

SECOND EDITION

TEACHERS GUIDE

NOVEMBER

GRADE

1

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Number Corner November

November Sample Display & Daily Planner.....	B
November Introduction	1
November Calendar Grid Chomp! Gulp! Nibble! Fractions	3
Introducing the November Calendar Markers	Day 15
Introducing the Calendar Grid Observations Chart	Day 2.....6
Folding Fraction Circles	Day 5.....8
Folding Fraction Squares	Day 9.....10
Playing the Color Five Fraction Game.....	Day 13.....12
Today Is	Optional.....14
November Calendar Collector An Hour a Day	15
Introducing the Calendar Collector	Day 117
Finding Half & Whole on the Clock, Part 1	Day 6.....19
Finding Half & Whole on the Clock, Part 2	Day 12.....20
Completing the Tell the Time Page.....	Day 8.....22
Collecting the Thirteenth Hour.....	Day 13.....23
Telling Time on the Alarm Clock.....	Optional24
November Days in School Finding Fifty	25
Discussing the Days in School Hundreds Grid	Days 4, 826
Writing Equations for the Days in School.....	Days 6, 1428
Finding Fifty on the Hundreds Grid	Day 1129
November Computational Fluency Doubles & Halves to Ten	31
Introducing Doubles Facts to Ten with Ten-Frames	Day 3.....32
Ten-Frame Finger Flash Doubles	Days 4, 733
Telling Math Stories & Writing Doubles Equations.....	Days 9, 1236
Connecting Doubles & Half Facts.....	Day 15.....37
November Number Line The Forties & Fifties	39
Counting Forward & Backward, Part 1	Days 2, 540
Counting Forward and Backward, Part 2	Days 11, 1441
Playing Guess My Number.....	Day 7.....42
Celebrating Decade Day	Day 10.....45

Teacher Masters

Pages renumber each month.

Circle Pattern	T1
Calendar Collector Clock.....	T2
Ten-Frames & Number Trees.....	T3

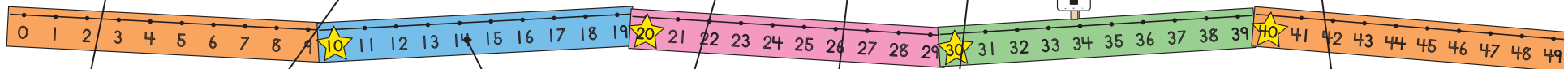
Number Corner Student Book Pages

Page numbers correspond to those in the consumable books.

Color Five Fraction Game Record Sheet.....	10
Today Is	11
Student Clock	13
Tell the Time.....	15
Finding Fifty on the Hundreds Grid	16
My Math Thinking.....	17
The Fifth Decade Day	18

November 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 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.

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

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

Calendar Collector Clock Display
To make room for this display, put away the Calendar Collector pocket chart and data collection graphs used in September and October. You'll need those items again in January.
Make the Calendar Collector Clock from a copy of the included teacher master. You'll add a second clock on day 13. See the Preparation section of the Calendar Collector workout for details.

November Daily Planner

Day	Date	Calendar Grid	Calendar Collector	Days in School	Computational Fluency	Number Line
1		Activity 1 Introducing the November Calendar Markers (p. 5)	Activity 1 Introducing the Calendar Collector (p. 17)	Update		
2		Activity 2 Introducing the Calendar Grid Observations Chart (p. 6)	Update	Update		Activity 1 Counting Forward & Backward, Part 1 (p. 40)
3		Update	Update	Update	Activity 1 Introducing Doubles Facts to Ten with Ten-Frames (p. 32)	
4		Update	Update	Activity 1 Discussing the Days in School Hundreds Grid (p. 26)	Activity 2 Ten-Frame Finger Flash Doubles (p. 33)	
5		Activity 3 Folding Fraction Circles (p. 8)	Update	Update		Activity 1 Counting Forward & Backward, Part 1 (p. 40)
6		Update	Activity 2 Finding Half & Whole on the Clock, Part 1 (p. 19)	Activity 2 Writing Equations for the Days in School (p. 28)		
7		Update	Update	Update	Activity 2 Ten-Frame Finger Flash Doubles (p. 33)	Activity 2 Playing Guess My Number (p. 41)
8		Update	Activity 3 Completing the Tell the Time Page (p. 22)	Activity 1 Discussing the Days in School Hundreds Grid (p. 26)		
9		Activity 4 Folding Fraction Squares (p. 10)	Update	Update	Activity 3 Telling Math Stories & Writing Doubles Equations (p. 36)	
10		Update	Update	Update		Activity 3 Celebrating Decade Day (p. 45)
11		Update	Update	Activity 3 Finding Fifty on the Hundreds Grid (p. 29)		Activity 1 Counting Forward & Backward, Part 2 (p. 41)
12		Update	Activity 2 Finding Half & Whole on the Clock, Part 2 (p. 20)	Update	Activity 3 Telling Math Stories & Writing Doubles Equations (p. 36)	
13		Activity 5 Playing the Color Five Fraction Game (p. 12)	Activity 4 Collecting the Thirteenth Hour (p. 23)	Update		
14		Update		Activity 2 Writing Equations for the Days in School (p. 28)		Activity 1 Counting Forward & Backward, Part 2 (p. 41)
15		Update			Activity 4 Connecting Doubles & Half Facts (p. 37)	
		Activity 6 Today Is... (optional, p. 14)	Activity 5 Telling Time on the Alarm Clock (optional, p. 24)			

