

SECOND EDITION

TEACHERS GUIDE
JANUARY



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Number Corner January

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The Ninth Decade Day 30

January Sample Display

Of the items shown below, some are ready-made and included in your kit; you'll prepare others from classroom materials and the included teacher masters. Refer to the Preparation section in each workout for details about preparing the items shown. The display layout shown fits on a 10' x 4' bulletin board or on two 6' x 4' bulletin boards. Other configurations can be used according to classroom needs.



Calendar Grid
 January 2014
 Sunday Monday Tuesday Wednesday Thursday Friday Saturday
 6 - □ = 1 0 + □ = 2 3 = 2 + □
 1 2 3

Calendar Grid Observations
 Date Equation Number Tree Story Problem Solution
 1-1 6 - □ = 1 6 2 got 6 books. He shared some. How many books left? 5 books
 1-2 0 + □ = 2 0 2 had 0 cats. She got some. Now she has 2 cats. How many did she get? 2 cats
 1-3 3 + 2 = □ 3 K wants \$3 for a toy. He has \$2. How many more do she need? 1 dollar

NUMBER CORNER
 Days in School
 How Many Days in School?
 72 seventy-two
 7 tens and 2 ones
 70 + 2 = 72
 70 + 20 + 0 + 0 + 0 + 0 + 2
 90 + 50 + 2 = 142

Dimes & Pennies
 Month Day Year
 1 3 14
 Jan. 3, 20 14

Dimes & Pennies Data Collection Graph
 Dimes
 Pennies

Classroom Number Line
 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79

Calendar Grid Pocket Chart
 Remember to consult a calendar for the starting day of the month and year.

Calendar Grid Observations Chart
 You might use laminated 24" x 36" chart paper.

Classroom Number Line
 As you accumulate strips, you may need to move them to another location in the classroom. If possible, keep the number line where students can interact with it.

Number Line Pocket Chart
 Extra red and blue cards can be kept in a zip-top bag pinned to the board.

Date Chart, Days in School Chart, & Days in School Graph

Word Resource Cards
 You'll post these during Calendar Collector Activity 2.

Data Collection Graph & Calendar Collector Pocket Chart
 January's data collection display is similar to those you posted in September and October.

January Daily Planner

Day	Date	Calendar Grid	Calendar Collector	Days in School	Computational Fluency	Number Line	Assessment
1		Activity 1 Introducing the January Calendar Markers (p. 7)	Activity 1 Collecting Dimes & Pennies (p. 15)	Update			
2		Activity 2 Introducing the Calendar Grid Observations Chart (p. 10)	Update	Update		Activity 1 Counting by Fives on the Number Line (p. 33)	
3		Update	Update	Activity 1 Discussing the Days in School Hundreds Grid (p. 21)		Activity 2 Counting Forward & Backward, Part 1 (p. 34)	
4		Update	Update	Update	Activity 1 Seeing Doubles Plus or Minus One (p. 26)	Activity 2 Counting Forward & Backward, Part 1 (p. 34)	
5		Activity 3 Telling Math Stories & Writing Equations (p. 11)	Activity 2 Looking at the Weekly Collection Total (p. 15)	Update			
6		Activity 3 Telling Math Stories & Writing Equations (p. 11)	Update	Activity 2 Writing Equations for the Days in School (p. 22)			
7		Update	Update	Update	Activity 2 The Match Game (p. 28)	Activity 3 Playing Guess My Number (p. 37)	
8		Update	Update	Activity 3 Finding Parts & Totals on the Hundreds Grid (p. 24)			
9		Activity 3 Telling Math Stories & Writing Equations (p. 11)	Update	Update			
10		Update	Activity 2 Looking at the Weekly Collection Total (p. 15)	Update		Activity 4 Celebrating Decade Day, Part 1 (p. 39)	
11		Update	Update	Activity 2 Writing Equations for the Days in School (p. 22)		Activity 2 Counting Forward & Backward, Part 2 (p. 35)	
12		Activity 3 Telling Math Stories & Writing Equations (p. 11)	Update	Activity 1 Discussing the Days in School Hundreds Grid (p. 21)			
13		Update	Update	Update	Activity 3 Completing the Doubles & More Page (p. 29)		
14		Update	Update	Activity 1 Discussing the Days in School Hundreds Grid (p. 21)		Activity 2 Counting Forward & Backward, Part 2 (p. 35)	
15		Activity 3 Telling Math Stories & Writing Equations (p. 11)	Activity 2 Looking at the Weekly Collection Total (p. 15)	Update			
16		Activity 4 Writing & Recording a Math Story Problem (p. 12)	Activity 3 Ordering the Three Collections (p. 16)	Update			
17		Update		Update			Number Corner Checkup 2, Part 1 (p. 42)
18		Update		Update			Number Corner Checkup 2, Part 2 (p. 43)
19		Update	Activity 4 Estimating & Counting the Month's Total Collection (p. 17)	Activity 2 Writing Equations for the Days in School (p. 22)			
20		Update		Update		Activity 4 Celebrating Decade Day, Part 2 (p. 40)	
		Activity 5 Predicting the Next Calendar Grid Equation (optional, p. 12)					

Note On days when the Calendar Grid, Calendar Collector, and Days in School are not featured in an activity, the class will update them together. Update procedures are described at the beginning of each workout write-up.

Calendar Grid – Share predictions about and post the day's marker, say and write the date, solve the equation or story problem, and update the Calendar Grid Observations Chart.

Calendar Collector – Spin for coins, add them to the week's collection, and color in the bar graph.

Days in School – Make an X on the grid, then count and record the number of days.

Number Corner

January

Overview

The new year begins, and students find familiar routines infused with fresh elements. Calendar Grid markers feature single equations and story problems with missing addends, minuends, or subtrahends, and students tell math stories to match the equations and use various strategies to solve for the unknown parts. They return to collecting coins in Calendar Collector and record their collection on a bar graph. They also learn to use known facts to solve related facts of 1 more or 1 less. Finally, they meet a favorite frog's little sister and join her in skipping across the number line by 5s as they come within a decade of reaching the 100th day of school.

Activities

Workouts	Day	Activities	D	G	SB
Calendar Grid Equations with Unknowns January's calendar markers each feature an equation or story problem with a missing addend, minuend, or subtrahend. Students place the known numbers into a number tree to help them recognize the missing part. As the month unfolds, they discover patterns in the sequence as they discuss the equations, tell math stories, and use a variety of efficient and flexible strategies.	1	1 Introducing the January Calendar Markers	●		
	2	2 Introducing the Calendar Grid Observations Chart	●		
	5, 6, 9, 12, 15	3 Telling Math Stories & Writing Equations	●		
	16	4 Writing & Recording a Math Story Problem			●
		5 Predicting the Next Calendar Grid Marker Equation (optional)	●		
Calendar Collector Tens & Ones with Dimes & Pennies Students return to collecting coins, with the Pennies & Dimes Spinner determining the daily coins and a two-column horizontal bar graph to represent the collection. At the end of the first three weeks, they count the coins and find the total amount of money collected. During the fourth week, they compare and order the three collections and count the month's money total.	1	1 Collecting Dimes & Pennies	●		
	5, 10, 15	2 Looking at the Weekly Collection Total	●		
	16	3 Ordering the Three Collections	●		
	19	4 Estimating & Counting the Month's Total Collection	●		
Days in School Close to One Hundred This month's workout emphasizes composing and decomposing 100 and seeing the hundreds grid as a whole. Students write their own equations for the number of days they have been in school. The teacher continues to challenge them to solve a missing addend problem and guides them to find two parts of the hundreds grid, the number of days they have been in school and the number of days until the 100th day.	3, 12, 14	1 Discussing the Days in School Hundreds Grid	●		
	6, 11, 19	2 Writing Equations for the Days in School	●		
	8	3 Finding Parts & Totals on the Hundreds Grid Page			●
Computational Fluency Doubles Plus or Minus One Facts Students review Doubles facts and are introduced to Doubles Plus and Minus One facts. They use the doubles finger patterns and ten-frame cards to work from familiar facts such as $4 + 4$ to closely related facts such as $4 + 3$ and $4 + 5$. They write their own equations as well as match equations to ten-frames showing doubles and doubles plus or minus 1.	4	1 Seeing Doubles & Doubles Plus or Minus One Facts	●		
	7	2 The Match Game		●	
	13	3 Completing the Doubles & More Page			●
Number Line The Seventies & Eighties For the new calendar year, students meet Polli, Tad's little sister, and join her in skip-counting along the Classroom Number Line by 5s. They also play a new game, Roll & Count, to practice forward and backward number sequences within the seventies and eighties number families. At the end of the month they celebrate the ninth Decade Day in great anticipation of the 100th day of school, now only one decade away.	2	1 Counting by Fives on the Number Line	●		
	3, 4, 11, 14	2 Counting Forward & Backward	●		
	7	3 Playing Guess My Number		●	
	10, 20	4 Celebrating Decade Day	●	●	●
Assessment Number Corner Checkup 2 Number Corner Checkup 2 is designed to help teachers ascertain students' current strategies for adding and subtracting within 20, solving story problems, and reading, writing, and comparing numbers to 120.	17	Number Corner Checkup 2, Part 1 Introducing the Interview	●		
	18	Number Corner Checkup 2, Part 2 Completing the Written Assessment			

D – Discussion, G – Game, SB – Number Corner Student Book

Teaching Tips

January through March is often core teaching time. There are fewer interruptions than in previous months, and classroom routines are running smoothly. Be sure to review classroom procedures after winter vacation. Active participation is just as important as ever to keep students focused on learning. First graders who make frequent responses during a lesson are more likely to remember what they are learning. Choral counting, hand motions, signaled responses, and sharing with a partner continue to be prevalent in Number Corner routines. First graders are able to do more writing on their own by this time of year, so incorporate whiteboard responses often during Number Corner.

Target Skills

The table below shows the major skills and concepts addressed this month. It is meant to provide a quick snapshot of the expectations for students' learning during this month of Number Corner.

Major Skills/Concepts Addressed	CG	CC	DS	CF	NL
1.OA.1 Solve addition and subtraction story problems with sums and minuends to 20 involving situations of adding to, putting together, taking from, taking apart, and comparing, with unknowns in all positions	●				
1.OA.5 Solve addition problems by counting on and subtraction problems by counting back				●	●
1.OA.6 Add fluently with sums to 10				●	
1.OA.7 Demonstrate an understanding that the equal sign indicates equivalence	●		●		
1.OA.8 Solve for the unknown in an addition or subtraction equation involving 3 whole numbers	●				
1.OA.6 Add and subtract within 20	●	●	●	●	
1.NBT.1 Count to 120, starting at any number less than 120, including 0 or 1			●		●
1.NBT.1 Read and write numerals within 120	●		●		●
Supports 1.NBT Group and count objects by 5s and 10s		●			
1.NBT.2a Demonstrate an understanding that 10 can be thought of as a bundle or group of 10 ones, called a ten			●		●
1.NBT.2c Demonstrate an understanding that multiples of 10 from 10 to 90 refer to some number of tens and 0 ones		●	●		●
1.MD.4 Organize, represent, and interpret data with up to 3 categories, and answer questions about the data points		●			
Supports 1.MD Determine the value of a collection of coins totaling less than \$1.00		●			
1.MP.4 Model with mathematics	●		●	●	
1.MP.6 Attend to precision		●			
1.MP.7 Look for and make use of structure		●	●	●	●

CG – Calendar Grid, CC – Calendar Collector, DS – Days in School, CF – Computational Fluency, NL – Number Line

Assessments


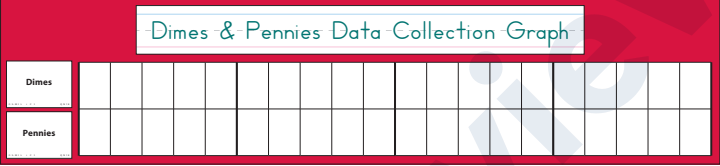
This month, you will administer the second Number Corner Checkup in two parts: a short interview that will be conducted with individual students over a period of about three weeks and a brief written assessment that students will complete with your guidance at the end of the month. The table below lists the skills assessed in each part of the assessment.

Number Corner Checkup 2 provides a snapshot of individual students' current skills in areas that have been emphasized over the past several months—addition and subtraction strategies for facts to 20, story problems, and reading, writing, and comparing numbers to 120. If you want to gauge students' growth and progress over time with regard to the entire collection of Common Core State Standards, you can use the optional Comprehensive Growth Assessment, located in the Grade 1 Assessment Guide.

Skills/Concepts Assessed in Number Corner Checkup 2	Interview	Written
1.OA.1 Solve subtraction story problems with minuends to 20 involving situations of taking from, taking apart, and comparing, with unknowns in all positions		●
1.OA.3 Apply the commutative and associative properties of addition to add	●	
1.OA.4 Solve subtraction problems by finding an unknown addend	●	
1.OA.5 Solve addition problems by counting on	●	
1.OA.5 Solve subtraction problems by counting back	●	
1.OA.6 Use strategies to add and subtract with sums and minuends to 20	●	
1.OA.8 Solve for the unknown in a subtraction equation involving 3 whole numbers	●	●
1.NBT.1 Count to 120, starting with any number less than 120, including 0 or 1		●
1.NBT.1 Read and write numerals to 120		●
1.NBT.1 Represent a number of objects with a written numeral up to 120		●
1.NBT.2 Demonstrate an understanding that the digits in a 2-digit number represent amounts of tens and ones		●
1.NBT.3 Use $>$, $=$, and $<$ symbols to record comparisons of two 2-digit numbers		●

Materials for Month

Each workout includes a list of required materials by activity. You can use the table below to prepare materials ahead of time for the entire month.

Task		Done
Copying	Run copies of Teacher Masters T1–T3 according to the instructions at the top of each master.	
	Run a single display copy of Number Corner Student Book pages 25 and 27–28.	
	If students do not have their own Number Corner Student Books, run a class set of pages 24–30.	
	Enlarge copies of the Dime and Penny Poem Teacher Masters to 11" × 17", or handwrite on chart paper.	
Charts	<p>Redraw columns and headings to update the Calendar Grid Observations Chart according to instructions in the Calendar Grid workout.</p> 	
	Use the Calendar Collector pocket chart and Calendar Collector Display Cards to set up the month's collection display.	
	<p>Prepare a Dimes & Pennies Data Collection Graph according to preparation instructions in the Calendar Collector workout.</p> 	
Special Tasks	Place a dotted die 1–6 and a more/less die in a small plastic food storage box with a clear lid.	

January Calendar Grid

Equations with Unknowns

Overview

January's calendar markers each feature an equation or story problem with a missing addend, minuend, or subtrahend. Students place the known numbers into a number tree to help them recognize the missing part. As the month unfolds, they discover patterns in the sequence as they discuss the equations, tell math stories, and use a variety of efficient and flexible strategies.

