ? = 18$

There are 14 turtles in the pond. Four turtles are sitting on a log. The rest of the turtles are in the water. How many are in the water?

14	
4	?

The prairie dogs dug 6 holes in their pen. Then, they dug some more holes. Now they have 14 holes. How many more holes did they dig?

$6 + ? = 14$

The zookeeper fed the sea lions 7 fish and 8 squid. How many things did the zookeeper feed the sea lions?

?	
7	8

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Back of Page 3)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

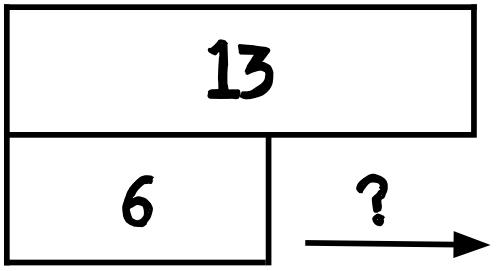
Fluency Builder

Go Fish Cards (Front of Page 4)

The zookeeper had 12 fish. He fed the seals some of the fish. He has 6 fish left. How many fish did he feed the seals?

$12 - ? = 6$

There are 13 people watching the snakes and 6 people watching the lizards at the zoo. How many more people are watching the snakes than the lizards?



Rob counted some red parrots and 8 yellow parrots. There are 11 total parrots. How many red parrots did Rob count?

$? + 8 = 11$

Connie bought 13 bags of chips and 6 hot dogs for her friends. How many items did Connie buy?

$13 + 6 = ?$

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Back of Page 4)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

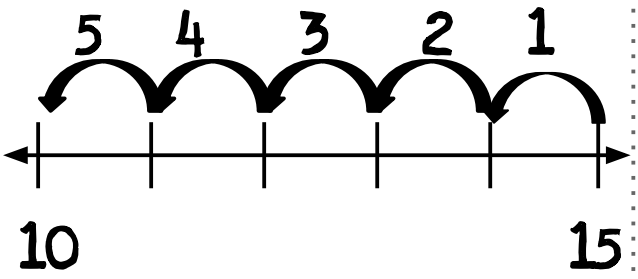
Go Fish!

Addition and Subtraction Problem Solving

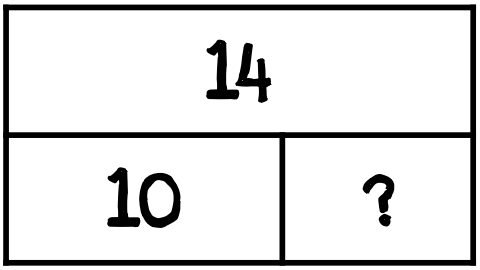
Fluency Builder

Go Fish Cards (Front of Page 5)

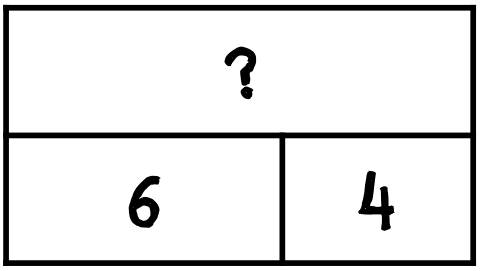
15 students are sitting on the bus. Some are sleeping, and 10 are reading a book. How many students are sleeping?



The bus driver drove 10 miles to the school, and then more miles to the zoo. The bus driver drove 14 total miles. How many miles did the bus driver drive to the zoo?



Maria bought 6 hot dogs and 4 hamburgers for her family at the zoo. How many items did Maria buy?



There were 12 people watching the elephants at the zoo. Then, 8 people went to see the lions. How many people were left watching the elephants?

12 - 8 = ?

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Back of Page 5)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

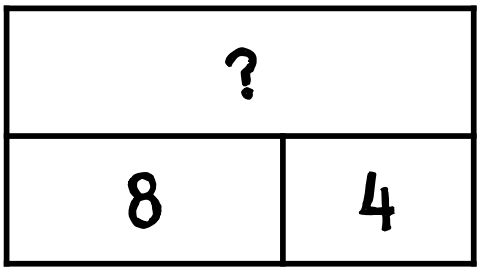
Go Fish!