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, and update the Calendar Grid Observations Chart.

Calendar Collector – Advance the time by one hour on both the teacher display clock and the Calendar Collector clock, update the Hour Display Clock Cards and sticky notes, and circle another hour on the timeline strip.

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

Number Corner

November

Overview

This month's workouts delve into fractions and telling time. Students discover a pattern of friendly animals chomping snacks into wholes, halves, and fourths in the Calendar Grid, and the focus on fractions carries over to Calendar Collector. There the teacher introduces telling time to the hour, and students use fractions of a circle to consider whole and half on an analog clock. November includes the 50th day of school, and students use the hundreds grid to discover they are halfway to the 100th day of school.

Activities

Workouts	Day	Activities	D	G	SB
Calendar Grid Chomp! Gulp! Nibble! Fractions The teacher introduces the language of fractions and encourages students to use new vocabulary words to describe this month's markers, which feature animals eating whole, halves, and fourths of square and round snacks. Students fold paper circles and squares into halves and fourths, and later in the month they play a fraction game.	1	1 Introducing the November Calendar Markers	●		
	2	2 Introducing the Calendar Grid Observations Chart	●		
	5	3 Folding Fraction Circles	●		
	9	4 Folding Fraction Squares	●		
	13	5 Playing the Color Five Fraction Game		●	●
	optional	6 Today Is ...			●
Calendar Collector An Hour a Day Students collect an hour a day this month as the teacher introduces telling time to the hour on both digital and analog clocks. They record each collected hour on a linear timeline and record a.m. and p.m. hours on circle graphs.	1	1 Introducing the Calendar Collector	●		
	6, 12	2 Finding Half & Whole on the Clock	●		●
	8	3 Completing the Tell the Time Page			●
	13	4 Collecting the Thirteenth Hour	●		
	15	5 Telling Time on the Alarm Clock (optional)		●	
Days in School Finding Fifty The class continues to count the number of days in school on the hundreds grid this month. Students count by 5s and 10s and generate matching equations, with a special focus on 50.	4, 8	1 Discussing the Days in School Hundreds Grid	●		
	6, 14	2 Writing Equations for the Days in School	●		
	11	3 Finding Fifty on the Hundreds Grid	●		●
Computational Fluency Doubles & Halves to Ten This month the teacher introduces addition doubles facts to 10 and the related subtraction facts, using pair-wise ten-frame display cards and finger patterns. Students tell stories and write equations to represent some of the Doubles and Half facts as they learn more about the connection between addition and subtraction.	3	1 Introducing Doubles Facts to Ten with Ten-Frames	●		
	4, 7	2 Ten-Frame Finger Flash Doubles	●		
	9, 12	3 Telling Math Stories & Writing Doubles Equations			●
	15	4 Connecting Doubles & Half Facts	●		
Number Line The Forties & Fifties The class works with the Number Line pocket chart this month to reinforce numeral identification, place value, and number sequences from 30 to 59. Students play another round of Guess My Number and count by 10s on the Classroom Number Line. They celebrate the fifth Decade Day with a game of Leap by Tens.	2, 5, 11, 14	1 Counting Forward & Backward	●		
	7	2 Playing Guess My Number	●	●	
	10	3 Celebrating Decade Day	●	●	●

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

Teaching Tips

November frequently has fewer teaching days than previous months due to holidays and parent-teacher conferences. For this reason there are only 15 Number Corner sessions on this month's planner. If you have additional teaching days this month, consider playing another round of the Color Five Fraction Game (additional recording sheets can be made using your teacher master, or having the students complete the Today Is ... Calendar Grid page in their Number Corner Student Book, as well as repeating any of the Computational Fluency activities.