Skills & Concepts

- Use addition and subtraction within 20 to solve story problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (1.OA.1)
- Add and subtract within 20 (1.OA.6)
- Demonstrate an understanding that the equal sign indicates equivalence (1.OA.7)
- Solve for the unknown in an addition or subtraction equation involving 3 whole numbers (1.OA.8)
- Recognize and describe number patterns (supports 1.OA)
- Read numerals within 120 (1.NBT.1)
- Make sense of problems and persevere in solving them (1.MP.1)
- Model with mathematics (1.MP.4)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Introducing the January Calendar Markers	1		<ul style="list-style-type: none"> • Used in all January Calendar Grid activities: <ul style="list-style-type: none"> » Calendar Grid pocket chart » Number Puzzles Calendar Markers » Date Chart » Magic Wall (optional) » magnetic tiles (optional) 	
Activity 2 Introducing the Calendar Grid Observations Chart	2			<ul style="list-style-type: none"> • Calendar Grid Observations Chart used in previous months (see Preparation)
Activity 3 Telling Math Stories & Writing Equations	5, 6, 9, 12, 15		<ul style="list-style-type: none"> • Numbers to Twenty Counting Mats (class set) 	<ul style="list-style-type: none"> • Unifix cubes in single-color stacks of 10 (2 per student, plus a few extra) • student whiteboards, markers, and erasers (class set)
Activity 4 Writing & Recording a Math Story Problem	16	NCSB 24 My Math Thinking		
Activity 5 (optional) Predicting the Next Calendar Grid Marker Equation				<ul style="list-style-type: none"> • 3" × 5" index cards (optional)

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

date
day
difference*
equal*
equation*
month
number tree
part
sum or total*
year

Preparation

Calendar Grid Observations Chart

Erase the Calendar Grid Observation Chart from December. Redraw the lines to create five columns. Label the columns at the top of the first sheet as shown for use with this month's markers.

Calendar Grid Observations				
Date	Equation	Number Tree	Story Problem	Solution

Mathematical Background

The equal sign is likely the most misunderstood math symbol in elementary school. Instead of seeing it as a symbol that represents equality between two sets, many students view it as meaning "the answer is" or a command to do something. This month's Calendar Grid markers are designed to help students understand the concept of equivalency by inviting them to find the missing addend, minuend, or subtrahend on one side or the other of the equal sign. When they find the total or difference at the beginning of an equation instead of always at the end, students learn to think about this symbol more accurately. Teachers can also help students understand the equal sign by alternating the phrase "the same as" with the term "equal" when reading equations. By making a conscientious effort to present the equal sign as the symbol of equivalency, teachers can help students overcome this common misconception.

Key Questions

Here are some questions to use throughout the month with the Number Puzzle markers:

- What predictions can you make about the marker for today?
- What do you notice about the marker, now that it is posted?
- How can you solve today's problem?
- What tools can you use to solve today's problem (for instance, number line, Unifix cubes, draw a picture)?
- Will today's marker have an addition or a subtraction sign? How do you know?
- Will you see an equation or a story problem on today's marker? How do you know?

January 2014						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			6 - <input type="text"/> = 1 1	0 + <input type="text"/> = 2 2	3 = 2 + <input type="text"/> 3	The kids had 7 balls. They lost some. Now they only have 4 balls. How many balls did they lose? 4
<input type="text"/> - 2 = 5 5	<input type="text"/> + 3 = 6 6	7 = <input type="text"/> + 2 7	Maria had some pennies. Then she got 3 more. Now she has 8 pennies. How many did she start with? 8	14 - <input type="text"/> = 9 9	0 + <input type="text"/> = 10 10	11 = 5 + <input type="text"/> 11
There were 16 kids in the room. Some of them went home. Now there are 12. How many kids went home? 12	<input type="text"/> - 4 = 13 13	<input type="text"/> + 7 = 14 14	15 = <input type="text"/> + 5 15	Jon has some toy cars. Pablo has 9 toy cars. In all, they have 16 toy cars. How many does Jon have? 16	17 - <input type="text"/> = 17 17	9 + <input type="text"/> = 18 18
19 = 9 + <input type="text"/> 19	There were 30 birds in the tree. Some flew away. Now there are only 20. How many birds flew away? 20	<input type="text"/> - 8 = 21 21	<input type="text"/> + 10 = 22 22	23 = <input type="text"/> + 3 23	Abby wants to buy her mom a present for \$24. Abby has \$12. How many more dollars does she need? 24	25 - <input type="text"/> = 25 25
19 + <input type="text"/> = 26 26	27 = 7 + <input type="text"/> 27	The pet store had 30 fish. They sold some. Now they have 28 fish. How many fish did they sell? 28	<input type="text"/> - 4 = 29 29	<input type="text"/> + 15 = 30 30	31 = <input type="text"/> + 20 31	

About the Pattern

Here is a list of the patterns in this month's Calendar Grid sequence.

- There are always three equations and then a math story problem.
- The first of the three equations is always subtraction, while the two that follow involve addition.
- The story problems alternate between subtraction and addition through the month.
- Beginning with marker 3, every fourth marker (7, 11, 15, and so on) begins with the total or the difference (e.g., $3 = 2 + 1$).
- The total or difference on each marker matches the date.

Update

Follow this update procedure with students every day that the Calendar Grid is not a featured activity. You'll update the Calendar Grid as part of each activity as well.

Procedure

- Students make predictions about the day's Calendar Grid marker.
- A student helper posts the calendar marker for the day and leads the class in saying the day's date.
- The teacher writes the date on the Date Chart.
- The students discuss the new equation and write what is known into the number tree frame.
- Students solve the equation. Use different models to model the parts and whole, such as the Magic Wall and tile, Unifix cubes, dramatization, or drawing pictures.
- Every fourth marker in the sequence features a story problem instead of an equation. On these days, the teacher reads the problem with the students, puts the known numbers into the number tree model, and works with student input to generate a matching equation. She might encourage students to use whiteboards to create their own number tree, equation, and picture to match the story problem.
- The teacher enters the information on the Calendar Grid Observations Chart.



Activity 1

Introducing the January Calendar Markers

Day 1

- 1 Discuss the new month and the new calendar year, and update the Date Chart.
 - Point to the Month Cards. Read the name of the month, and show students that January is the first month of the calendar year.
 - Explain that since it is the first month of the year, students will write a 1 under the word *Month* on the Date Chart and on their papers for the month of January.
 - Also explain that January can be written *Jan.*, and use this abbreviation on the Date Chart.
 - You might want to start the new year by showing the students the abbreviations for the days of the week as well. One way to do so is to write directly on the clear pockets of the Calendar Grid Observations Chart that hold the Day Cards, using a washable marker.
 - Point to the new Year Card, and read it to the students. Explain how the year is an actual number by discussing its place value (for example, 2014 is written to show 2 thousand, no hundreds, 1 ten and 4 ones).

After hearing repeated mention of the new year in the past few days, students might need you to clarify that there is no "and" in reading whole numbers (e.g., two thousand seventeen, not two thousand and seventeen). See February Number Line Mathematical Background for information on reading numbers over 100.

- Explain that students will write the last two numbers of the new year on the Date Chart and on their papers.

Date Chart		
Month	Day	Year
1	2	14
Jan. 2, 2014		

- 2 Update the Calendar Grid and discuss the Number Puzzles Calendar Markers. Invite a student to place today’s marker in the correct pocket and lead the class in saying today’s date.

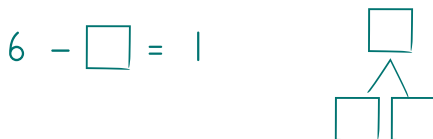
If you are not starting on the first day of the month, be sure to post previous days’ markers as well.

- Ask students to take a minute to study the calendar marker(s) quietly and give a thumbs up when they have something to share.
- Have students share their observations with a partner and then in whole-class discussion.

January 2014						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			6 - □ = 1	0 + □ = 2		
			1	2		

- 3 Explain the purpose of the January markers—students will identify the missing part in equations and solve story problems. Write the equation and a number tree frame on the whiteboard or a piece of chart paper, and discuss it with the class.

Number trees support the development of part-whole thinking and fact families.



- Read the equation with the students and ask what number you could put in the box to make the equation true.
 - Give students minute or so to pair-share ideas, and then call on a few volunteers.
- 4 Guide the students into placing the known numbers from the equation into the number tree frame.

Teacher It seems like we have some information we can use to put into a number tree. Since we know it is a subtraction problem, what number is our total?

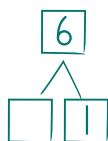
Students Six.

Teacher Right. There's 6 of something, and then something happens, and then how many are left?

Students One.

Teacher So 1 is a part on our number tree. Now we need to think about what number goes with 1 to make 6.

$$6 - \square = 1$$



Chances are, some students will have an immediate answer once the problem is displayed in the number tree model. Rather than confirming any answers immediately, work with a volunteer to role-play a story about the equation or use materials such as the Magic Wall and tiles to help the students think through the equation.

Teacher It sounds like people have different ideas about what number we should put in the box. Sometimes acting out a problem or making up a story helps solve it. Let's see... One day it was so rainy the kids had to stay indoors for recess. One boy decided to read, so he got 6 books from the shelf. What happened next?

Students It's take away, so maybe the teacher told him to put some back. He has to put 1 back because it says take away 1. Maybe other kids kept asking him if they could look at his books, and then he only had 1 left.

Teacher Let's get some books and try it. Would you please bring 6 books over here from the book rack? OK, everyone—how many books is your classmate holding right now?

Students Six!

Teacher Let's have one of you ask for one of his books. Then if you would take that book and sit down right beside him, that would be great. How many books does he have now?

Students Five, because she took 1!

Teacher If we look back at our equation, how many books should he have left at the end of the story?

Students One—he's only supposed to have 1 left.

Teacher I'll keep on calling kids up to borrow books from him until he only has 1 left. Here goes! (Calls 4 more students to take a book from the first student.)

Teacher How many books does he have now?

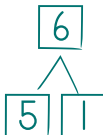
Students He only has 1.

Teacher How many classmates are sitting down beside him with the books they borrowed from him?

Students Five!

It's 5—it has to be because 1 and 5 make 6.

- 5 When there is general agreement, fill in the missing number on the number tree. Then work with input from the students to rewrite the equation with the missing number and read it together.

$$6 - \square = 1$$


- 6 If time allows, work through one or more of the other equations on display in a similar fashion.






Activity 2

Introducing the Calendar Grid Observations Chart Day 2

- Introduce this month's Calendar Grid Observations Chart.
Explain to students that you'll use the chart to help them keep track of the math stories they write and to help in the search for patterns on the Calendar Grid.
- Fill in the date on the Calendar Grid Observations Chart.
With the students' help, fill in all of the dates so far this month, including today's date.
- Review the vocabulary term *equation*—a mathematical statement containing an equal sign to show that two things are the same. Then fill in the Equations column on the chart for the markers posted so far.
 - Copy the equations from the calendar markers.
 - If you've already posted the fourth marker, read the story problem to the students and determine the equation.
 - Be sure that as you read and write the equations, you interchange the words "is the same as" and "equal" so students come to understand they mean the same. If you do this consistently, students will make a strong connection between the two by the end of the year.
- Review the vocabulary terms *number tree* and *fact family* with the students.

Teacher (Pointing to column heading) *This says "Number Tree."*
Remember that a number tree is a kind of model that tells about the parts and total.

 - Continue to draw number trees for the markers posted.
- Point to the next column, and write a math story with the students for today's marker.
If you've just posted several calendar markers, you might need to take some time over the next few days to record stories to match the equations.

Calendar Grid Observations				
Date	Equation	Number Tree	Story Problem	Solution
1-1	$6 - \square = 1$		J got 6 books. He shared some. He has 1 book left. How many did he share?	5 books
1-2	$0 + \square = 2$		S had 0 cats. She got some. Now she has 2 cats. How many did she get?	2 cats
1-3	$3 = 2 + \square$		K wants \$3 for a toy. He has \$2. How many more dollars does K need?	1 dollar



Activity 3

Telling Math Stories & Writing Equations Days 5, 6, 9, 12, 15

- After completing the first steps of the update procedure, direct students' attention to one of the Calendar Grid marker equations that still needs a math story to be added to the Calendar Grid Observation Chart.

For example, if your chart is complete for Days 1–4, begin with marker 5.

$$\square - 2 = 5$$

5

- Read the equation with the students, and model thinking of a matching story problem while pointing to the equation as you share your story.

Teacher Hmm. Something minus 2 is the same as 5. My story needs to start with something and then 2 are subtracted and 5 are left. I know! There were **some** cherries on a plate. My sister ate 2 of them. Now there are 5 cherries left. How many cherries were on the plate to begin with?

- Invite the students to talk with their partners and think of a different math story that goes with the equation.

- Remind students that they are to think of a math story and ask a math question.
- Encourage students to use their Unifix cubes and Numbers to Twenty Counting Mats or to draw a quick sketch to help with the story.

- Choose pairs of students to share their math story with the class and check the story against the equation.

There will be times when students' stories do not match the equation. This is especially true for problems that they are not as familiar with, such as the cherries example with the unknown start: $\square - 2 = 5$. To help the students who are sharing to adjust their story to match the equation, ask questions, refer to the number tree model, or allow them to call on others for help.

- Invite the rest of the class to use their Unifix cubes and counting mats to solve the story problem posed by the student pair.
- Once a few stories are shared, choose one to write on the Calendar Grid Observations Chart.



Notes About This Activity

Students need opportunities to think of real-world experiences that involve the use of mathematics. Allowing students to dramatize, tell, write, and share math stories helps them to understand math operations and the language associated with math problem solving. Students will work with a partner for this activity. One student should get 2 stacks of 10 Unifix cubes, each in a different color, and a Numbers to Twenty Counting Mat. The other partner should get a whiteboard, marker, and eraser.

- 7 Repeat steps 2–6 for the markers shown to date to fill in the Calendar Marker Observation Chart.

Vary the ways in which you ask students to model the math story. Volunteers could dramatize the situation, sketch the story on individual whiteboards, or use a number line or the ten-frames on their counting mats.



Activity 4

Writing & Recording a Math Story Problem

Day 16

- After completing the update procedure, invite students to open their Number Corner Student Books to their My Math Thinking page.
 - Remind the students to look for Pencil Puppy to find the correct page.
 - Have the students touch and read the words at the top of the page and use the Date Chart as a model to write the day's date on the line.
- Ask them to write a math story problem to match an equation on the Calendar Grid markers.
 - Invite each student to choose an equation that is interesting to them and would be at just the right level for them to solve. The Calendar Grid markers vary in difficulty. Guide students to choose equations that are suitable for their math abilities.
 - Ask students to write the equation they choose on their paper, and then to write a math story with words.
 - Explain that they may draw a quick sketch and then write the words to tell the story. Remind students that a quick sketch is a simple drawing that uses shapes to represent objects, without all of the details of a picture.
 - Tell the students that when they finish one equation, they may choose another equation to write about as time permits.
 - Monitor the students as they work, and assist as necessary. Challenge students to work with both addition and subtraction equations. You want students to see the relationship between addition, subtraction, and the number tree model.
- Invite students to share their math story problems with the class and see if their classmates can identify the matching equation on one of the Calendar Grid markers.



Notes About This Activity

Students will need their Number Corner Student Books and a pencil for this activity.



Activity 5

Predicting the Next Calendar Grid Equation

Optional

- Invite interested students to write an equation for the next day's Calendar Grid marker.

It won't be long before students realize that the sum or difference shown on a marker matches the date on that marker. Starting mid-month, challenge interested students to write an equation for the next day. For instance, if the date is the 17th, the following day will be the 18th; invite students to write an equation, on a 3" × 5" index card or piece of paper, in which 18 is the total.
- Post the student equations near the Calendar Grid. Take time the next day to compare any equations that have been submitted to the equation on the marker.

January Calendar Collector

Tens & Ones with Dimes & Pennies

Overview

Students return to collecting coins, with a spin of the Pennies & Dimes Spinner determining the daily coins and a two-column horizontal bar graph to represent the collection. At the end of each of the first three weeks, they count the coins and find the total amount of money collected. During the fourth week, they compare and order the three collections and estimate and count the month's money total.