Addition and Subtraction Problem Solving

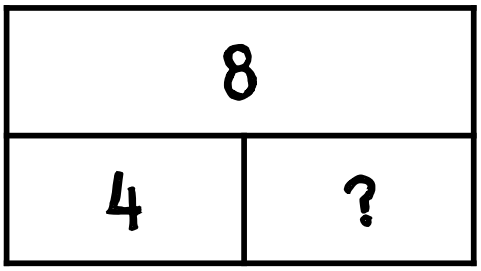
Fluency Builder

Go Fish Cards (Front of Page 6)

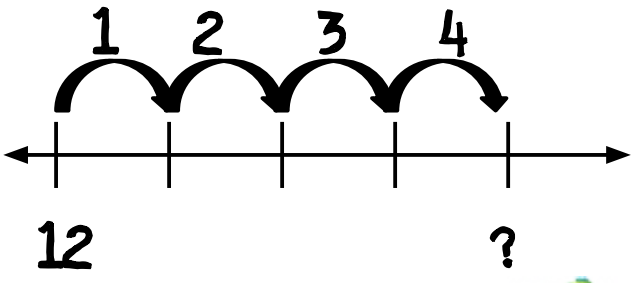
There were 8 snakes in the reptile house. The zoo got 4 more snakes. How many snakes are now in the reptile house?



The lion exhibit has 8 lions. 4 of the lions are sleeping, and the rest are awake. How many lions are awake?



The zookeeper gave the monkeys 12 bananas and 4 apples. How many pieces of fruit did the zookeeper give the monkeys?



There are 12 zebras in the zebra enclosure. 10 zebras are standing, and some are lying down. How many zebras are lying down?

$$12 - 10 = ?$$

Addition and Subtraction Problem Solving

Fluency Builder

Go Fish Cards (Back of Page 6)

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

Go Fish!

Addition and Subtraction Problem Solving

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Addition and Subtraction Problem Solving

Go Fish!

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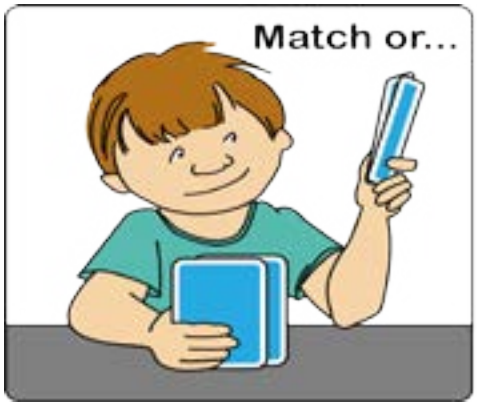
Fluency Builder

Go Fish!



Fluency Builder

Name: _____ Date: _____

Go Fish!

Student Recording Sheet

1. Choose a match.

2. **Draw a model of the problem.**	
3. **Write a number sentence and solve.**	_____ ☐ _____ = ◯