Target Skills

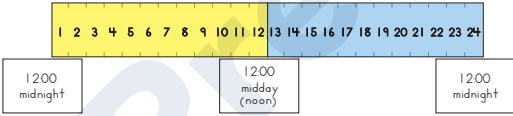
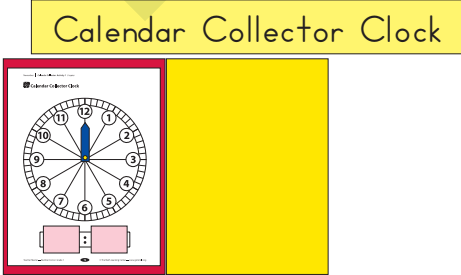
The table below shows the major skills and concepts addressed this month. It is meant to provide a quick snapshot of the expectations for students’ learning during this month of Number Corner.

Major Skills/Concepts Addressed	CG	CC	DS	CF	NL
1.OA.6 Add and subtract within 20		●	●	●	
1.NBT.1 Count to 120, starting with any number less than 120, including 0 or 1		●	●		●
1.NBT.4 Use concrete models or drawings to add with sums to 100			●	●	●
1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	●	●	●		

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

Materials Preparation

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
<p>Copying</p> <p>Run copies of Teacher Masters T1–T3 according to the instructions at the top of each master.</p> <p>Run a single display copy of Number Corner Student Book pages 10, 11, and 15.</p> <p>If students do not have their own Number Corner Student Books, run a class set of pages 10–18.</p>	
<p>Charts</p> <p>Prepare the Calendar Grid Observations Chart according to preparation instructions in the Calendar Grid workout.</p> <p>Prepare a linear timeline strip according to preparation instructions in the Calendar Collector workout.</p>  <p>Set up the Hour a Day Collection display according to preparation instructions in the Calendar Collector workout.</p> 	
<p>Paper Cutting</p> <p>Cut paper circles according to instructions on the Circle Pattern Teacher Master for use in the Calendar Grid workout.</p> <p>Following preparation instructions in the Calendar Collector workout, cut strips of card stock to make clock hour hands for the Hour a Day Data Collection and Number Corner Student Books.</p>	

November Calendar Grid

Chomp! Gulp! Nibble! Fractions

Overview

The teacher introduces the language of fractions and encourages students to use new vocabulary words to describe this month's markers, which feature animals eating whole, halves, and fourths of square and round snacks. Students discuss equal parts as they fold paper circles and squares into halves and fourths. Later in the month they play a fraction game, Color Five, which reinforces how smaller fractional parts make a whole.

Skills & Concepts

- Recognize, describe, and extend number and shape patterns (supports 1.OA)
- Read numerals within 120 (1.NBT.1)
- Identify and name two-dimensional shapes including circles and squares (supports 1.G)
- Partition a circle [rectangle] into 2 and 4 equal parts (1.G.3)
- Use the terms halves and half of to talk about the 2 equal parts into which a circle [rectangle] has been partitioned (1.G.3)
- Use the terms fourths, quarters, fourth of, and quarter of to talk about the 4 equal parts into which a circle [rectangle] has been partitioned (1.G.3)
- Describe a whole circle [rectangle] as 2 [4] of two [four] equal parts (1.G.3)
- Demonstrate an understanding that as a shape is partitioned into a greater number of equal parts (e.g., 4 equal parts rather than 2), the size of the parts gets smaller (1.G.3)
- Reason abstractly and quantitatively (1.MP.2)
- Look for and make use of structure (1.MP.7)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Introducing the November Calendar Markers	1		<ul style="list-style-type: none"> • Used in all November Calendar Grid activities: <ul style="list-style-type: none"> » Calendar Grid pocket chart » Chomp! Gulp! Nibble! Fractions Calendar Markers » Date Chart 	
Activity 2 Introducing the Calendar Grid Observations Chart	2		<ul style="list-style-type: none"> • Word Resource Cards: <i>half, fourth, and whole</i> 	<ul style="list-style-type: none"> • erasable marker • Calendar Grid Observations Chart (see Preparation)
Activity 3 Folding Fraction Circles	5	TMT 1 Circle Pattern (see Preparation)		<ul style="list-style-type: none"> • scissors (class set) • white copy paper (see Preparation)
Activity 4 Folding Fraction Squares	9			<ul style="list-style-type: none"> • 4-inch white copy paper squares (4 per student, plus a few extra) • scissors • marker
Activity 5 Playing the Color Five Fraction Game	13	NCSB 10* Color Five Fraction Game Record Sheet	<ul style="list-style-type: none"> • 1–4 Spinner 	<ul style="list-style-type: none"> • red and blue crayons (1 of each color for each student)
Activity 6 (optional) Today Is ...		NCSB 11* Today Is ...		