Skills & Concepts

- Count by 5s and 10s within 100 (supports 1.NBT)
- Group and count objects by 10s (supports 1.NBT)
- Determine the value of a collection of coins totaling less than \$1.00 (supports 1.MD)
- Organize, represent, and interpret data with up to three categories (1.MD.4)
- 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 (1.MD.4)
- Attend to precision (1.MP.6)
- Look for and make use of structure (1.MP.7)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Collecting Dimes & Pennies	1	TM T1 Graphing Mat (see Preparation) TM T2 Penny Poem (see Preparation) TM T3 Dime Poem (see Preparation)	<ul style="list-style-type: none"> • Used in all January Calendar Collector activities: <ul style="list-style-type: none"> » Calendar Collector pocket chart » Calendar Collector Display Cards » Pennies & Dimes Spinner » plastic coins (see Preparation) 	<ul style="list-style-type: none"> • crayons or markers • 2 sentence strips (see Preparation)
Activity 2 Looking at the Weekly Collection Total	5, 10, 15		<ul style="list-style-type: none"> • Word Resource Cards: <i>greater than, less than, most, least, equal</i> 	<ul style="list-style-type: none"> • two 3" × 5" index cards, cut in half, to use as label cards (see Preparation) • marker • sticky notes
Activity 3 Ordering the Three Collections	16			<ul style="list-style-type: none"> • label cards from Activity 2 • chart paper or writing surface • standard pocket chart
Activity 4 Estimating & Counting the Month's Total Collection	19			<ul style="list-style-type: none"> • chart paper or writing surface • tray or shallow container • student whiteboards, pens, and erasers (class set)

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

bar graph*
coin
collection
data*
different
dime*
equal*
estimate*
fewer
graph
greater than*
least*
less than*
most*
penny*
same
sum or total*

Preparation

Calendar Collector Pocket Chart

Change the heading for the Calendar Collector pocket chart to Dimes & Pennies and display the chart.

If you laminated the small pieces of card stock used for label cards in September or October, you can wipe them clean and use them again in the pocket chart this month. Otherwise, cut three new small pieces of card stock to make label cards—3" × 5" index cards, cut in half, work well.

Dimes & Pennies Data Collection Graph

Use the Graphing Mat Teacher Master to create the grid for this graph. You will need one copy for each of the first three weeks this month. For each of the three weeks of the month, you will need to cut out 4 copies of the 2 × 5 sections and tape them together to make a 2 × 20 bar graph. Students will color the graph, so there is no need laminate it. Label one sentence strip Dimes & Pennies Data Collection Graph. Use the display cards for Dimes and Pennies to label each row of the graph. Display the graph in your Number Corner area.

Dimes & Pennies Data Collection Graph																				
Dimes																				
Pennies																				

Dime and Penny Poems

Enlarge one copy of each poem to 11" × 17" on a copier, or handwrite the poems on chart paper for students to read along. If you saved your Penny Poem from September, you will need to enlarge only the Dime Poem. The Penny, Nickel, and Dime poems will be used again in March.

Mathematical Background

Money is a real-world model that is intrinsically engaging for many students. Pennies, dimes, and dollars follow our base-ten number system, providing another model for working with place-value structure. Money supports the concept of unitizing—understanding a dime to be 1 and 10 simultaneously. Money also provides meaningful reasons to count by 1s, 5s, and 10s. Many first graders have had multiple opportunities to learn the names and values of coins in real and play situations at home. Others might have very little experience with money other than what is provided at school. The reality is that students need more than just a few activities to learn place value, coin identification, and counting money. Activities that continually immerse students in counting, grouping, and computing develops mathematical thinking and reasoning.

Update

For the first three weeks of the month, follow this update procedure every day that Calendar Collector is not a featured activity. You'll update the Calendar Collector as part of Activities 1 and 2 as well.

Procedure

- A student spins for coins, selects the correct coins, and places them in the week's collection pocket.
- A student colors sections on the bar graph to represent the coins collected.
 - » Before students arrive each Monday, the teacher replaces the 2 × 20 bar graph strip on the Dimes & Pennies Data Collection Graph with a new one so students can start the week's collection from scratch. By the last week of the month, there will be three separate collections to investigate.

Key Questions

Learning the necessary vocabulary to read and interpret data is an important focus of the Calendar Collector. Use the following questions to guide your students' discussion about the weekly Data Collection graph:

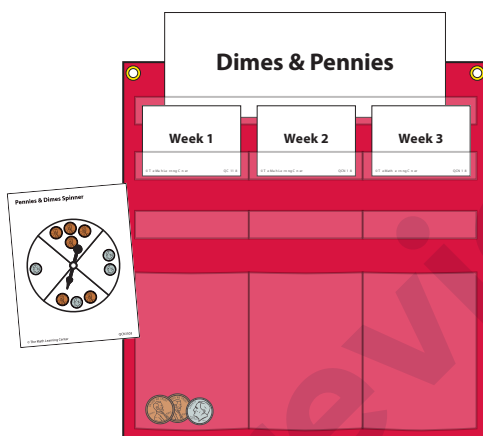
- What is this graph telling us about?
- Are there more dimes or pennies? How do you know?
- How many fewer dimes (pennies) than pennies (dimes)? How do you know?
- How many more pennies (dimes) do we need to have an equal number of pennies and dimes?
- Which coin has the most? Which coin has the fewest?
- What is the total number of dimes (pennies) collected?
- Is the total number of dimes greater than or less than the total number of pennies?
- What is the total number of coins collected this week? How do you know?
- Is the total number of coins the same as the total amount of money? Why or why not?
- How can we use this information to tell about our collection?

Activity 1

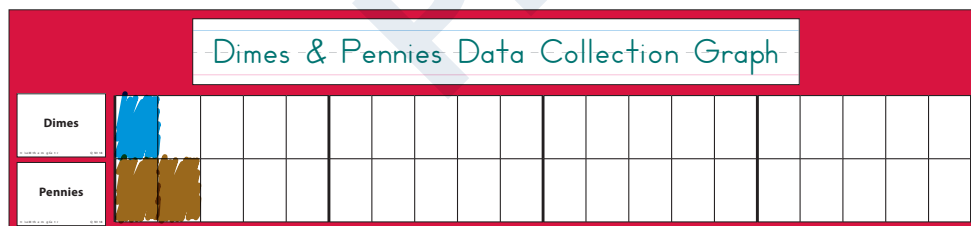
Collecting Dimes & Pennies

Day 1

- 1 Explain to the class that this month they will collect dimes and pennies.
- 2 Display some of the dimes and pennies, and ask the students how they are the same and different. Guide students to sort the coins into two piles by color.
- 3 Read the Penny Poem and then the Dime Poem, inviting students to read along as you point to the words.
- 4 Show the students the Dimes & Pennies Spinner, and ask for observations.
- 5 Invite a student to spin the Dimes & Pennies Spinner.
 - Ask the class to identify the coins the spinner lands on.
 - Have the helper select the correct coins and place the coins in the weekly collection pocket.



- 6 Ask the student helper to color one section for each dime or penny collected.



Literature Connections

These books are good read-alouds this month.

Monster Money by Grace Maccarone (features ways to make 10 cents)

Once Upon a Dime: A Math Adventure by Nancy Allen (a good story about the value of money)

Activity 2

Looking at the Weekly Collection Total

Days 5, 10, 15

- 1 Complete the update procedure.
- 2 Ask the students to look at the Dimes & Pennies Collection Graph quietly for a few moments. Then have them share their observations, first in pairs and then as a whole group. What do they notice?

- Call attention to the vocabulary cards: *greater than*, *less than*, *most*, *least*, *equal*.



- Tell the students that these are some of the words you will use when you talk about the graph you made this week.
- 3 Call on students at random, record their observations on sticky notes, and post them beside the graph. (Consider using a different color marker to highlight or underline any vocabulary words.)
SUPPORT. Use the Key Questions section at the beginning of this workout to draw out observations if students don't have much to say.
 - 4 Count the coins with the class.
Guide the students to count the dimes by 10s and group pennies together to compose new sets of 10 when possible.
 - 5 Write the total amount of money collected for the week on one of the prepared label cards, and post the card in the corresponding pocket of the Calendar Collector pocket chart.

Activity 3

Ordering the Three Collections

Day 16

- 1 Explain to the students that today they will discuss the money they have collected over the past three weeks.
- 2 Review the three collections by reading the label cards for each week's total as you point to them.
- 3 Have students help you place the label cards on the standard pocket chart in order from least to most.
 - Ask the students to tell you which week they collected the least amount of money.

Teacher I want to put our collections in order from the least amount of money we collected to the most amount of money collected. Which week did we collect the least?

- Choose a student to put the card showing the least amount of money in the left side of the standard pocket chart.
- Ask the students to tell you which week they collected the most amount of money.
- Hold the card the students select, and ask them where the card goes in relationship to the card that is the least.

Teacher Let's pretend this is our Number Line pocket chart. If 24¢ goes right here, would 62¢ go next to 24¢ or farther away?

Students Farther away.

Teacher I'm going to slide 62¢ away from 24¢. You tell me when to stop.

- Slowly slide the card with the greater number to the right in the pocket chart row.

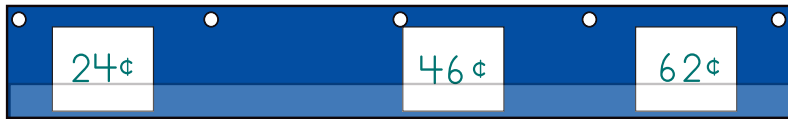
Students Stop!



Notes About This Activity

Post your standard pocket chart in or near the Number Corner meeting area.

- Point to the remaining card showing the collection total that comes between the two cards already in place.
- Choose a student to place this card in the pocket chart row.
- Discuss whether the card goes closer to or farther away from either number and why.



- 4 Repeat step 3, but ask the students to order the collections most to least. Discuss how the order changes. What stays the same? Why?



Activity 4



Notes About This Activity

Students will need whiteboards, markers, and erasers for this activity.

Estimating & Counting the Month's Total Collection Day 19

- 1 When all the students are seated in the Number Corner area with their materials placed on the floor in front of them, direct their attention to the weekly totals posted in the three pockets of the Calendar Collector pocket chart.
- 2 Ask the students to think quietly about the total amount of money in all three pockets combined.

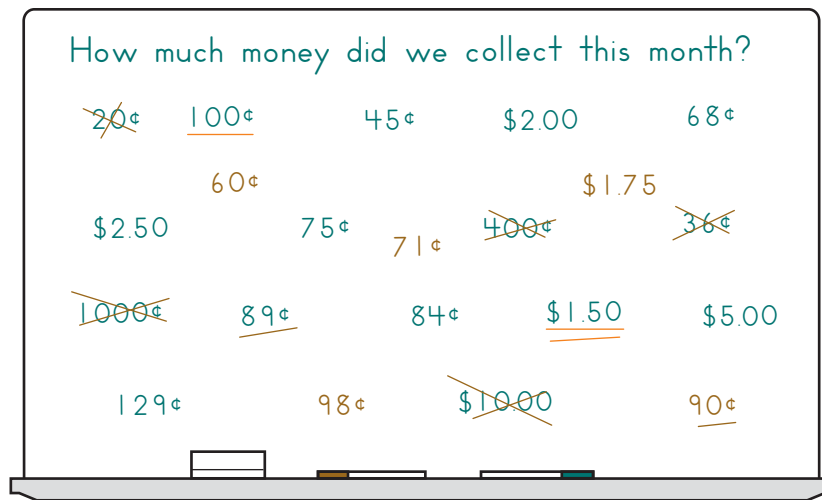
Teacher We've been collecting dimes and pennies for three weeks. I wonder how much money we would have if we put all three collections of coins together.
- 3 Show students the coins from all three pockets (on a tray or on your projector), and ask them to write their estimates on their whiteboards.
 - Remind students that an estimate is not an exact answer, but a close guess before the actual total is known.
 - Be sure to model how to write dollars and cents.
- 4 Call on students to share their estimates, and write them on the board or chart paper where the class can see them. As you write, name the number of cents and the number of tens and ones it contains to set foundations for place value.

Student Fifty-seven.

Teacher OK, 57 cents. That's 5 tens and 7 ones.

- Invite students to pick up their whiteboards and change their estimates if they like.
- Ask students if anyone has a new estimate they would like to have added to the list.
- Write the estimates on the chart. You might want to use a different color pen to indicate these are the revised estimates.

Students should be getting better at estimating, but some will want to estimate the quantity of coins collected rather than the total value of the coins. It is important to not react to answers that seem far-fetched. Students will have opportunities to make more reasonable estimates during the activity.



- 5 Work with students to group the dimes in one pile and the pennies in another.
- 6 Begin counting the collection with the students.
Ask students how they will count the dimes. How will they count the pennies?
- 7 When you have counted 30¢, pause and ask students to consider the reasonableness of their estimates.

Teacher We have 30¢ and this many coins left. Are there any estimates we need to change?

Students We need to cross out 20¢. We've already passed it.

We need to get rid of \$10.00. There's no way we have that much money.

- Invite students to pick up their whiteboards and change their estimates if they like.
 - Ask students if anyone has a new estimate they would like you to list for the class to see.
 - Write the new estimates on the chart using a different color pen to indicate these are the revised estimates.
- 8 Continue to count the money with the students.
 - Ask the students how much money you have so far.
 - When you have finished counting all of the dimes, stop and let the students change their estimates again.
 - 9 Finish counting the money, and post the total amount and the number of coins collected near the Calendar Collector display.

CHALLENGE Challenge students to add the weekly totals to double-check the count. For example, a student might split the tens (dimes) and ones (pennies), to add $20 + 40 + 60 = 120$ and $4 + 6 + 2 = 12$. Students working at this level might reason that $120 + 12 = 132$, and in this way confirm the class's counting results.

January Days in School

Close to One Hundred

Overview

This month's workout emphasizes composing and decomposing 100 and seeing the hundreds grid as a whole. Students write their own equations for the number of days they have been in school and suggest equations for the teacher to write on the Days in School Chart. The teacher continues to challenge them with missing addend problems and guides them to find two parts of the hundreds grid, the number of days they have been in school and the number of days until the 100th day.

Skills & Concepts

- Demonstrate an understanding that the equal sign indicates equivalence (1.OA.7)
- Count within 120, starting with any number less than 120, including 0 or 1 (1.NBT.1)
- Read numerals within 120 (1.NBT.1)
- Count by 5s and 10s within 100 (supports 1.NBT)
- Demonstrate an understanding that 10 can be thought of a bundle or group of 10 ones, called a ten (1.NBT.2a)
- Use concrete models or drawings to add with sums to 100 (1.NBT.4)
- Model with mathematics (1.MP.4)
- Look for and make use of structure (1.MP.7)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Discussing the Days in School Hundreds Grid	3, 12, 14		• Days in School Chart	<ul style="list-style-type: none"> • red and blue markers • hundreds grid (from September) • 5 ½ × 8 ½ sheet of paper to use as a screen to cover parts of the hundreds grid • arrow clip
Activity 2 Writing Equations for the Days in School	6, 11, 19			<ul style="list-style-type: none"> • red and blue markers • 5 ½ × 8 ½ sheet of paper to use as a screen to cover parts of the hundreds grid • hundreds grid (from September) • student whiteboards, markers, and erasers (class set)
Activity 3 Finding Parts & Total on the Hundreds Grid	8	NCSB 25* Finding Parts & Totals on the Hundreds Grid		<ul style="list-style-type: none"> • crayons

Vocabulary

An asterisk [*] identifies those words for which Word Resource Cards are available.

chart
column*
day
equal*
equation*
year

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

* Run 1 copy of this page for display.