Addition and Subtraction Problem Solving

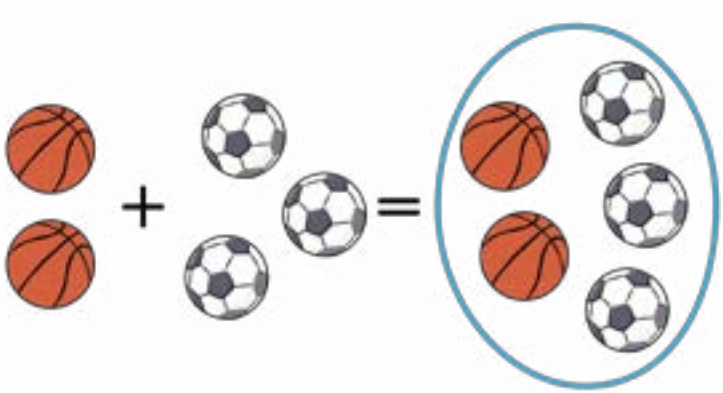
Picture Vocabulary

1

Compare

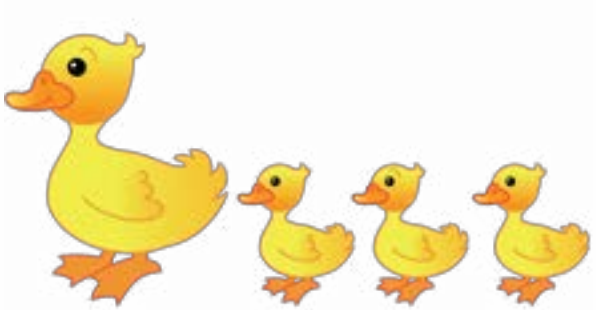
2

Sum



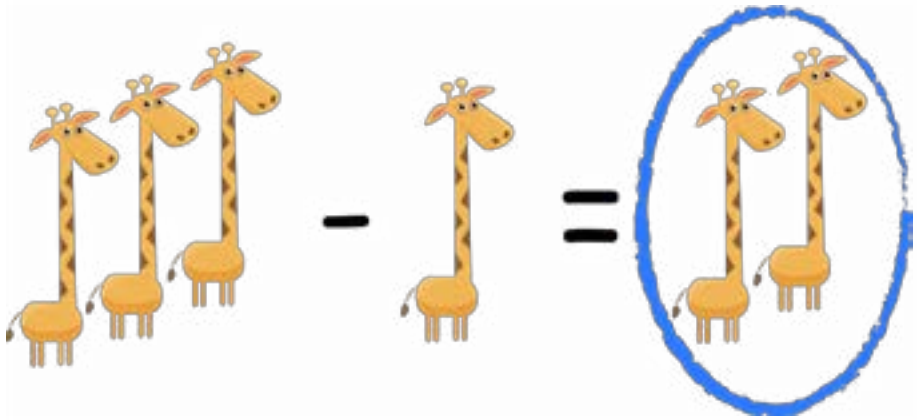
3

Total



4

Difference



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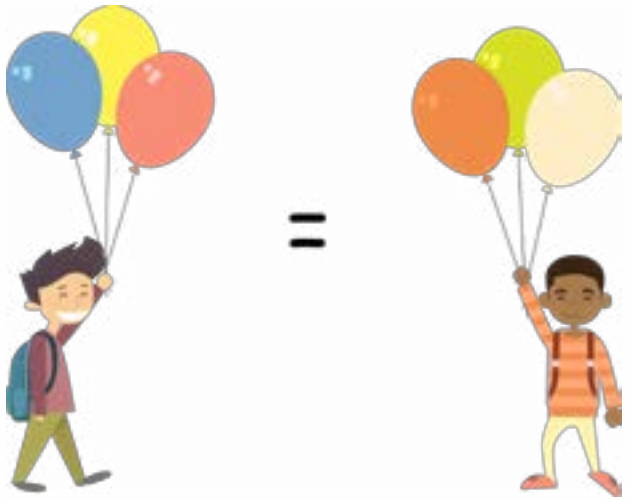
Equal