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.

circle*
date
day
diagonal
fourth*
fraction*
half*
month
parts
sideways
square*
whole*
year

Preparation

Calendar Grid Observations Chart

Erase the Calendar Grid Observations Chart from October. Redraw the lines to create three columns as shown. The chart can be extended midway through the month using the second sheet of laminated chart paper. Use an erasable marker to record students' observations so that you can reuse the chart each month.

Calendar Grid Observations		
Date	Whole, Halves or Fourths?	Sentence

Word Resource Cards

Before you conduct the second activity with your class, post the Word Resource cards for half, fourth, and whole. Display the cards in the Number Corner near the Calendar Grid pocket chart if possible, and leave them up for the entire month.

Paper Circles

Run 5–6 copies of the Circle Pattern Teacher Master to use as templates for cutting circles out of white copy paper, several sheets at a time. You will need at least two circles for each student and a few extra for use during Activity 3.

Mathematical Background

Fractions can be confusing to young students. Situations that involve sharing can help students understand that fractional parts are equal or "fair shares." The concept that fractions, rather than representing size, represent the relationships between the parts and the whole can be tricky for them. But the abstract concept is made concrete and understandable when they consider that half of a cookie is not usually the same size as half of a pizza. The calendar activities this month include naming and counting fractional parts to help first graders get off to a good start with a complex set of concepts.

About the Pattern

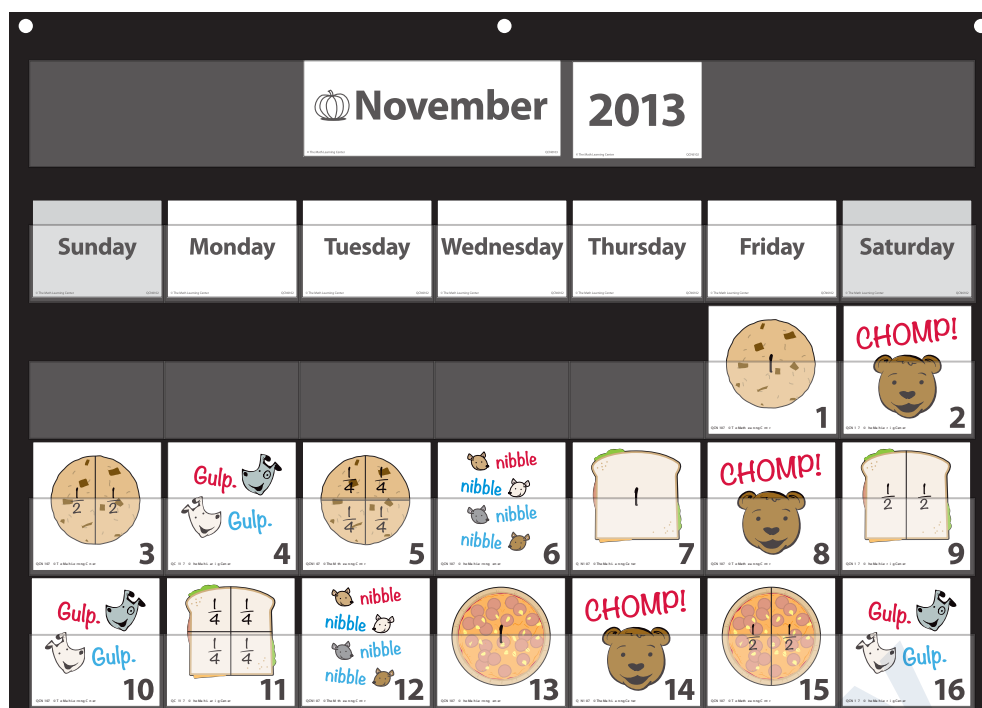
Following is a description of the patterns found in the November calendar marker set. Allow your students to discover these as the month progresses.