Mathematical Background

There's no denying the energy of first-graders. One way to keep it focused and productive during classroom discussion is through thoughtfully sequencing the order in which students share their work with the class. Begin with familiar solutions that most students recognize and move toward novel strategies. Selecting a student to share an approach that most classmates are familiar with validates the classmates' own work and provides them an entry point for discussion. By January, most first graders are seeing the quantities colored in on the hundreds grid as collections of 10s and 1s, and their equations routinely reflect this understanding. This is a good point to begin the discussion before moving to equations that involve some chunking of numbers, such as different groupings of 10. Then end with equations that encourage new thinking, such as seeing 25s or subtracting from 100. Structuring sharing time this way can support your work in emphasizing strategies, promoting discussion, clarifying misconceptions, and keeping wriggling 6-year-olds engaged.

Update

Follow this update procedure every school day. When Days in School is the featured activity, you will do this update as the first step in the activity.

Procedure

- The teacher marks an X on the hundreds grid.
- When 5 boxes in a column have been filled, the teacher draws a line through the 5 boxes.
- When a column of 10 has been completely filled, the teacher draws a line through the second group of 5 and then colors in the column of 10.
- A student helper points to the chart and leads the class in counting how many days they have been in school. Students count by 10s and then by 5s and 1s.
- The teacher writes the day's number in numeral and word form on the Days in School Chart.

Key Questions

Use the questions listed below to help your students see smaller numbers within larger numbers.

- How many squares are marked? How did you count? Is there another way?
- What number comes next? How do you know?
- How many 5s are in a given number? How many 10s? Can you prove it?
- How many more school days until we make a 5? 10? Can you prove it?
- How many days past 50 are we? 70? How do you know?
- How many more days until we reach 100? How do you know?

Activity 1

Discussing the Days in School Hundreds Grid Days 3, 12, 14

- 1 Mark an X in the next square on the Days in School Hundreds Grid. Then work with students' input to write the day's number in numeral and word form, as well as in tens and ones, on the Days in School Chart.

Teacher Let's count the days we've been in school so far. We'll count the columns by 10s, the lines by 5s, and the Xs by 1s.

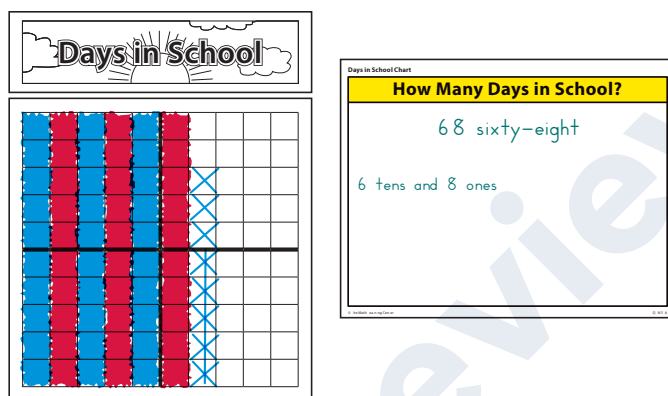
Teacher and Students 10, 20, 30, 40, 50, 60, 65, 66, 67, 68.

Teacher How many days have we been in school?

Students Sixty-eight.

Teacher So I need to write 68 on our Days in School Chart. How should I do that?

Students Six tens and 8 ones.



- 2 Discuss how many more days must pass until another column will be colored in to make a ten.

Teacher Right now our chart shows 6 tens and 8 more ones. How many more days until we make another ten?

Students Two.

Teacher That's right—8 and 2 make 10.

- 3 Guide the class in seeing the hundreds grid as a whole, and discuss how many days must pass until you reach 100.

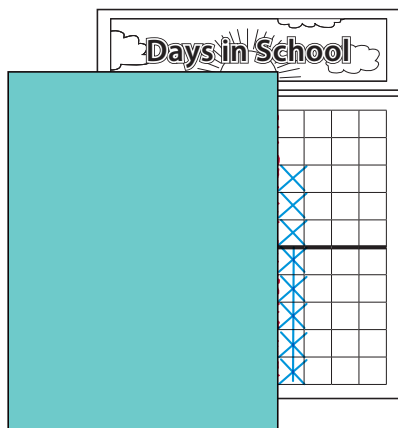
Teacher If we fill in every square on this grid, how many days will we have been in school?

Students One hundred.

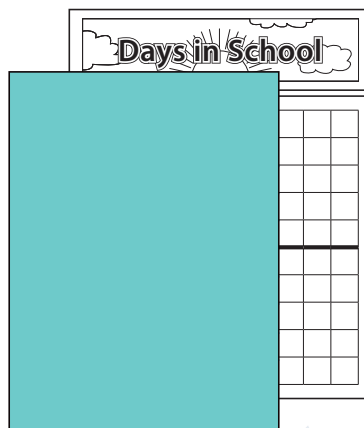
Teacher How can we find out how many more squares we need to fill to reach 100?

This question asks students to see the two parts—filled and unfilled squares—that make up the 100. You might want to count all of the columns on the grid by 10s to 100 to focus student attention on the 100 total. Then screen the filled boxes to draw their attention to the part that is left, the unfilled squares. It's likely you'll get a variety of responses.

- Some students will quickly see that you can count the empty squares and will suggest doing so. While some will suggest counting the unfilled columns by 10, others will fall back on counting by 1s. Guide them to more efficient strategies.
- Help students see how they can start with a single-digit number such as 2 in the example above, and add 10 for each unfilled column by counting by 10s off the decade (that is, 2, 12, 22, 32).



Let's count the last 2 boxes in this column ... 1, 2.



Now I'm going to cover those 2 boxes ... remember them in your mind ... and we'll count the rest of the empty boxes. Ready? Two, 12, 22, 32.

- 4 Choose a student to find today's number on the Number Line pocket chart.
 - Invite the student to share where she thinks the day's number is hidden on the chart.
 - Ask the class to use a signal such as clapping twice if they agree.
 - Ask the student helper why she thinks the number is there.
 - Lift the card to check.
 - Attach the arrow clip to the pocket.

Activity 2

Writing Equations for the Days in School

Days 6, 11, 19

- 1 Complete the update procedure.
- 2 Ask students to write equations for today's number.
Encourage students to “show what they know” on their whiteboards, using addition, subtraction, and even multiplication equations.
- 3 Invite them to share their equation with a partner.
To ensure that each student shares his equation, consider designating which partner shares first and describing the way the other partner is to respond.

Teacher Students sitting closest to the window will share first. Students sitting closest to the door will listen to the equation and say if they agree or disagree. Then students closest to the door will share next, and their partner will say if they agree or disagree.



Notes About This Activity

Starting in January, invite your students to write their own equations on individual whiteboards during this routine. The procedure changes slightly to allow students time to record equations on their own before sharing with a partner.

Listen in while they share their equations. Being able to see the equations allows you to purposefully select the order in which students share equations to write on the Days in School Chart so you call attention to specific strategies. See the Mathematical Background section for more information on selecting and sequencing student equations.

4 Call on students to share their equations.

- Invite students to come up to the chart to indicate where the numbers they're working with are located. Make sure they are showing each part of the number.
- Write the equation on the chart.
- Ask them for other ways to write the day's number.
- Invite the students to count the groups in the model in the same way the equation is written.
- Share an equation that represents the grid as the number 100 with some part not yet filled in, if students don't offer such an equation.

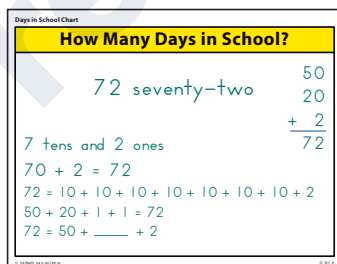
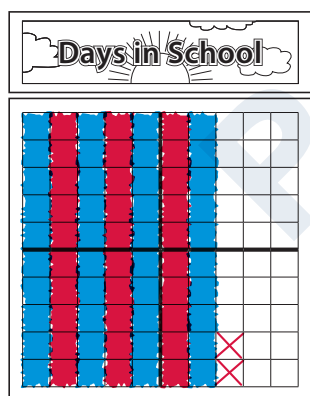
Teacher If I think of our whole Days in School grid as the number 100, what would I subtract from 100 to get 72?

5 Still using today's number, write a missing addend equation on the Days in School Chart.

- Write an equation on the chart, and ask the students to think about what number is missing and to give thumbs up when they think they know it.

Teacher I wrote $72 = 50 + \underline{\quad} + 2$. Think about what number I left out to make both sides of the equation equal to 72. Give thumbs up when you think you know what number is missing.

- If students have a difficult time figuring out the missing part, screen the parts represented by the numbers in the equation to highlight the missing part and determine the number.





Activity 3



Notes About This Activity

Students will need their Number Corner Student Books, a pencil, and crayons for this activity.

Finding Parts & Totals on the Hundreds Grid

Day 8

- Complete the update procedure.
- Ask the students to open their Number Corner Student Books to the Finding Parts & Totals on the Hundreds Grid page.
 - Explain that they will see a detective and a hundreds grid on this page.
 - Have them put their finger on the detective, and scan the class to see that all students are on the right page.
- Guide students in answering the question “How many days have you been in school?”
 - Read the question with the students.
 - Have the class write the number of days your class has been in session.
- Invite the students to color in the squares on the hundreds grid to equal the number of days they have been in school.
 - Remind them that they can use the Days in School hundreds grid for ideas.
 - Let students work for a few minutes while providing help as needed.
- Ask them to count how many squares are not filled in and to write the number in their books.
- Invite a few students to show and explain their work to the class.

Many students are eager to show how they are able to use subtraction and multiplication. Be sure to call on students who represent a variety of equations.
- Discuss the number tree question, and guide students in completing it.
 - Ask why the number 100 is written as the total at the top.
 - Discuss the two parts shown on their hundreds grid, the squares that are colored and those that are not.
 - Have the students write the number tree parts corresponding to the Days in School hundreds grid.

CHALLENGE Ask students to write a fact family to match their number tree.

4 Fill in the parts on the number tree to show how many days you have been in school and how many days are left until the 100th day of school.

$$\begin{array}{c}
 100 \\
 \swarrow \quad \searrow \\
 74 \quad \quad 26
 \end{array}$$

$$\begin{array}{l}
 74 + 26 = 100 \\
 26 + 74 = 100 \\
 100 - 74 = 26 \\
 100 - 26 = 74
 \end{array}$$

Number Corner Grade 1 Student Book 25 © The Math Learning Center | mathlearningcenter.org

January Computational Fluency

Doubles Plus or Minus One Facts

Overview

This month students review Doubles facts and are introduced to Doubles Plus or Minus One facts. They use the doubles finger patterns and Ten-Frame Pair-Wise Cards to work from very familiar facts such as $4 + 4$ to closely related but less familiar facts such as $4 + 3$ and $4 + 5$. Students write equations, play a matching game, and complete a Number Corner Student Book page that has them matching equations to ten-frames showing doubles and doubles plus or minus 1.

Skills & Concepts

- Relate counting to addition and subtraction (1.OA.5)
- Add fluently with sums to 10 (1.OA.6)
- Model with mathematics (1.MP.4)
- Look for and make use of structure (1.MP.7)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Seeing Doubles Plus or Minus One	4		<ul style="list-style-type: none"> • Ten-Frame Pair-Wise Display Cards (see Preparation) • Numbers to Twenty Counting Mats (class set plus 1 for the teacher) 	<ul style="list-style-type: none"> • standard pocket chart • nine 3" × 5" index cards • marker • student whiteboards, markers, and erasers (class set)
Activity 2 The Match Game	7		<ul style="list-style-type: none"> • Ten-Frame Pair-Wise Display Cards 	<ul style="list-style-type: none"> • standard pocket chart • 3" × 5" index cards from Activity 1, plus 2 additional (see Preparation) • bell or other auditory signal
Activity 3 Completing the Doubles & More Page	13	NCSB 27* Doubles & More		<ul style="list-style-type: none"> • glue sticks (class set) • scissors (class set)

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

* Run 1 copy of this page for display.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

add*
backward
double
forward
equal*
equation*
one less
one more
row*
subtract*
sum or total*
ten-frame

Preparation

Ten-Frame Pair-Wise Display Cards

You will need cards 2–10 for a total of 9 cards. If your class size is over 18, add the 0 and 1 Ten-Frame Pair-Wise Display Cards as well for Activity 2. You will write equation cards with the students for cards 2–10 during Activity 1, and you'll also need to write $0 + 0 = 0$ and $1 + 0 = 1$ on two extra 3" × 5" index cards to use during Activity 2.

Mathematical Background

Understanding number relationships is an important part of learning basic facts. When students know that $4 + 4 = 8$, they can use this information to solve $4 + 5$ by counting on 1 more from the related double or to solve $4 + 3$ by counting back 1 from the related double. Doubles Plus or Minus One facts provide rich opportunities to develop the strategy of using known facts to help solve less familiar facts. They also illustrate why being able to name the number before and after another number is so important. While some students invent derived fact strategies on their own, many will benefit from explicit teaching and practice of such strategies to help move them away from counting (either by 1s or counting on) toward more efficient, flexible, and accurate ways of computing.

Literature Connections

If you have access to it, this is a good read-aloud this month.

One More and One Less by
Giulio Maestro

Activity 1

Notes About This Activity

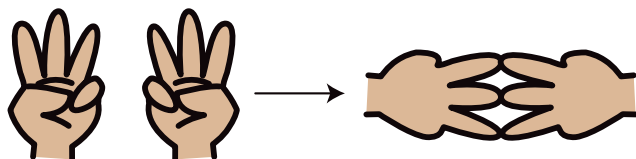
Students will each need a whiteboard, marker, and eraser for this activity.

Seeing Doubles Plus or Minus One

Day 4

1 Quickly review doubles finger patterns for 0–10, and say the Doubles facts.

If necessary, remind the students how to show the first number on their fingers on one hand while saying the number. Do the same for the second hand, and join the fingers together to say the total.



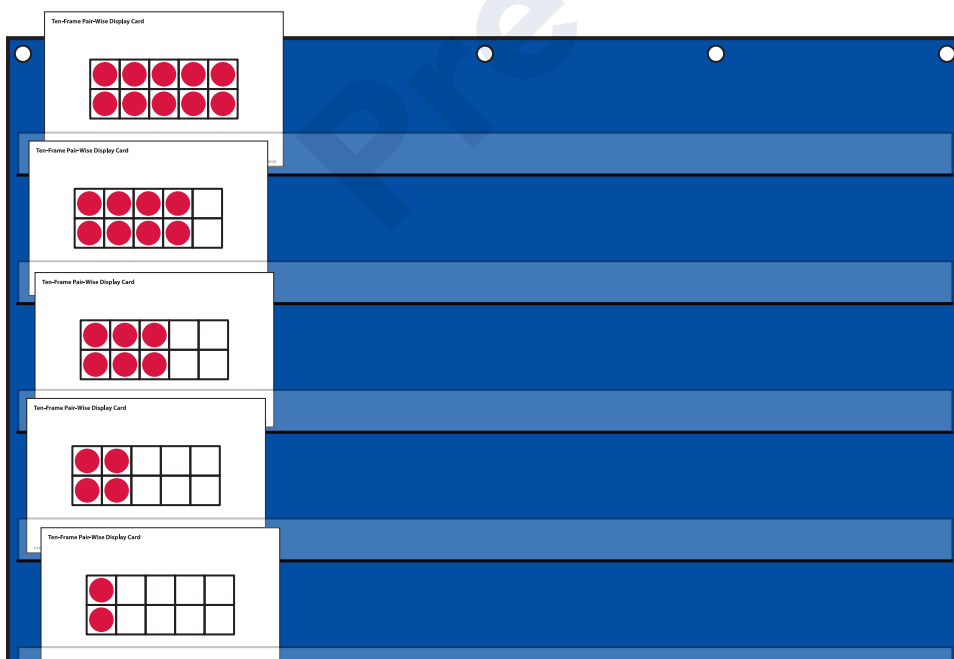
Key Questions

Use these questions to help your students think about Doubles and the closely related Doubles Plus or Minus One facts.