6

Equation

4 + 2 = 6

7

Missing Addend

5 + ? = 10

8

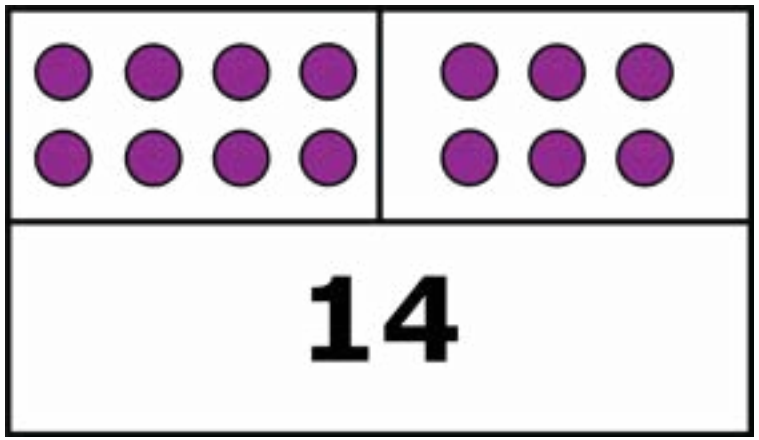
Number Line

9

Open Number Line

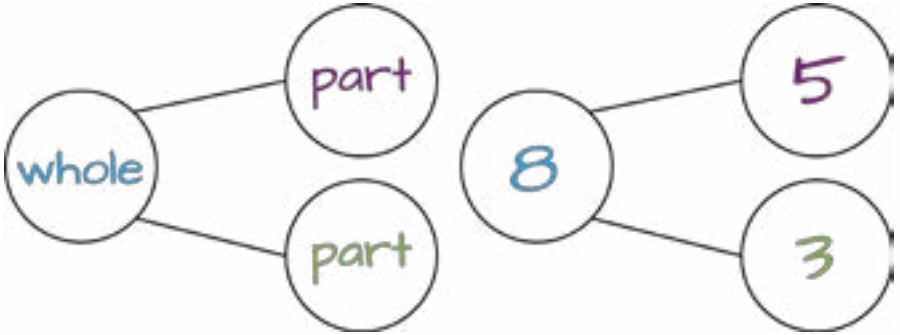
10

Part-Part-Whole Model



11

Number Bond



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WHAT IS DAILY NUMERACY?

The goal of Daily Numeracy is to empower students to reason with numbers in an accurate, efficient, and flexible way. We have included a carefully crafted, purposeful activity sample designed to help students build their thinking and reasoning around relationships and connections. Each grade level has numerous Daily Numeracy activities.

Not Like the Others Activity

DESCRIPTION

Students describe the characteristics of an object in a set of 4 and discuss how it is different from the others.

MATERIALS

PRINTED

- 1 Slideshow (per class)

REUSABLE

- 1 Projector or document camera (per class)

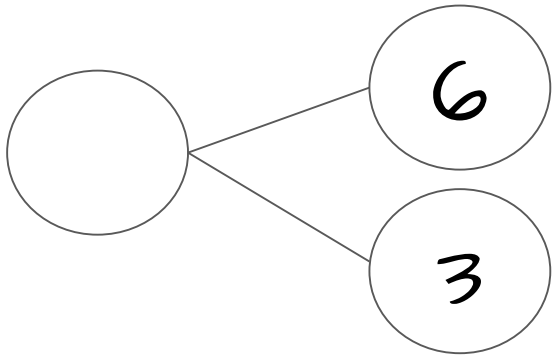
PREPARATION

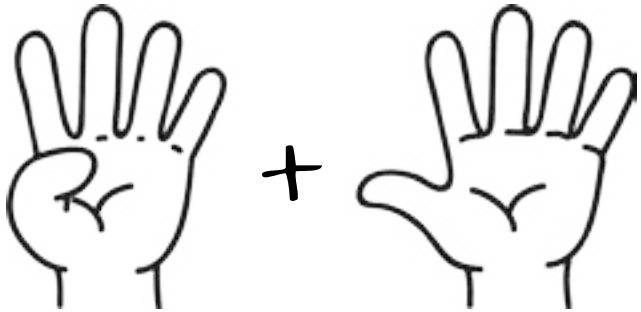
- Prepare to project the Slideshow prompt of the day for the class.

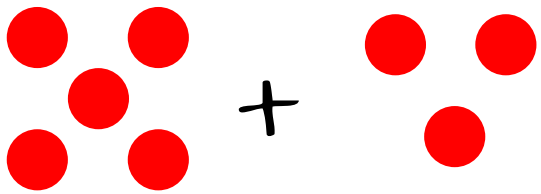
PROCEDURE AND FACILITATION POINTS

1. Gather students together and project the Slideshow prompt of the day. Students should not have anything with them for this activity.
2. Give students a minute of silent think time as they look at the pictures on the prompt. Ask students relevant guiding questions:
   a. What do you notice?
   b. Which one is not like the others?
   c. What characteristic makes it different?
   d. How are these objects similar?
   e. Do you see another object that is not like the others?
3. Listen to multiple student responses. Accept any answer with accurate reasoning.
4. As students discuss which one is not like the others, ask the class if they agree or disagree. Provide the following sentence stems for their responses:
   a. I agree because …
   b. I disagree because …
   c. Can you explain why you …?

Daily Numeracy







5 and 2 and 2

WHAT IS FACT FLUENCY?