- The markers alternate picture, word(s), picture, word(s), picture, word(s) throughout the month.
- The snacks shown (cookie, sandwich, pizza, cracker, pie) go from a whole to a half to a quarter each time a new item appears.
- The shapes of the snacks alternate: circle, square, circle, square.
- The animals repeat in a pattern of 1 bear, 2 dogs, 4 mice.
- The words repeat in a pattern of *Chomp!*, *Gulp. Gulp.*, *nibble nibble nibble nibble*.
- The words are in sets of 1 word, 2 words, and 4 words. One word in each set is printed in red to show fractions of a set (e.g., in the phrase *nibble nibble nibble nibble*, three of the *nibbles* appear in blue, while one appears in red).

Key Questions

Use these questions to help your students investigate this month's pattern.

- What predictions can you make about the marker for today?
- What observations can you make about the marker, now that it is posted?
- What story could you tell using the pictures on today's marker?
- Which marker shows a whole cookie (sandwich, pizza, cracker, pie)?
- Which marker shows half of a cookie (sandwich, pizza, cracker, pie)?
- Which marker shows a fourth (quarter) of a cookie (sandwich, pizza, cracker, pie)?
- Which is bigger, one-half or one-quarter of a cookie (sandwich, pizza, cracker, pie)? How do you know?
- What happens to the pieces of the cookie (sandwich, pizza, cracker, pie) as each of these snacks gets cut once, and then twice? How could you prove it?



Literature Connections

Use the following books as read-alouds this month to reinforce understanding of fractions:

Eating Fractions by Bruce McMillan

Full House: An Invitation to Fractions by Dayle Ann Dodds

Whole-y Cow: Fractions Are Fun by Taryn Souders

Update

Procedure

Update the Calendar Grid every day (the update is contained within Activities 1 and 2):

- 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.

With help from the students, the teacher updates the Calendar Grid Observations Chart each time the animals appear (every two days), using a sentence that contains fractional language.



Activity 1

Introducing the November Calendar Markers

Day 1

- 1 Introduce the new month and its order in the calendar year.
 - Point to the Month Cards and have the students say the months of the year, January through November, while the student helper makes a tally for each month.
 - Count the tally marks with the class.
- 2 Update the Date Chart.
 - Explain that November is the 11th month of the year, and write 11 under the word *Month* on the Date Chart, using a washable marker.
 - Point out the *Day* heading and write today's day number under it.
 - Explain that the written abbreviation for November is *Nov.*, and model writing this on the Date Chart as well.

Month	Day	Year
11	1	13
Nov. 1, 2013		

- 3 Have the student helper place today's marker in the correct pocket of the Calendar Grid, 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.



"Today is Friday, November first, 2013."

- 4 Discuss the Chomp! Gulp! Nibble! Fractions Calendar Markers that have been posted so far.
- Point to the markers and ask students to look at them quietly and give thumbs up when they have something to share.
 - Have students share their observations with a partner and then in whole-class discussion.



Activity 2

Introducing the Calendar Grid Observations Chart Day 2

- 1 After students have made predictions about the marker for the day and a student helper has posted it, introduce the Calendar Grid Observations Chart.
- Show students the Calendar Grid Observations Chart you revised for November.
 - Explain that this month they will be using the chart to record sentences about the markers using new vocabulary words.
- 2 With students' help, fill in the date on the Calendar Grid Observations Chart for the second calendar marker, using a washable marker.
- Point to the column that says *Date* and fill in the date for the second marker. Explain to the class that you will be recording observations every other day. As the month progresses, students may notice that the dates on the observation chart are counting by 2s.

Calendar Grid Observations		
Date	Whole, Halves or Fourths?	Sentence
11-2		

- 3 Introduce the term *whole*, and work with input from the students to record the fractional part in numeric form (1) in the Whole, Halves or Fourths? column on the chart.

Teacher Take a look at our first calendar marker for November.
What is shown on this marker?

Students It's a cookie.
It looks like a chocolate chip cookie. My favorite kind!

Teacher How many cookies are on this marker?

Students One.

Teacher Has anyone taken a bite of this cookie or is it broken in pieces?

Students No.

Teacher The cookie is one **whole** piece. This is one **whole** cookie, so I'm going to write the number 1 in the second column on our chart.

- 4 Invite students to look at the second marker. Then work with their input to write a sentence on the Calendar Grid Observations Chart that describes an interaction between the animal and the snack on the preceding marker. Use the word *whole* as part of the sentence.

Teacher What do you see on our second marker?

Students It's a bear, and it says, "Chomp!"
The bear ate the cookie!
I bet tomorrow we'll have crumbs.

Teacher Let's write a sentence about the cookie and the bear using the word "whole" as part of the sentence. Talk with your partner and give thumbs up when you have a sentence.