2 Display the Ten-Frame Pair-Wise Display Cards in order from greatest to least in a column down the middle of your standard pocket chart, and ask students to sort out the Doubles fact cards.

- Ask the students to search out with their eyes the cards that picture the Doubles facts (1 + 1, 2 + 2, ... 10 + 10).
- Choose a student to pick one of the cards showing a Doubles fact card, and move it over to the left side of the pocket chart.
- Continue choosing students until they have moved all the Doubles fact cards.

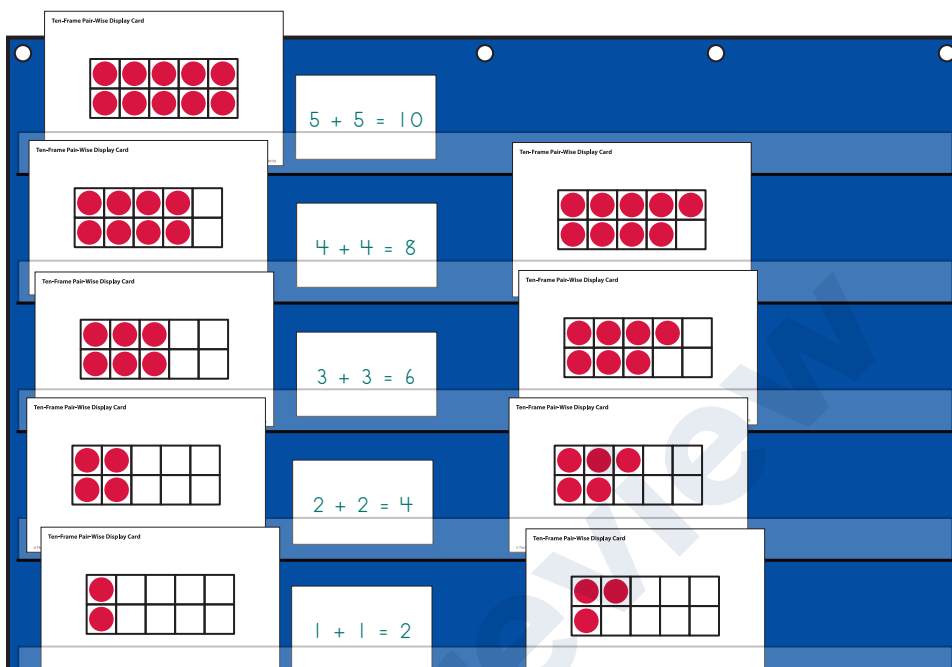
3 Remove the remaining four cards from the pocket chart, and set them aside for a few minutes. Arrange the doubles cards in a column as shown, and ask students to write an equation on their whiteboards for each of these cards.



- What does it mean to double the amount of an item?
- If you show a double on a ten-frame for 10 (8, 6, 4, 2) how many are on the top row? How many are on the bottom row?
- What number is 1 more than 2 (4, 6, 8)?
- What number is 1 less than 4 (6, 8, 10)?
- If you know the answer to $3 + 3$, how can that help you solve $3 + 2$ or $3 + 4$?

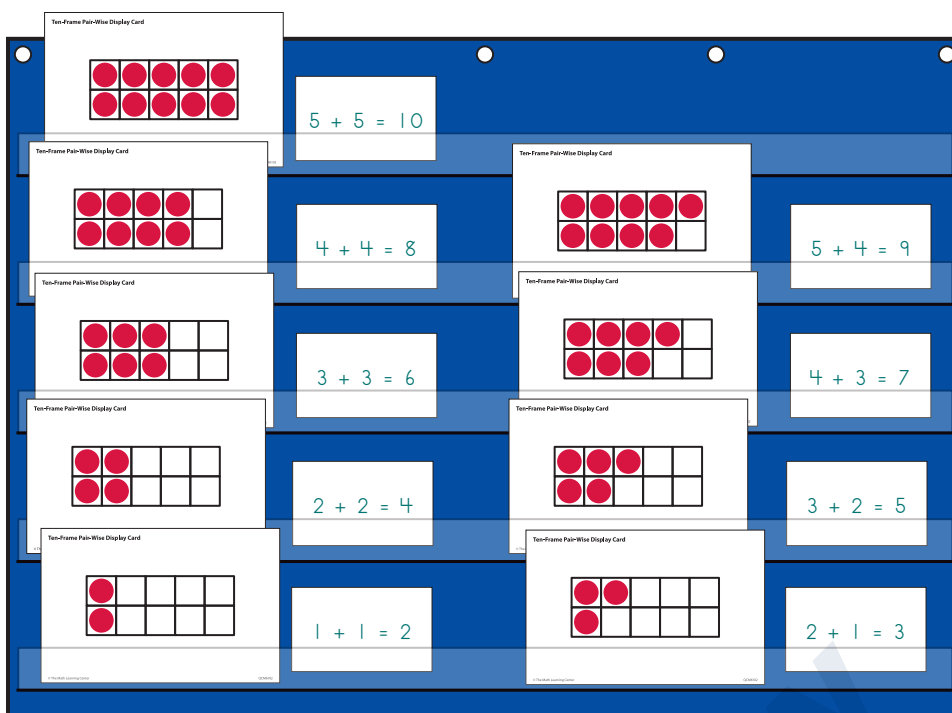
- Point to the first card showing 10, and ask students to write a Doubles fact equation for the card on their whiteboards. If necessary, prompt students by asking, “How many on top? How many on the bottom?”
- Ask students to touch and read their equation.

- Write the equation on one of your $3'' \times 5''$ index cards, and place it your pocket chart next to the matching Ten-Frame Pair-Wise Display Card.
 - Continue asking students to write equations for each Doubles fact card in the column and writing the equations on your $3'' \times 5''$ cards.
- 4 Retrieve the four cards you set aside, and arrange them in the pocket chart from greatest to least as shown here.
- Ask students to pair-share observations about the cards you just added to the display. How are these cards like the doubles? How are they different?
 - After a few moments, invite volunteers to share their thinking with the group.



Students Those cards are just 1 more. You can see 8, and then the other card has 9 dots. It's always in the top row. Can I show? See? Here's 8 and then 9. Here's 6 and then 7. The extra dot is always in the top row on the new cards.

- 5 Build on students' observations by asking them to form a double with their fingers, add one more, and find the matching Ten-Frame Pair-Wise Display Card.
- Invite the students to show $4 + 4$ using their doubles finger pattern.
 - Ask students to add 1 more finger. What numbers are they showing? How many fingers total?
 - Ask students to locate the card that shows 4 and 5 for 9 total.
 - Repeat with $3 + 3$ and 1 more, $2 + 2$ and 1 more, and $1 + 1$ and 1 more.
 - As you're working with the students to form these combinations, let them know that these are called the Doubles Plus or Minus One facts. Can they see why?
- 6 Have students write an addition equation for each of the new Ten-Frame Pair-Wise Display Cards, following the actions described in step 3.
- If you find a student who writes his equation as the Doubles fact and 1 more (for example, $4 + 4 + 1$), ask him to share this equation with the class.*



Note Save the 3" × 5" equation cards to use during Activity 2.

Activity 2

The Match Game

Day 7

- 1 Review the instructions for the Match Game.
 - Tell the class that you're going to hand out the Ten-Frame Pair-Wise Display Cards and matching equation cards they wrote a few days ago for Doubles and Doubles Plus or Minus One facts. They are to keep their cards hidden from one another until the game begins.
 - Explain that when you ring the bell, everyone holding a card will get up and look for someone holding a card that makes a match. (Students with equation cards look for the classmate holding the matching ten-frame card, and vice versa.)
 - » When students find their partner, they sit down.
 - » You'll watch carefully to see that every card has a proper match.
 - » You'll ring the bell again to signal that all of the cards are matched.
- 2 Choose three students to model the game for the rest of the class.

If you feel your students have a good understanding of how to play the matching game, you may skip this step. Some teachers like to model the game again after the winter break.
- 3 Hand out the cards, and play the game with the whole class.

Remind students not to show their cards until they hear the bell.
- 4 Ask pairs of students to place their cards in the standard pocket chart for the class to see and confirm.

Ask the class to confirm each match by giving a signal such as clapping.

Notes About This Activity

You will need your 3" × 5" equation cards from Activity 1 for this game along with the Ten-Frame Pair-Wise Display Cards. With the Ten-Frame Pair-Wise Display Cards used in Activity 1, there are enough cards for 18 students to play at the same time. If you add the 0 and 1 cards and matching equation cards, there are enough cards for 22 students. If you have more than 22 students, invite the students without cards to be inspectors who check matches and give a thumbs up or down.

 **Activity 3****Completing the Doubles & More Page****Day 13**

Students will need their Number Corner Student Books, glue sticks, and scissors for this activity.

- 1 Ask students to find the Doubles & More page in their Number Corner Student Books.
- 2 Discuss the ten-frames and equation boxes shown on the page.
 - Have the students put their finger on the first ten-frame. Quickly scan the class to make sure all students are on the right page.
 - Ask students how many dots are shown on this ten-frame. How many on top, and how many on the bottom?
 - Ask them to put their finger on the equation that matches this ten-frame.
 - Invite the class to read the equation aloud together.
- 3 Use your copy to show the students how to cut out the equations boxes at the bottom of the page.
 - Demonstrate how to first cut along the dashed line that runs across the entire page.
 - Suggest that students write their initials on the back in a couple of places.
 - Next show them how to cut around the entire collection of equations first before cutting out the individual equations.
 - Remind students to keep their scraps away from the small equation boxes they're cutting out.
- 4 When students understand what to do, have them cut out the equation boxes, match each with its corresponding ten-frame, and glue them down where they belong.

As they finish, ask them to circle all the Doubles facts on the sheet.

Preview

January Number Line

The Seventies & Eighties

Overview

For the new calendar year, students meet Polli, Tad's little sister, and join her in skip-counting along the Classroom Number Line by 5s. They also play a new game, Roll & Count, to practice forward and backward number sequences within the seventies and eighties number families. At the end of the month they celebrate the ninth Decade Day in great anticipation of the 100th day of school, now only one decade away.

Skills & Concepts

- Relate counting to addition and subtraction (1.OA.5)
- Count within 120, starting with any number less than 120, including 0 or 1 (1.NBT.1)
- Read and write numerals within 120 (1.NBT.1)
- Count by 5s and 10s within 100 (supports 1.NBT)
- Demonstrate an understanding that the digits in a 2-digit number represent amounts of tens and ones (1.NBT.2)
- Demonstrate an understanding that 10 can be thought of a bundle or group of 10 ones, called a ten (1.NBT.2a)
- Demonstrate an understanding that multiples of 10 from 10 to 90 refer to some number of tens and 0 ones (1.NBT.2c)
- Compare two 2-digit numbers based on meanings of the tens and ones digits, and record the results of comparisons with the symbols $>$, $=$, and $<$ (1.NBT.3)
- Look for and make use of structure (1.MP.7)
- Look for and express regularity in repeated reasoning (1.MP.8)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Counting by Fives on the Number Line	2			<ul style="list-style-type: none"> • frog pointers, Tad and Polli (prepared in September) • frog range marker clips • Classroom Number Line
Activity 2 Counting Forward & Backward, Parts 1 & 2	3, 4, 11, 14		<ul style="list-style-type: none"> • Number Line pocket chart • Number Line Display Cards 61–80 for Part 1 and 71–90 for Part 2 (see Preparation) • die dotted 1–6 (1) • more/less die (1) 	<ul style="list-style-type: none"> • arrow clip • small plastic storage box with a clear lid to make dice shaker box (see Preparation)
Activity 3 Playing Guess My Number	7		<ul style="list-style-type: none"> • Number Line pocket chart • Number Line Display Cards 61–80 (see Preparation) • Greater Than or Less Than Display Cards 	<ul style="list-style-type: none"> • frog range marker clips • chart paper or whiteboard • markers • black erasable marker • frog pointers, Tad and Polli
Activity 4 Celebrating Decade Day, Parts 1 & 2	10, 20	NCSB 29 The Eighth Decade Day NCSB 30 The Ninth Decade Day	<ul style="list-style-type: none"> • Number Line pocket chart • Number Line Display Cards 61–80 for Part 1 and 71–90 for Part 2 	<ul style="list-style-type: none"> • Classroom Number Line sentence strip (prepared in September) • black erasable marker • frog pointers, Tad and Polli • arrow clip

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

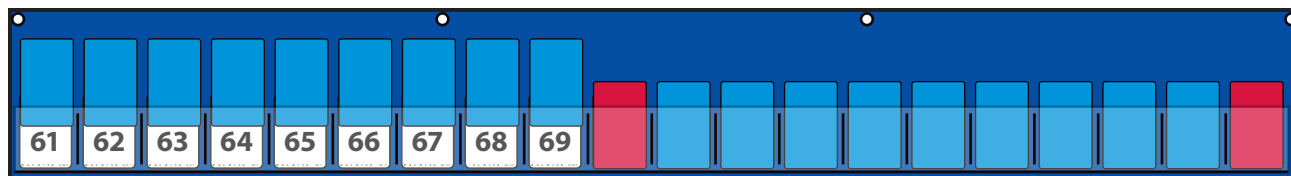
after*
backward
before*
choral count
count by
decade
decade families
forward
greater than*
less than*
number line*
variable

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

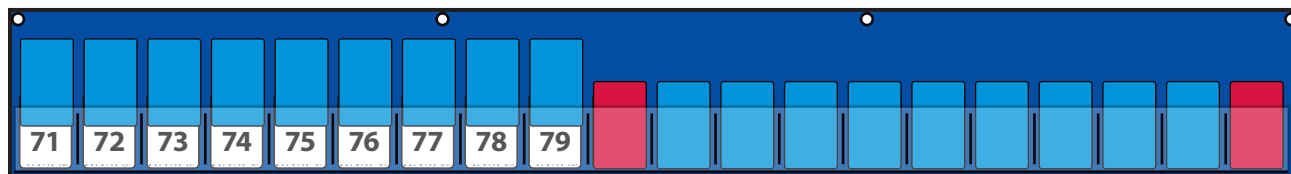
Preparation

Number Line Pocket Chart

For the first ten days, post the Number Line Display Cards 61–80 in order in the Number Line pocket chart. Cover the numbers 70 and 80 with red cards. Cover numbers 71–79 with blue cards.

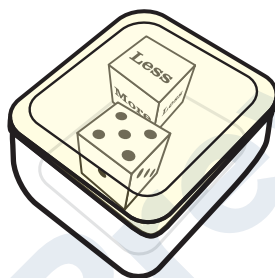


Prior to Activity 2, Part 1 (Day 11), post the numbers 71–90. Cover the numbers 80 and 90 with red cards. Cover numbers 81–89 with blue cards.



Dice Shaker Box

Place a die dotted 1–6 and the more/less die in a small plastic storage box with a clear lid. This makes a dice shaker box that allows the dice to be easily rolled, read, and contained. Students enjoy shaking the dice, and the problem of runaway dice is solved!



Mathematical Background

Students must understand patterns and number relationships to develop number sense. Learning to skip-count by 10s, 5s, or 2s helps students comprehend these number relationships and can guide them away from counting by 1s. Skillful counting by 5s is important for reading minutes on an analog clock and for counting money. Learning skip-counting sequences is also foundational for developing multiplicative thinking. Young students will need a lot of practice with these sequences to become fluent counters. The number line provides a good visual image of skip-counting patterns in equal intervals.