In order for students to be successful as they progress into upper grades, they need to have a solid understanding of the concepts of addition and subtraction, and they also need to be fluent in the thinking strategies necessary for solving such facts. As you use the STEMscopes Math program, you will come to see how your students are starting to rely on their thinking skills and strategies as opposed to their fingers or skip-counting methods. Each grade level has numerous Fact Fluency activities.

Plus 2 Mini-Lesson

DESCRIPTION

Students spin an addend to add 2 to find the sum within 20.

MATERIALS

PRINTED

- 1 Double Ten Frame (per partnership)
- 1 Set of Numeral Cards (per partnership)

REUSABLE

- 20 Two-colored counters or linking cubes (per partnership)
- 1 Resealable bag (per partnership)

PREPARATION

- Assign students to work with partners to complete this activity.
- Gather 20 two-colored counters or linking cubes, and place them in a resealable bag for each pair of students.
- Print the Double Ten Frame for each pair of students.
- Print and cut the set of Numeral Cards for each pair of students.

PROCEDURE AND FACILITATION POINTS

1. Model for students how to play "Plus 2."
2. Turn over the top numeral card, and place that number of counters on the double ten frame to model the number. Say the number and count on 2 while adding those counters to the double ten frame. For example, if the rule is +2 and you turn over a 12, say, "Twelve, fourteen, sixteen" while you place down the counters.
3. Ask the following discussion questions:
   a. What numeral is this? Answers vary from 0–18.
   b. What is our rule? +2.
   c. What is the sum of these 2 numbers? Answers vary between 0 to 20.
   d. What strategy can we use to add 2 more? We can say the numeral and then count on two more.
   e. How do we say the whole number sentence? Answers will vary. "Six plus 2 equals eight."
   f. What is 6 plus 2? Eight
   g. How do you know? I said 6 and counted up 2. I looked at the number line for 6 and then counted two more. I counted 6 counters and then added 2 more.
   h. What do you notice about the sum and the number you began with when adding 2 more? Answers will vary. The sum is greater than the number we began with.
4. Say: "Now it is time for you to play 'Plus 2'. You may use the counters and place them on the double ten frame to help you find the sum."
5. Distribute counters, double ten frames, and numeral cards to each pair of students.

6. Teach students how to play:
   a. Find the cards that say +2, and place these in one stack facedown. These are the rule cards. Place all the other numeral cards in another stack facedown.
   b. Turn over a +__ rule card to keep face up for Round 1. Then, Player 1 will turn over the top numeral card and model it on the double ten frame with the counters. Player 1 will add 0, 1, or 2, based on the rule card for Round 1.
   c. Continue to take turns until they have used all the cards in the stack.
   d. Mix up the numeral cards and place them facedown again for Round 2.
   e. Students turn over the next +__ rule card and repeat steps a–e for Round 2 and for Round 3.
7. As students are playing the game, circulate around the room and remind students to say the numeral they turned over and then to count on. Also, remind students to say the number sentence as they play.
8. Ask the following discussion questions:
   a. What strategy do you use when you add 1 to a number? I say the greater number and count up 1 more.
   b. What strategy do you use when you add 2 to a number? I say the number and count up 2 more.
   c. What happens to the number when the rule is +0? The number stays the same.
9. After completing this mini-lesson, have students move on to the station activities and fact fluency games.

Fact Fluency

Plus 2 Round

Players: 2

Materials

- ★ Two-colored counters (15 per player)
- ★ 1 +2 Game Board
- ★ 1 +2 Spinner

Directions

1. Player 1 spins the +2 Spinner and does the following:
   a. adds 2 to the number,
   b. identifies the strategy, and
   c. covers the sum with a counter.
2. Player 2 takes his or her turn, repeating Step 1.
3. Play continues until one player has placed four adjacent counters horizontally, diagonally, vertically, or in a square.
4. If the sum is already covered, the player loses his or her turn.