- 5 Continue, every other day, recording fractions and eliciting sentences from the students using the appropriate fractional terms to describe the interaction between the animal and the snack on the preceding marker.

Repeat steps 2–4 to teach the terms *half/halves* the day you post the fourth marker.

Repeat steps 2–4 to teach the terms *fourth/fourths* and *quarter/quarters* the day you post the sixth marker.

Date	Whole, Halves or Fourths?	Sentence
11-2	1	The bear ate the whole cookie.
11-4	2	Each dog got half of a cookie.
11-6	4	Each mouse nibbled on a fourth of the cookie.

Over the course of the month, work with students to devise sentences that involve different forms of each fraction as you record them on the chart. For example, you might record, “Each dog got half of a cookie” the first time the dogs appear. The next time, you might write, “Each dog ate one of the sandwich halves.” The first time the mice appear, you might record, “Each mouse nibbled on a fourth of the cookie.” The next time, you might write, “The sandwich was cut into quarters, and each mouse got one.”

While students need to know the name of the fractional parts, they also need to hear the language of the fractional parts being counted. For example, calendar marker 5 shows the cookie divided into four equal parts. While each part is labeled as $\frac{1}{4}$, the students should hear the parts counted as “one-fourth, two fourths, three fourths, four fourths; four fourths make a whole!”



Activity 3

Folding Fraction Circles

Day 5

- 1 Complete the update procedure.
- 2 Call the students’ attention to calendar markers 1–6 showing the cookie pictures, and discuss.

If calendar marker 6 is not showing yet, have students make predictions for what might be on the marker and continue on with the activity.

- Point to marker 1 and ask the students what is shown.
- Ask the students how a cookie is like a circle. What are the properties of a circle?
- Invite the students to look at all of the markers showing and pair-share what happens to the cookie.
- Choose a few pairs of students to share their stories. While the answers will vary, students will generally talk about the cookie being eaten. They may make predictions about the animals or talk about the fractional pieces.

Student A First there was a whole cookie. Then a bear ate it—chomp! Then there was a cookie cut in half. Two dogs came along and ate it. They each got half.

Student B Then there was a cookie in 4 pieces. Four little mice came and got the pieces.

Teacher What part of the cookie did each little mouse get?

*Students A fourth!
A quarter!
One of the 4 little pieces.*

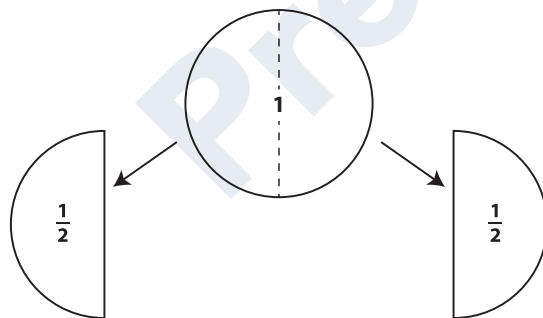
- 3 Show the students one of the paper circle cookies you have prepared for this activity, and discuss how to share it between two students.
- Hold up one of the paper circles you've prepared for the lesson, and ask the students to pretend it is a cookie.
 - Choose two volunteers to come stand by you where everyone can see them.
 - Ask the students to think about how these two students could share one cookie fairly and to give thumbs up when they have an idea.
 - Call on students to share their ideas.
 - Follow students' suggestions about how to share the paper cookie circle. (Use additional circles to demonstrate if they have more than one strategy.)

You may want to intentionally cut some circles so that they are not in equal parts. These poor examples are important to help students understand that the solution is not simply two pieces, but two equal pieces.

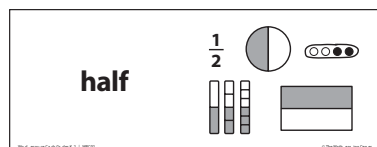
- Pose the following question to the students while you work.
 - » Why do they have to be the same size?
 - » Why can't one be bigger than the other?
 - » What can you do to make sure both halves are the same size?

If the suggestion doesn't come from the class, suggest placing one piece on top of the other to make sure the pieces are equal.

- 4 When there is general agreement about how to fold and cut the circle in half, fasten a folded circle and the two halves of a cut circle on the board. Label each item as the students watch, and discuss the display with them.



- Point to the notation $\frac{1}{2}$ and read it to the class as a *half*.
- Call attention to the Word Resource Card for the term *half*.