Learning to use symbols is an important concept in developing algebraic thinking, and one that the National Council of Teachers of Mathematics (NCTM) calls for in all grades. In the primary years, variables are usually presented as a symbol that represents a fixed, unknown quantity. This month students work with variable symbols in both the Calendar Grid and Number Line workouts. The Calendar Grid markers present variables as an open box in missing addend equations such as $2 + \square = 5$, and the Guess My Number activity uses the variable symbol n to represent the identity of the unknown number in inequality statements such as $n < 75$. By introducing the variable in place of “my number is” phrasing, you can support your students to think in generalizations, the cornerstone of algebraic thinking.

Key Questions

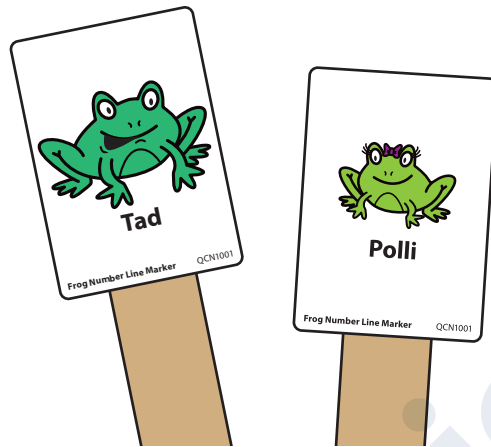
Use these questions to encourage forward and backward counting on the number line.

- What number comes next? How do you know?
- What number comes before (any given number 61–89)?
- What number will it be in 3 more days? Can you prove it?
- What number was it 2 days ago? Can you prove it?
- What number(s) comes between two given numbers? How do you know?


Activity 1
Counting by Fives on the Number Line**Day 2**

- 1 Ask the students to count by 10s on the Classroom Number Line while you point to the decade numbers using the frog pointer, Tad.
- 2 Show students the new frog pointer you've prepared, and introduce them to Polli, Tad's little sister.

Explain to the students that Tad has someone very special he would like them to meet in the new year.

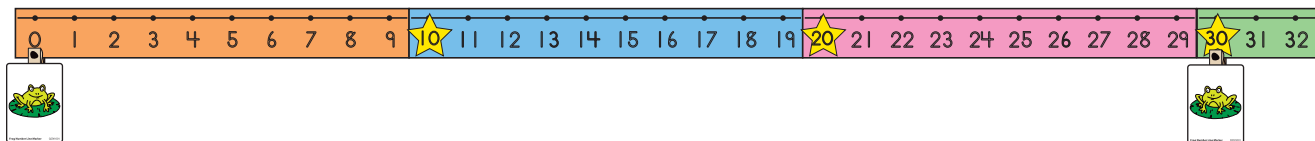


- 3 Explain to the students that Polli also likes to hop along the Classroom Number Line; since her legs are shorter than Tad's, she's not able to leap by 10s, but she can jump by 5s.
- 4 Then work with students to prepare the Classroom Number Line for Polli by circling the counting-by-5s numbers from 0 through 65.

Have the class count by 5s with you. As you and the students name each multiple of 5, circle it on the Classroom Number Line.

CHALLENGE Students will probably notice that some of the numbers you're circling are the 10s numbers. Share the fact that the counting-by-5s numbers are also called multiples of 5, and counting-by-10s numbers are called multiples of 10. Challenge students to explain why some of the multiples of 5 are also multiples of 10.

- 5 Place the frog range marker clips on the Classroom Number Line at 0 and 30.



- 6 Invite the students to count by 5s from 0 to 30 as Polli jumps along the number line while you use the new frog pointer to point to the numbers.

If students are able to count by 5s to 30 with ease, move the marker farther along the number line and have the students count by 5s again.

Many students like to use their hands when counting by 5s, showing 5 fingers on one hand when they say, "five" and showing all 10 fingers when they say "ten." They alternate their hands back and forth as they continue the count-by-5s sequence. This kinesthetic movement helps some students to internalize the counting patterns.

Activity 2

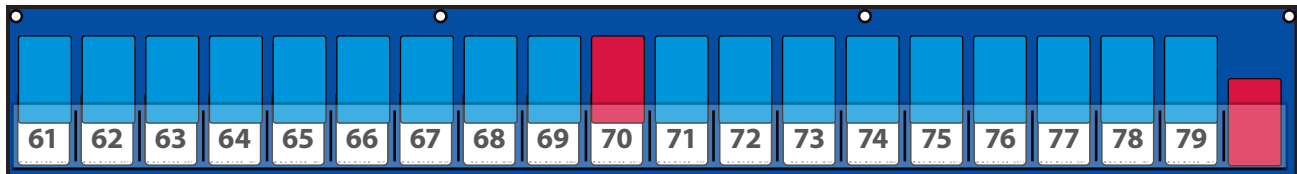
Counting Forward & Backward, Part 1

Days 3, 4

- 1 Introduce the seventies number family.
 - Invite students to guess the number behind the first red door, and then have a student pull up the red card to reveal the number 70.

Teacher Here’s the number 70 we met on the last Decade Day! Let’s meet the rest of the members in the seventies number family.

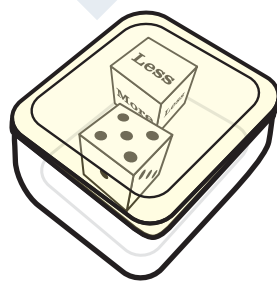
- Pull up the blue cards, and have students join you as you say the name of each new number.



- 2 Point to the numbers, and have the students choral count forward from 61 to 79 and backward from 79 to 61.
- 3 Introduce and play a new game, Roll & Count.
 - Slide the cards down to cover all numbers except 67, 69, and 73.



- Explain to the students that today they are going to count forward and backward from the numbers showing on the Number Line pocket chart.
- Tell the class that you’re going to choose a student helper to roll both a more/less die and a dotted die. If the die lands on *more*, they will count forward because the numbers get greater. If the die lands on *less*, they will count backward.
- Choose a student to shake the dice shaker box and read the dice to the class.



- Pick a number showing on the Number Line pocket chart as the starting point.
- Have the students count forward or backward according to the number rolled while you point to the screened cards. The students can hold up their fingers to keep track of the number of intervals counted.

Teacher Our dice say 5 and less. Let’s start at 69 and count backward 5 numbers.

Teacher and Students 69... 68, 67, 66, 65, 64.

- Lift the screen on the last number counted (64 in this case) to check whether you counted correctly.

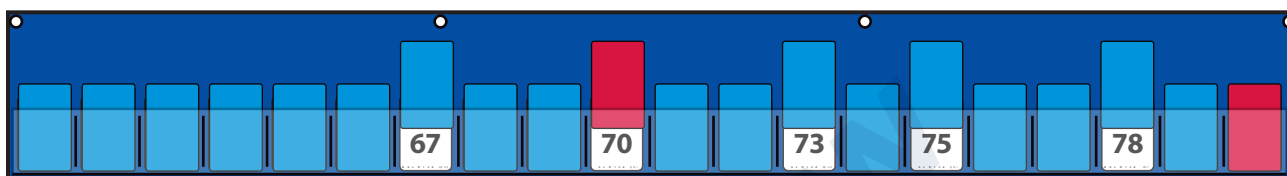
SUPPORT By now, most students should be getting very good at counting forward and backward within the decade number families. If students have difficulties, pull open more cards to provide additional counting support.

CHALLENGE Challenge the students to predict the number they will land on before actually counting forward or backward.

- 4 Repeat step 3 a few more times, choosing new helpers to shake the dice and varying the starting number.
- 5 When you repeat this activity on Day 4, use the following suggestions to vary the activity.

You might notice that the visual support is beginning to decrease as students become more familiar with the counting sequence pattern.

- Slide the cards down to cover all numbers except for 67, 70, 73, 75, and 78. Invite students to practice counting forward from the various numbers and to stop as you direct them to (choose a number several intervals away).



- Invite students to count backward from the various numbers in turn, stopping at the number you specify.

Keep in mind that some students will count the numbers as discrete objects, while others will count the jumps or intervals.

- Ask students to name numbers that come before or after a number that is shown. Lift the blue card to reveal the numbers each time.

SUPPORT If students have difficulty naming the number before 70, consider having them count forward from 67.

CHALLENGE If students are able to confidently name the numbers that come before or after a given number in this range, challenge them to name numbers that are 2 or 3 more than or less than a given number.

- 6 Invite a student helper to place the arrow clip on the pocket that shows the number of days they have been in school.

Counting Forward & Backward, Part 2

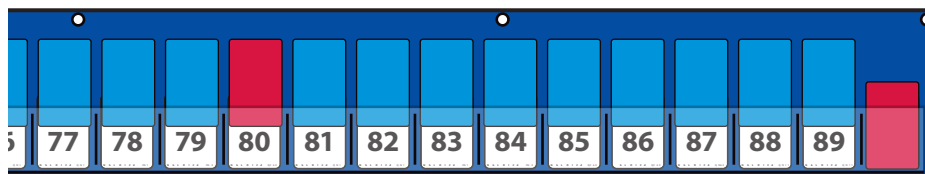
Days 11, 14



Notes About This Activity

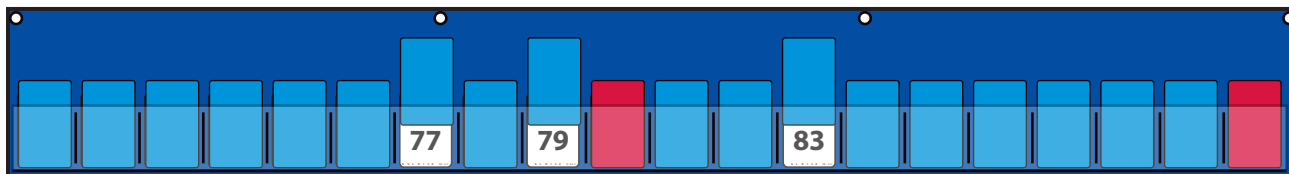
Before this activity, post the numbers 71–90 and use red cards to cover the numbers 80 and 90. Reveal numbers 71–79, and cover numbers 81–89 with blue cards.

- 1 Introduce the eighties number family.
 - Invite students to guess the number behind the red door hiding the number 80.
 - Lift the red door to reveal the numeral 80.
 - Pull up the blue cards, and have students join you as you say the name of each new number.

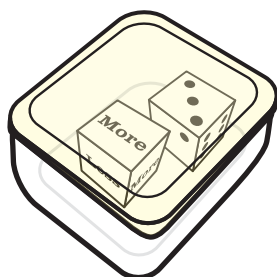


- 2 Ask the students to examine the display quietly for a moment and then give thumbs up when they have something to share.

- 3 Point to the numbers and have the students choral count forward from 71 to 89, and backward from 89 to 71.
- 4 Play Roll & Count, introduced previously with the seventies number family.
 - Slide the cards down to cover all numbers except 77, 79, and 83.



- Explain to the students that today they are going to count forward and backward from the numbers showing on the Number Line pocket chart.
- Pick a number showing on the Number Line pocket chart as the starting point.
- Choose a student to shake the dice shaker box and read the dice to the class. Remind students that if they roll Less, they will count backward, and if they roll More, they will count forward.

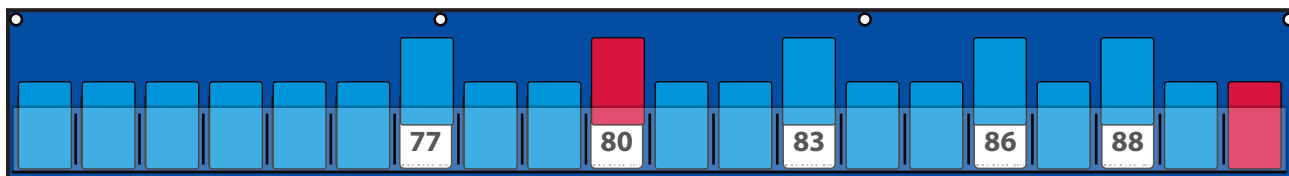


- Have the students count forward or backward according to the number rolled while you point to the screened cards. The students can hold up their fingers to keep track of the number of intervals counted.

Teacher Our dice say 3 and more. Let's start at 77 and count forward 3 numbers.

Teacher and Students 77... 78, 79, 80.

- Lift the screen on the last number counted to check whether you counted correctly.
Be sure to lift more cards to provide additional counting support if needed.
- 5 Repeat step 5 a few more times, choosing new helpers to shake the dice and varying the starting number.
 - 6 When you repeat this activity on Day 14, use the following suggestions to vary the activity.
 - Cover all numbers except for 77, 80, 83, 86, and 88. Invite students to practice counting forward from the various numbers and stop as you direct them to (choose a number several intervals away).



- Invite students to count backward from the various numbers in turn, stopping at the number you specify.

Keep in mind that some students will count the numbers as discrete objects, while others will count the jumps or intervals.

- Ask students to name numbers that come before or after a number that is shown. Lift the blue card to reveal the numbers each time.

SUPPORT If students have difficulty naming the number before 80, consider having them count forward from 77.

CHALLENGE If students are able to confidently name the numbers that come before or after a given number in this range, challenge them to name numbers that are 2 or 3 more than or less than a given number. Some students might be ready for the challenge of thinking of numbers 20 or even 100 more and then proving their answer.

- 7 Invite a student helper to place the arrow clip on the pocket that shows the number of days they have been in school.

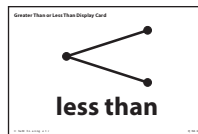
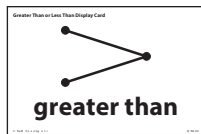


Activity 3

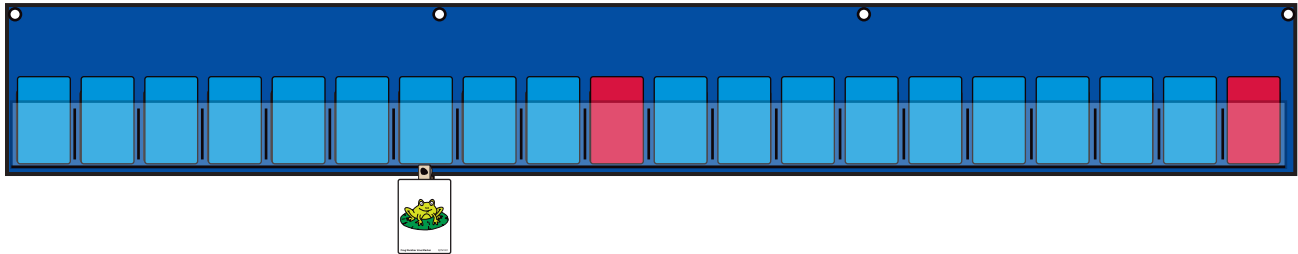
Playing Guess My Number

Day 7

- 1 Prepare the Number Corner discussion area before students arrive.
 - Remove one number card from the 61–79 sequence on the Number Line pocket chart, and hide the card in a drawer or clothes pocket.
 - Then cover all the numbers with sliding cards, including the pocket for the number you have removed.
 - Keep numbers 70 and 80 behind a red card.
 - Post the Greater Than or Less Than Display Cards at the top of a piece of chart paper or on the whiteboard where you will have room to write below them.
- 2 When students join you in the discussion area, let them know you are going to play Guess My Number. Quickly review the *greater than* and *less than* symbols you've posted.
- 3 Discuss with students that today you will start using another symbol, the variable n , to stand for “my number.”
 - Let them know that they can think of n as a short way to mean “number.”
 - Ask students if they can think of another symbol they've used this month that also stands for a missing number (eliciting mention of the open box in the Number Puzzles Calendar Markers).
 - Point out that using symbols shows that they are developing their mathematical thinking skills.
- 4 Tell the class that you have removed one of the cards from the Number Line pocket chart, and invite the students to guess the number.
 - Each time they guess a number, tell students whether n , your secret number, is *greater than* or *less than* that number, and record the information on the chart or whiteboard below the Greater Than or Less Than Display Cards.
 - Lift the card on the number the student guessed to show that it is still in place. Then lower the card, and have a student mark that pocket with one of the frog clips.