Fact Fluency

Fact Fluency: Plus 0, 1, 2
Game 1

Plus 2 Game Board A

10	18	16	12	2
8	13	5	1	15
17	16	18	4	6
6	9	8	11	7
12	0	14	3	4
6	15	10	10	17

Fact Fluency

Plus 2 Game Board B

0	8	10	16	10
14	4	18	2	13
15	14	3	5	2
17	12	7	6	8
6	9	1	4	16
4	15	2	5	11

Fact Fluency

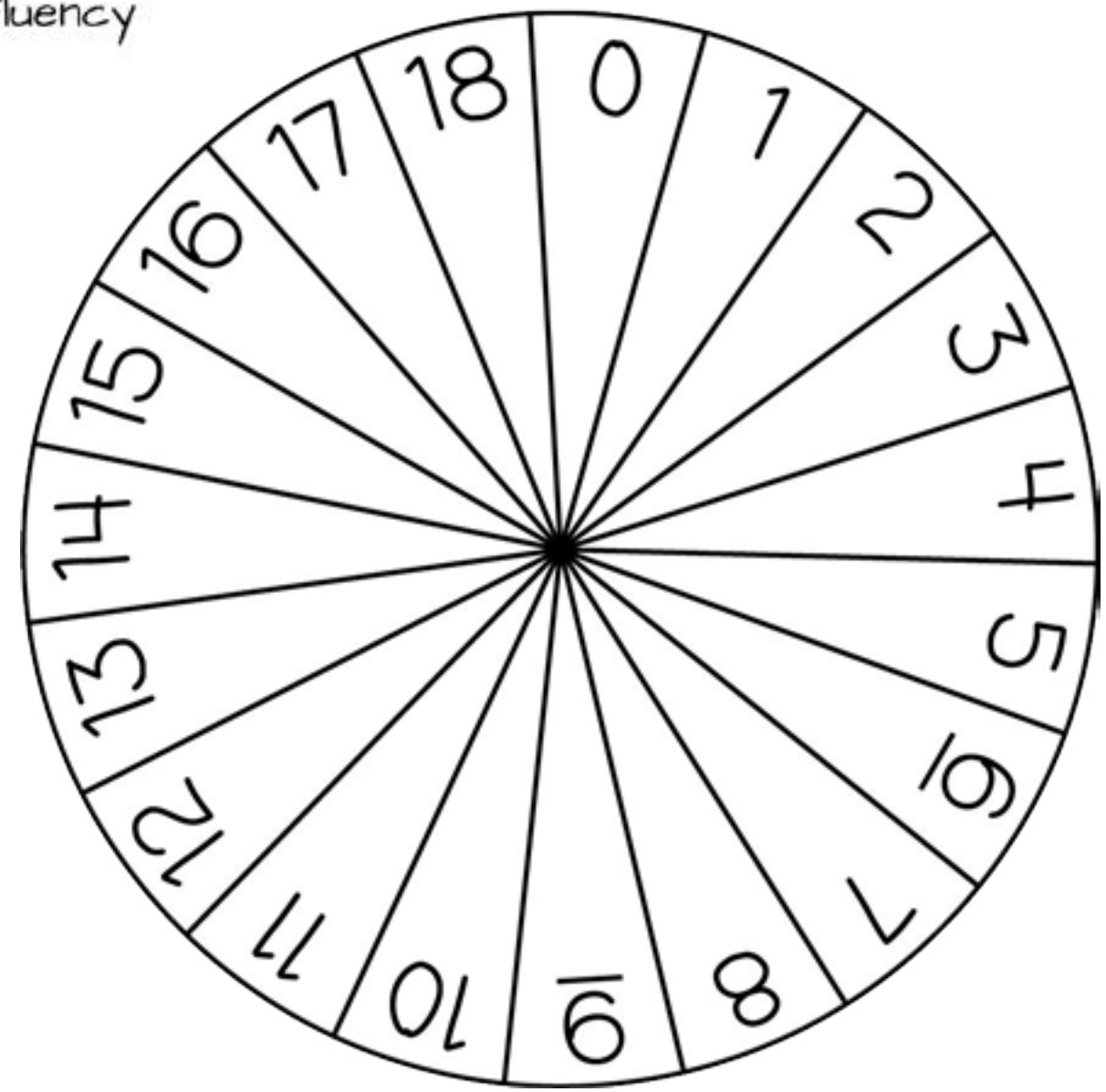
Fact Fluency: Plus 0, 1, 2
Game 1

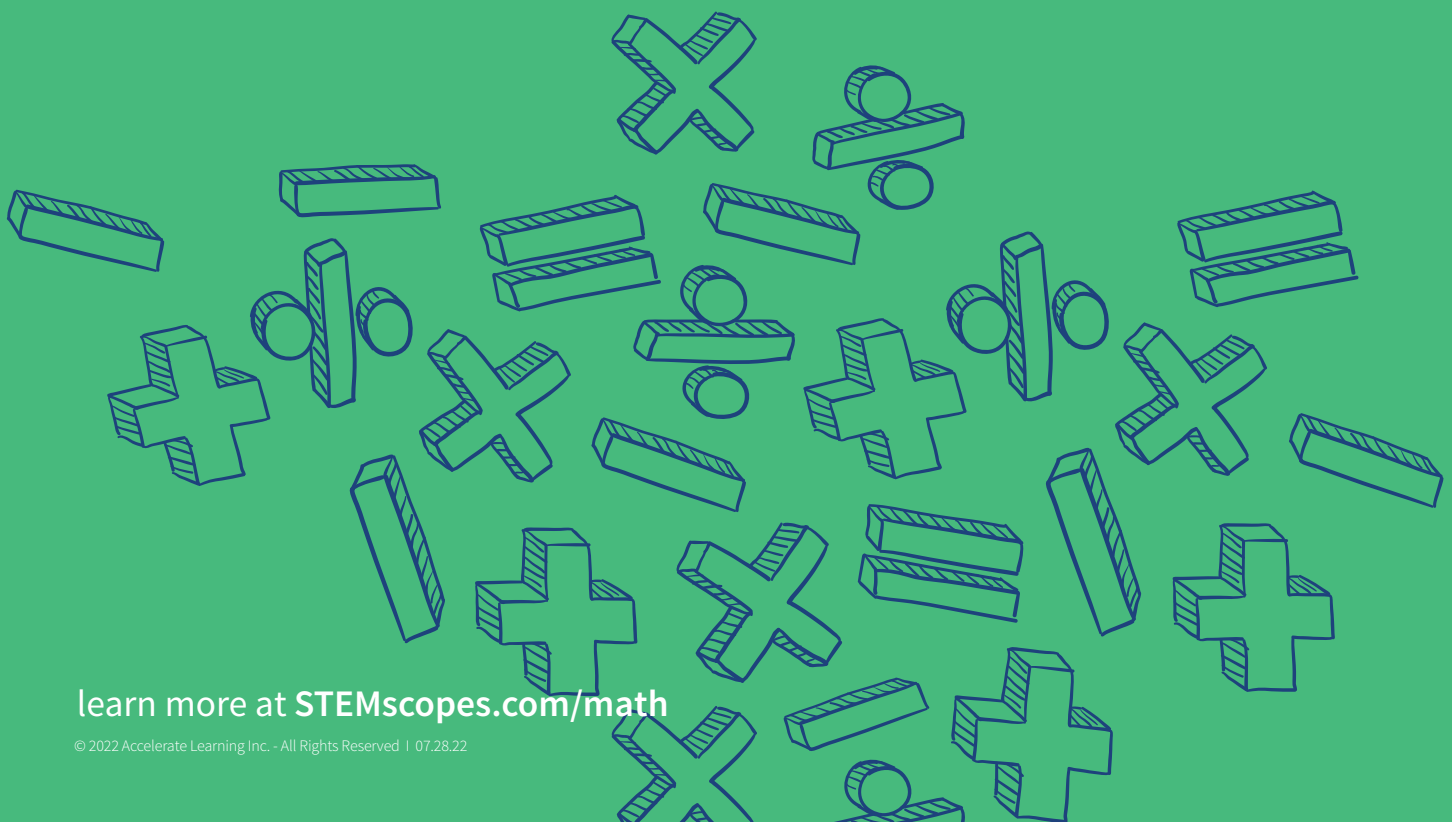
PLUS 2 GAME BOARD C

4	14	18	6	4
15	10	11	2	13
2	16	0	8	1
4	12	15	18	10
10	3	7	6	16
5	17	9	12	4

Fact Fluency

PLUS 2





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