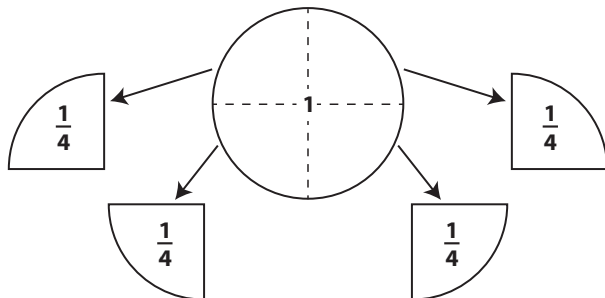


- Explain that this is what people write to describe each of the pieces they get when they divide one object (like a cookie) into 2 equal parts. Each piece is 1 out of 2 equal parts.
- Model counting the parts for the students: “One half, two halves. Two halves equal one whole.”

- 5 Give each student two paper circles and ask them to fold 1 of their circles in half to make 2 equal parts.

Remind the students to set the other paper circle down in front of them and to not do anything with it yet.

- 6 Repeat step 3, except that this time, discuss how four children would share one cookie.
 - Choose four students to stand where everyone can see them.
 - Ask the class to predict how much of the cookie each student will get this time.
 - » Follow the students' suggestions for dividing the cookie, and discuss the results.
- 7 When there is general agreement about how to fold and cut the circle in fourths, fasten a folded circle and the four quarters of a cut circle on the board. Label each item as the students watch, and discuss the display with them.



- Point to the notation $\frac{1}{4}$ and read it to the class as *one-fourth* and *one-quarter*.
 - Call attention to the Word Resource Cards *fourth* and *quarter*.
 - Explain to the students that this notation is sometimes read as one-fourth and sometimes read as one-quarter. Students who are familiar with money might remark that four quarters make a dollar.
 - Explain that this is what people write to describe each of the pieces they get when they divide one object into four equal parts. Each piece is 1 out of 4 equal parts.
 - Model counting the parts for the students: “One fourth, two fourths, three fourths, four fourths. Four fourths equal one whole.”
- 8 Ask the students to fold their second paper circle into fourths to make four equal parts.
 - 9 Invite students to reflect on their paper circle folding.
 - Ask the following questions to guide their thinking.
 - » What do they notice?
 - » What happens to the size of the piece each child gets as you add more children to the group?
 - » What would happen to the size of each piece if you divided 1 cookie among 8 or even 12 children? Why?



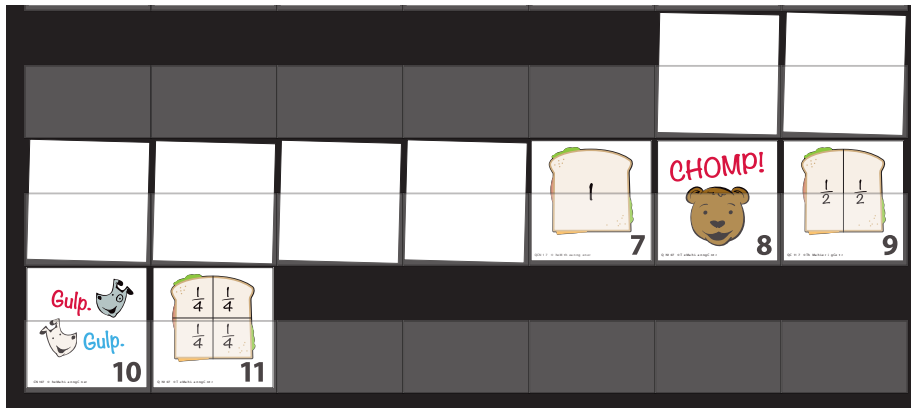
Activity 4

Folding Fraction Squares

Day 9

- 1 Complete the update procedure.
- 2 Call the students' attention to calendar markers 7–11 showing the sandwich picture, and discuss.

To focus attention on this marker sequence, you turn the other markers face-down for a few minutes. If a calendar marker is not posted yet, have students make predictions for what might be on the marker and continue on with the activity.



- Point to calendar marker 7 and ask the students what is shown.
 - Invite the students to pair-share ideas about what happens to the sandwich.
 - Choose a few pairs of students to share their stories. While the answers will vary, students will generally talk about the sandwich being eaten by animals as well as it being cut into halves, quarters or fourths.
- 3 Show the students one of the paper squares you have prepared for this activity, and discuss how to cut it in half.
- Hold up one of the paper squares you've prepared for the lesson.
 - Ask the students to tell you how to cut it in half.
 - Follow students' suggestions to cut the paper in half. (Use additional squares to demonstrate if they have more than one strategy.). Some students might suggest that you fold the paper in half before you cut. Some may advise you to fold up and down or sideways, while others may suggest that you fold it along the diagonal before you cut.