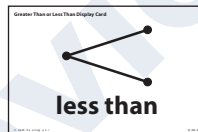
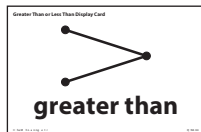


$$n > 67$$



SUPPORT The Guess My Number activity involves knowing forward/backward number sequences and understanding hierarchical inclusion as well as greater than/less than concepts. To make the activity less challenging for the students who are not visualizing the numbers and number relationships on their own, slide open some of the cards to allow students to see the numbers. See Activity 2 in October’s Number Line workout for specific suggestions to adjust your level of support.

- Help students evaluate their progress by reviewing the recorded guesses on the chart with them every few questions. Invite them to continue guessing until they correctly identify the hidden number.



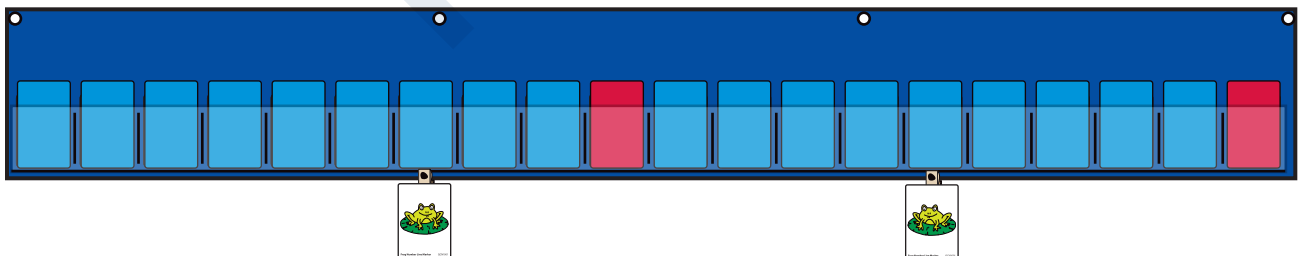
$$n > 67$$

$$> 71$$

$$n < 79$$

$$< 77$$

$$< 75$$



Teacher Could n be 74? Let’s see if 74 matches all the clues you’ve gathered so far. Is 74 greater than 67?

Students Yes!

Teacher Is 74 greater than 71?

Students Yes!

Teacher Is 74 less than 79?

- Confirm the number once a student has guessed correctly by reviewing the written guesses.

When one of the students identifies the number correctly, don't show the hidden card right away. Instead, review the clues on the chart one more time with students to confirm that the number they've identified matches all of them. After they've confirmed that it does, show them the number card and lift the sliding card to reveal the empty pocket where the card belongs.

- 7 Return the missing card to the Number Line pocket chart, and remove the frog range clips.
- 8 Invite a student helper to place the arrow clip on the pocket that shows the number of days they have been in school.



Activity 4



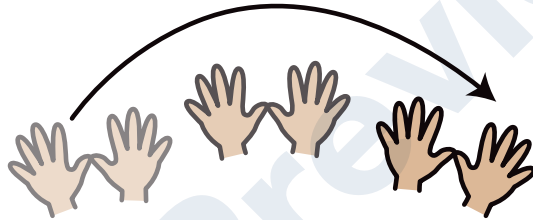
Notes About This Activity

Do this activity on your 80th day of school, even if you have to swap activities within the week.

Celebrating Decade Day, Part 1

Day 10

- 1 Gather students in the Number Corner area, show them both frog pointers, and tell them that both Tad and Polli will help them celebrate their 80th day of first grade—the eighth Decade Day!
- 2 Ask the students to help write the eighth decade strip for the Classroom Number Line.
 - Have students count by 10s to 60 using the leaps of ten hand motion as you use Tad to point to the decade numbers—10, 20, 30, 40, 50, 60—on the Classroom Number Line.



- Ask the class what tens number comes next, and use an erasable marker to record the numeral 70 on the new number line sentence strip. Be sure to highlight the 70 to match previous decade numbers.
- Ask students to switch their counting pattern and continue to count by 1s from 70 to 79 while holding up fingers for the ones numbers.



- Invite the students to help count the 10s and 1s with you as you write the numerals 71–79: 7 tens and 1, 7 tens and 2, 7 tens and 3 ... 7 tens and 9.



- 3 Invite the students to count by 5s to 75 along the Classroom Number Line strip as you use Polli as a pointer.
 - When you reach 70 and 75, circle them.
 - You might suggest that students alternate hands, showing 5 fingers on each hand as they count by 5s.

Teacher You counted by 10s along the number line so well. Let's count by 5s while Polli jumps by 5s along the number line. Ready? Count.

- 4 When you arrive at 75, invite students to switch their counting pattern and continue to count by 1s from 75 to 79 while holding up fingers.
- 5 As you arrive at 79, ask students where Polli will land after her next hop, and then hop her to the red door at the end of the Number Line pocket chart. Slide open the red card to reveal the number 80.
- 6 Invite students to play the game Leap by Tens.

Young children learn by touching, feeling, and moving. Kinesthetic experiences such as playing this game help students acquire and retain information. However, if this physical activity is difficult for your students or is something you prefer not to include, modify the steps listed below by having the “frog” use the frog pointer or a small toy frog to leap over the students who represent the decades.

 - Ensure you have adequate clear floor space to play this game safely. If sufficient classroom space isn't available, move the activity to the corridor, gym, or playground.
 - Ask the students to count by 10s to 80 to determine how many tens are in the number 80.
 - Tell the students that since there are 8 tens in 80, you will choose 8 students to play the role of decades.
 - Choose one student to be the “frog” to leap by 10s over the decades.
 - Review how to play Leap by Tens with the class.
 - » Ask the first eight decade students to form a line, and point to each of them in turn while counting by 10s: 10, 20, 30, 40, 50, 60, 70, 80.
 - » Ask these 8 decade students to kneel on the floor, tuck their heads, and cover their faces with their hands.
 - » Show the frog how to press his hands on the back of the classmate at the end of the line and leap over with legs spread. Explain that he will leap over one decade at a time, and the watching students will count along by 10s.
 - » Join students in counting by 10s as the frog leaps over the decades until he reaches the front of the line.
 - Choose a new student frog to leap across the decades counting backward from 80 to 0.
 - Assure the students that on the next Decade Day more students will get to play Leap by Tens.
- 7 Give students the rest of the period to complete the Eighth Decade Day page in the Number Corner Student Book.

Celebrating Decade Day, Part 2

Day 20

- 1 Follow steps 1–6 of Activity 4, Part 1, for celebrating the 90th day of school.
 - You will need to write a new Classroom Number Line strip for 80–89.
 - Be sure to count by 5s along the number line as well as by 10s. Invite students to consider which numbers are common multiples of 5 and 10.
 - Choose 9 students to represent the decades when playing Leap by Tens.
- 2 Ask students to complete the Ninth Decade Day page in their Number Corner Student Books.



Notes About This Activity

While the January Daily Planner indicates this routine for Day 20, use this activity on your 90th day of school. You may always swap activities within the week as necessary.

January Assessment

Number Corner Checkup 2

Overview

During the last week in January, the teacher introduces a short interview that will be conducted with each of the students individually as time allows over the next few weeks. The following day, the teacher administers a two-page written assessment to the entire class, either all at once, or to small groups of 4–6 students. These two instruments comprise Number Corner Checkup 2, designed to help teachers ascertain students' current strategies for adding and subtracting within 20, solving story problems, and reading, writing, and comparing numbers to 120.

Skills & Concepts

- Solve subtraction story problems with minuends to 20 involving situations of taking from, taking apart, and comparing, with unknowns in all positions (1.OA.1)
- Apply the commutative and associative properties of addition to add (1.OA.3)
- Solve subtraction problems by finding an unknown addend (1.OA.4)
- Solve addition problems by counting on (1.OA.5)
- Solve subtraction problems by counting back (1.OA.5)
- Use strategies to add and subtract with sums and minuends to 20 (1.OA.6)
- Solve for the unknown in a subtraction equation involving 3 whole numbers (1.OA.8)
- Count to 120, starting with any number less than 120, including 0 or 1 (1.NBT.1)
- Read and write numerals to 120, and represent a number of objects with a written numeral up to 120 (1.NBT.1)
- Demonstrate an understanding that the digits in a 2-digit number represent amounts of tens and ones (1.NBT.2)
- Use $>$, $=$, and $<$ symbols to record comparisons of two 2-digit numbers (1.NBT.3)

Materials

Assessments	Day	Copies	Kit Materials	Classroom Materials
Number Corner Checkup 2 Part 1 Introducing the Interview	17	TM T4–5 Number Corner Checkup 2 Interview Response Sheet TM T8 Equation Cards TM T9 Numeral Cards, Set 1		<ul style="list-style-type: none"> • Unifix cubes • 6" × 9" or larger piece of construction paper • hat (optional, see Preparation)
Number Corner Checkup 2 Part 2 Completing the Written Assessment	18	TM T6–7 Number Corner Checkup 2 Written Assessment		<ul style="list-style-type: none"> • Unifix cubes (see Preparation) • half-sheets of scratch paper (optional, class set)

TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

Preparation

- Run 1 copy each of the Equation Cards and Numeral Cards Set 1 Teacher Masters on card stock or heavy paper. Cut out the cards. Store each set in a small zip-top bag, an envelope, or a library pocket.
- Organize your Unifix cubes so that each student has access to a handful of about 12 loose cubes.
- Consider wearing a special hat when you are conducting individual interviews so the other students know that you're not to be disturbed. The more colorful and attention-grabbing the hat, the better.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

add*
compare*
equation*
how many
in all
number*
pictures
solve
story problem
subtract*

Mathematical Background

Number Corner Checkup 2 gives teachers an opportunity to gauge students' proficiency with some of the skills that have been most heavily addressed in the last several months of Number Corner instruction: strategies for adding and subtracting within 20, story problems, and reading, writing, and comparing numbers to 120. The interview should take 7–10 minutes per student, while the written assessment will take about 25 minutes.

Having conducted these assessments, teachers will be in a better position to plan daily instruction and make the minute-to-minute instructional decisions so crucial to good teaching. On the basis of students' strengths and weaknesses, teachers may decide to emphasize certain aspects of Number Corner instruction while minimizing others, and will have at least some of the information needed to pitch questions and prompts at levels appropriate to different students. The results of the second Number Corner Checkup will also reflect, to some extent, how effective the instruction has been for each student, and provide information that might be shared with stakeholders other than the classroom teacher (e.g., parents, resource room teachers, administrators) about each child's current proficiency with key grade level skills.

Note

See the assessment write-up in September for more tips about conducting interviews.



About This Assessment

The interview portion of Number Corner Checkup 2 takes another look at students' strategies for adding and subtracting within 20. Again, you have an opportunity to see whether students are working combinations by counting all, using more efficient counting strategies such as Counting On or Counting Back, making use of related facts, or answering from memory. Items 2, 3, 4e and 4f also provide opportunities to see if students are starting to use the commutative and associative properties of addition, as well as the relationship between addition and subtraction to help in solving basic facts. These are skills that are very difficult to assess in any way other than talking with the children and asking them to explain how they are finding their answers.

In order to reduce everyone's stress level—yours and the students'—it is helpful to let the children know in advance that you'll be visiting with each of them sometime in the next few weeks. It may also save you a little time to introduce the interview tasks to the entire class, rather than starting from scratch with each student. You will need a copy of the Number Corner Checkup 2 Interview Response Sheet Teacher Master, a small container of about 15 Unifix cubes in a single color, a piece of construction paper, and the Equation and Numeral cards you have prepared.



Number Corner Checkup 2, Part 1

Introducing the Interview

Day 17

- 1 Let students know that you will be visiting with each of them about math for a few minutes sometime over the next couple of weeks.
 - Assure them that they'll each get a turn.
 - Explain that you're going to ask them some questions so you can find out more about what they know about adding, subtracting, and reading numbers.
 - Let them know that this will help you do a better job of teaching them.

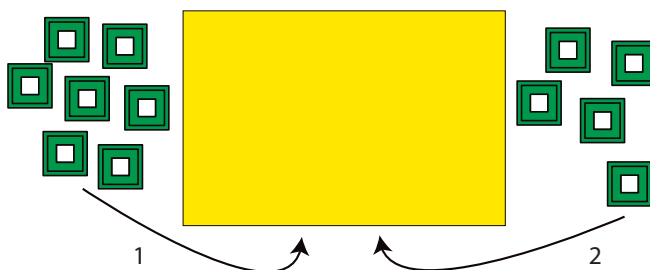
- 2 Show the class a copy of the Number Corner Checkup 2 Interview Response Sheet Teacher Master.

Explain that you will be reading questions to them from this sheet, and also writing down some of the things they tell you.

It is not important that students be able to see the actual items on the sheet.

- 3 Then share an example of each of the questions you will ask during the interview and have the students practice responding.

- As students watch, count out 7 Unifix cubes. Say:
I have 7 cubes. I am going to cover them with this piece of construction paper and put 5 more cubes under the paper.
- Slide 5 more cubes under the screen as the students watch. Then say,
How many cubes are under the paper now?



- Have students pair-share answers. Then call on several volunteers to share and explain their answers.

Student A It's 12!

Teacher How do you know?

Student A Because there were 7, and you put 5 more in there, so that's 8, 9, 10, 11, 12.

Student B I said 12 because 5 and 5 is 10, and then 2 more from the 7 would make 12.

- Point to the paper with the 12 cubes underneath, and ask students how many cubes there are. After they respond, lift the paper to show that there are, in fact, still 12 cubes there. Then cover the 12 cubes with the paper again.
- Reach under the paper and slide 2 cubes out, but keep them hidden under your hand so the students can't see them. Say:

There were 12 cubes under the screen. I took some away and now there are 10. How many did I take away?
- Have students pair-share answers. Then call on several volunteers to share and explain their answers.
- Show students the set of Equation Cards you prepared. Explain that when you meet with each of them, you will show them each card and ask them to read and solve the equation. Pull one card out of the set at random and have the class read it. Then give students a few moments to pair-share solutions, and show thumbs up when they have the answer. Call on two or three volunteers to share and explain their answers.
- Finally, show students the set of Numeral Cards you prepared. Explain that during the interview, you will ask them to read the number on each card.

Assessment Guide

See the Grade 1 Assessment Guide for scoring and intervention suggestions.



Number Corner Checkup 2, Part 2



About This Assessment

This section is written as if you were going to conduct the written assessment with the entire class at the same time. You may prefer to conduct it with small groups of 4–6 students instead, perhaps rotating them through a set of activities some of which (including this one) are supervised by adults, and others that are independent.

Completing the Written Assessment

Day 18

- 1 Let students know that you are going to ask them to solve some story problems and do some counting, as well as reading, writing, and comparing numbers.
- 2 Seat the children at their table spots or desks, and make sure they each have a pencil and access to a handful of loose Unifix cubes.
 - Remind them that they need to do their own work quietly so you can see what each of them can do.
 - If you need to move a few students to other locations so they have adequate privacy and a comfortable amount of working space, do so now.
- 3 Display your copy of the Number Corner Checkup 2 Written Assessment Teacher Master, and give each student a copy, as well as a half-sheet of scratch paper.

Using your copy of the sheet, show students how to write their name at the top on the line provided.

- 4 Administer the first problem on the assessment.
 - Ask students to find the picture of the spider and place their finger on it.
 - Then look quickly around the room to be sure all the students have placed a finger on the spider on their sheet.
 - Read the story problem to the students once.
 - Then explain that you need to see how they solve the problem, so they need to use numbers, pictures, or words (or some combination of the three) to show. Let them know that they can use their fingers or the Unifix cubes to help if they like, but they also need to show something on the page besides the answer.
 - Read the problem a second time, and then use your copy of the sheet to show and read the answer line.
 - Read the problem a third time if necessary, and then give students time to work.
 - Circulate around the room as they are working to observe and re-read the problem to individuals who need to hear it again.

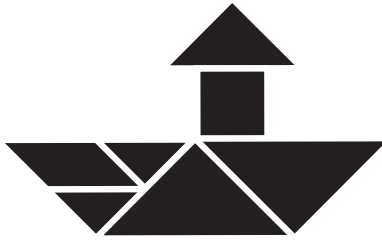
- 5 Repeat step 4 with the second story problem on the assessment.

SUPPORT. If this assessment seems like too much to ask your students to complete in one Number Corner period, stop after the second story problem and collect students' papers. Have them complete the second page the following day during Number Corner.

- 6 Have students turn their sheets over. Administer items 2, 3, and 4.
 - Read the instructions for item 2 to the class, and work the example with them. Then give them time to complete items 2a–2d.
 - When everyone is finished, read the instructions for items 3 and 4, allowing students time to complete items 3a–3c before moving on item 4.

As these items are likely to take some students longer to complete than others, ask them who finish quickly to draw on their half-sheets of scratch paper until everyone is ready to move on.

- 7 Circulate after you have read the last question to collect students' papers as they finish.



Teacher Masters

GRADE 1 – JANUARY

Preview



NUMBER[®]
CORNER



Graphing Mat

Preview



Penny Poem

PENNY

Penny, penny,
Easily spent.
Copper brown
and worth one cent.



1¢



Dime Poem

DIME

Dime, dime,
Little and thin.
I remember,
you're worth ten.



10 ¢

NAME _____

DATE _____



Number Corner Checkup 2 Interview Response Sheet page 1 of 2

Materials	Copies	Common Core State Standards Correlation
<ul style="list-style-type: none"> Piece of 6" × 9" or larger construction paper 14 Unifix cubes in one color 	TM T8 Equation Cards TM T9 Numeral Cards Set 1	1 1.OA.5 or 1.OA.6 2 1.OA.3, 1.OA.6 3 1.OA.5 or 1.OA.6, 1.OA.8 4 1.OA.3, 1.OA.4, 1.OA.5, or 1.OA.6 5 1.NBT.1

- 1** Place 7 Unifix cubes out on the table, and cover them with the construction paper screen. Say, "I have 7 cubes under this screen. If I put 4 more under the screen, how many do I have in all?"

Student adds 4 to a screened quantity of 7. Circle student's response below.

Responds incorrectly	Counts all* to get the correct answer	Counts on from 7 (or 4) to get the correct answer	Makes use of a related fact (e.g., $7 + 3$) or gives the correct answer automatically
----------------------	---------------------------------------	---	--

- 2** Place 4 Unifix cubes out on the table, and cover them quickly with the construction paper screen. Say, "I have 4 cubes under this screen. If I put 7 more under the screen, how many do I have in all?"

Student adds 7 to a screened quantity of 4. Circle student's response below.

Responds incorrectly	Counts all* to get the correct answer	Counts on from 4 (or 7) to get the correct answer	Makes use of a related fact (e.g., $7 + 4$) or gives the correct answer automatically
----------------------	---------------------------------------	---	--

- 3** Place 14 Unifix cubes out on the table, and cover them quickly with the construction paper. Then slide 4 out from under the screen but keep them hidden under your hand so the student can't see them. Say, "I had 14 cubes under this screen. I took some away and now there are 10. How many did I take away?"

Student subtracts 4 from a screened quantity of 14. Circle student's response below.

Responds incorrectly	Counts all* to get the correct answer	Counts back from 14 to get the correct answer	Makes use of a related fact (e.g., $14 - 10$) or gives the correct answer automatically
----------------------	---------------------------------------	---	--

NAME _____

DATE _____

Number Corner Checkup 2 Interview Response Sheet page 2 of 2

- 4** Show student each of the equation cards in the order listed below. For each card, say, “Read this problem and work it out.” After the student gives the answer, say, “How did you figure that out?”
- Allow the student to use her fingers to help. Do not supply other counters.
 - If the student mistakenly reads or attempts to solve either or both of the last two equations as addition combinations, call her attention to the subtraction sign, and give the reminder that these are subtraction problems.

Place a check mark in the column that best describes the student’s strategy for solving the combination on each equation card.

Equation	Responds incorrectly	Counts all* to get the correct answer	Counts on or counts back to get the correct answer	Makes use of a related fact or gives the correct answer automatically
a $8 + 10 =$				
b $10 + 3 + 5 =$				
c $10 + 4 + 5 =$				
d $5 + 5 =$				
e $5 + 6 =$				
f $8 + 2 =$				
g $10 - 2 =$				
h $10 - 8 =$				

* *Counts all* means that the student solves the problem using a strategy that involves counting every quantity by 1s, rather than counting on or counting back. For example, a student who counts all to solve the first equation above might count out 8 fingers on his hands, ask you to hold up 10 fingers, and then re-count all the fingers by 1s to get 18 in all.

- 5** Using the Numeral Cards, randomly show one card at a time and ask, “What is the name of this number?”

Check numbers that are named correctly; record incorrect answers.

56 _____

59 _____

61 _____

62 _____

65 _____

NAME _____

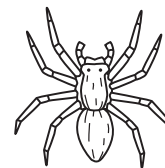
DATE _____

**Number Corner Checkup 2 Written Assessment** page 1 of 2

Instructions to the teacher: Read and explain the directions for problem 1. Then read each story problem to the students, allowing time for them to solve the problem before moving on. You may read the problem more than once, and students can use cubes or fingers to help find the answer.

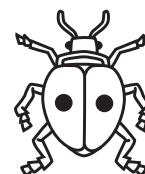
- 1** Solve each story problem below. Use numbers, pictures, or words to help solve the problem and show your thinking. Write your answer on the line.
- a** There were 12 spiders on the ground. Then 7 of the spiders ran to hide in a hole. How many spiders were left?

_____ spiders were left.



- b** There were 9 ladybugs on a leaf. Some of them flew away. Then there were 3 ladybugs on the leaf. How many ladybugs flew away?

_____ ladybugs flew away.



(continued on next page)

NAME _____

DATE _____

Number Corner Checkup 2 Written Assessment page 2 of 2

Instructions to the teacher: Read the directions for problem 2, do the example with the class, and give students time to complete items 2a–2d. Read the directions for problems 3 and 4, allowing students time to complete each before moving on to the next.

2 Fill in the missing numbers.

ex 16, 17, 18, 19, 20, 21, 22

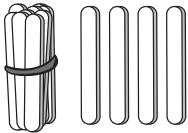
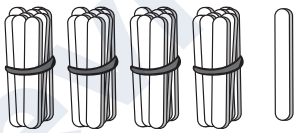
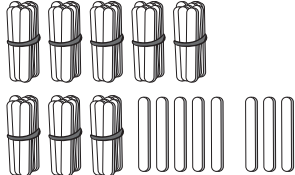
a 36, _____, _____, _____, _____, _____, _____

b 87, _____, _____, _____, _____, _____, _____

c 98, _____, _____, _____, _____, _____, _____

d 107, _____, _____, _____, _____, _____, _____

3 Write the number to show how many Popsicle sticks are in each box. (There are 10 sticks in each bundle.)

<p>a</p> 	<p>b</p> 	<p>c</p> 
<p>_____</p>	<p>_____</p>	<p>_____</p>

4 Write the $>$, $=$, or $<$ sign in the circle to compare the numbers in each pair.

<p>a 15 <input type="text"/> 51</p>	<p>b 60 <input type="text"/> 16</p>
<p>c 75 <input type="text"/> 75</p>	<p>d 93 <input type="text"/> 89</p>

NAME _____

DATE _____

**Equation Cards**

$$8 + 10 =$$

$$10 + 3 + 5 =$$

$$10 + 4 + 5 =$$

$$5 + 5 =$$

$$5 + 6 =$$

$$8 + 2 =$$

$$10 - 2 =$$

$$10 - 8 =$$

NAME _____

DATE _____



Numeral Cards, Set 1

56

59

61

62

65

Preview



Student Book

GRADE 1 – JANUARY

Preview



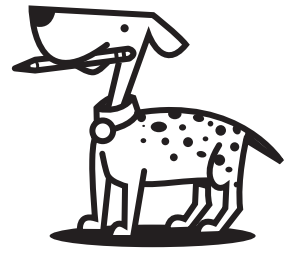
NUMBER[®]
CORNER

NAME _____

DATE _____



My Math Thinking



Preview

NAME _____

DATE _____



Finding Parts & Totals on the Hundreds Grid



- 1 How many days have you been in school? _____
- 2 Color in squares to show how many days you have been in school.

- 3 How many squares are not colored in?
- 4 Fill in the parts on the number tree to show how many days you have been in school and how many days are left until the 100th day of school.

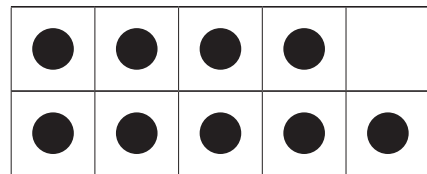
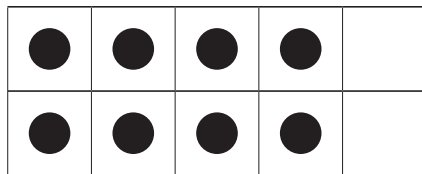
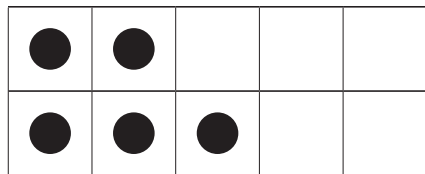


NAME _____

DATE _____

+ **-**
÷ **×** **Doubles & More**

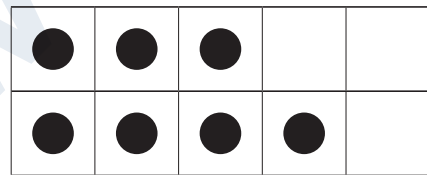
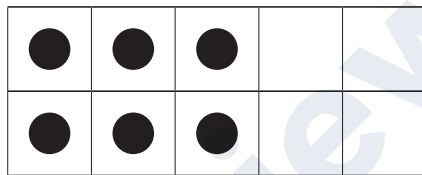
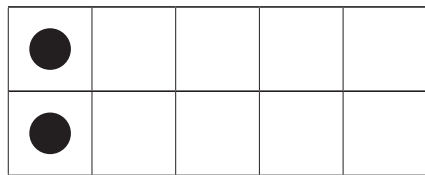
Cut around the equation boxes at the bottom of the page. Put each equation under the matching ten-frame card. Then glue them down.



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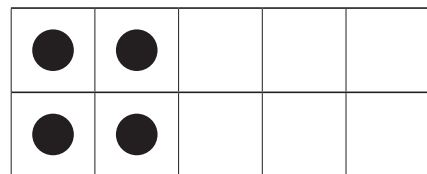
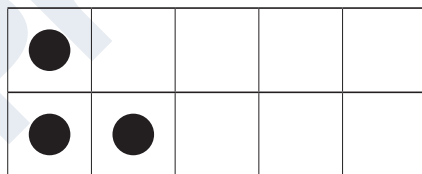
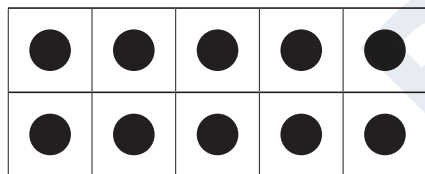
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$3 + 3 = 6$	$4 + 4 = 8$	$5 + 5 = 10$
$4 + 5 = 9$	$3 + 4 = 7$	$2 + 2 = 4$
$1 + 1 = 2$	$2 + 3 = 5$	$1 + 2 = 3$

NAME _____

DATE _____

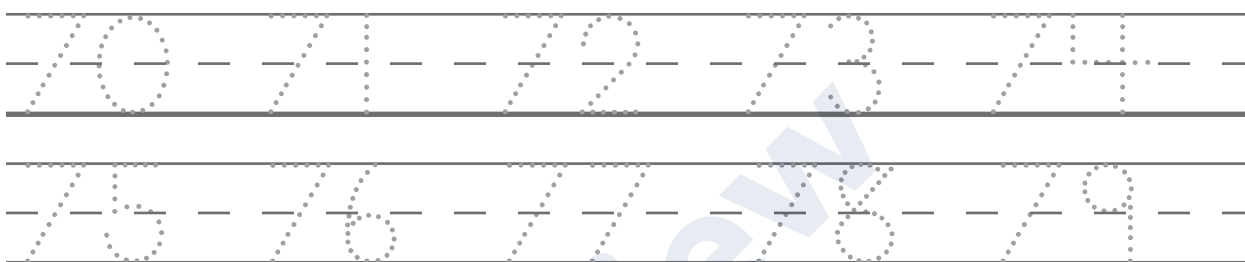


The Eighth Decade Day

- 1 Help Tad hop from 0 to 80 by drawing his hops.



- 2 Trace and say the numbers in the seventies family.



- 3 Choose a number to practice writing. Write it here as many times as you can.

- 4 What number comes after 79? _____

- 5 Write $<$ to show *less than* or $>$ to show *greater than* between the pairs of numbers below.

a 41 _____ 28

b 37 _____ 72

c 80 _____ 79

d 71 _____ 76

e 28 _____ 59

f 14 _____ 15

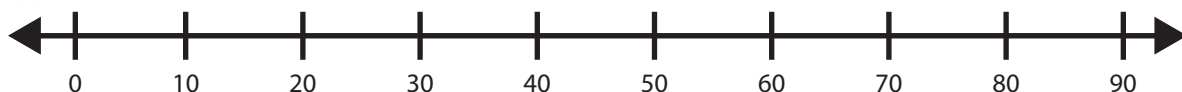
NAME _____

DATE _____

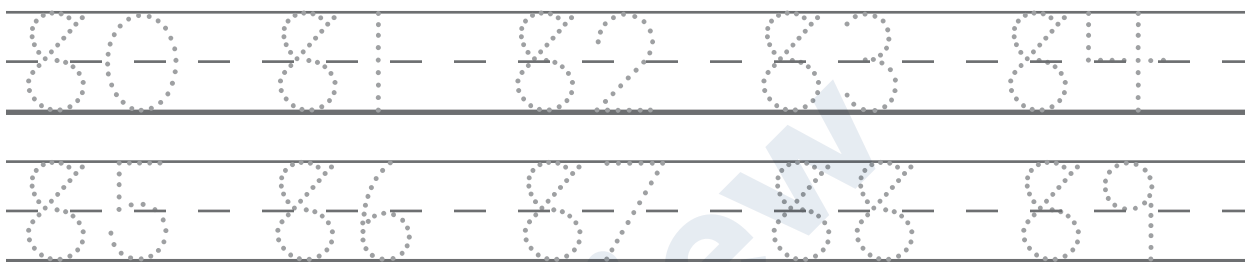


The Ninth Decade Day

- 1 Help Tad hop from 0 to 90 by drawing his hops.



- 2 Trace and say the numbers in the eighties family.



- 3 Choose a number to practice writing. Write it here as many times as you can.

- 4 What number comes after 89? _____

- 5 Write equations with the number 90. Can you think of some with three addends?

a $90 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

b $\underline{\quad} + \underline{\quad} + \underline{\quad} = 90$

c

d