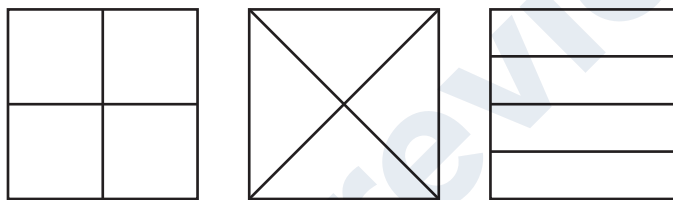
You might intentionally cut some squares so that they are not in equal parts. These poor examples are important to help students understand that the solution is not simply 4 pieces, but 4 equal pieces.
 - Pose the following question to the students while you work.
 - » What can you do to make sure both halves are the same size?
 - » Why do they have to be the same size?
 - » Why can't one be bigger than the other?
 - » What shape are the halves if you cut the paper sideways? (rectangles)
 - » What shape are the halves if you fold and cut the paper on the diagonal? (triangles)
- 4 Give each student three or four paper squares and ask them to fold *one* square in half, either sideways or on the diagonal.
- Remind the students to set the other paper squares down in front of them and to not do anything with them yet. They will need the other squares in just a few minutes.
- 5 Write $\frac{1}{2}$ on a whiteboard or other display area, and review.
- Point to the notation and read it to the class as a *half*.
 - Call attention to the Word Resource Card *half*.
 - Remind students that $\frac{1}{2}$ describes each of the pieces they get when they divide 1 object into 2 equal parts.
- 6 Show the students how to touch and count the fractional parts of their square.

- Ask students to set their folded paper square in front of them.
 - Show the students how to touch and count the parts: “One half, two halves. Two halves make a whole.”
- 7 Write $\frac{1}{4}$ on a whiteboard or other display area, and review.
- Read $\frac{1}{4}$ to the class while pointing to the notation.
 - Call attention to the Word Resource Cards *fourth* and *quarter*.
 - Remind students that this notation is sometimes read as one-fourth and sometimes read as one-quarter.
 - Remind them that $\frac{1}{4}$ describes each of the pieces they get when they divide one object into four equal parts.
- 8 Ask students to fold their second paper square into fourths.
- 9 Ask volunteers to share their work with the class.
- After students have had a minute to experiment with folding the square into fourths, call on volunteers to share their strategies with the class.

Students First I folded my paper in half, like the first time. Then I opened it and folded it in half the other way.

My mom always cuts my sandwiches in triangles. I folded my paper my paper in half like this, and then I folded it again. Here's how it looked when I opened it.

I folded mine 2 times. It came out different from the others.



- 10 Show the students how to touch and count the fractional parts of their square. Ask them to touch each part as they count: “One fourth, two fourths, three fourths, four fourths. Four fourths equal one whole.”
- 11 Ask students to take another paper square and to fold it in fourths again. *If students struggled the first time, they may have gotten a new idea by watching their classmates. If they were successful the first time, ask them to try one of the other methods that may have been shared. Encourage them to help one another as they work.*
- If students have an additional square of paper, invite them to fold it in halves or fourths in a way different from one of their previous folds.



Activity 5

Playing the Color Five Fraction Game

Day 13

- 1 Ask students to join you in the discussion area with their Number Corner Student Books, a red crayon, and a blue crayon.
- 2 Display your copy of the Color Five Fraction Game Record Sheet.
 - Explain that this is the record sheet for a new game you're going to play with the class called Color Five.

- After students have had a chance to share their observations about the sheet, name and count the parts in the first circle: “One fourth, two fourths, three fourths, four fourths. Four fourths make a whole.”
- 3 Show students the 1–4 Spinner and explain the directions for Color Five Fraction Game.
 - Explain that the goal of today’s game is to see who can come closest to coloring in 5 whole circles.
 - Explain that the numbers on the spinner board tell how many fourths of a circle may be colored. It takes four fourths to make a whole circle.
 - Explain that with each turn, you or the students will spin the spinner and color in as many fourths as it shows.
 - » The team that gets closest to 5 whole circles after six spins, either under or over, wins.
 - 4 Ask the students to open their books to the Color Five Fraction Game Record Sheet.
 - Invite students to put their finger on the mouse at the top of the page as you quickly scan the class to make sure all students have found the correct page.
 - Explain that you will keep track of the students’ spins and the teacher’s spins on your record sheet, and they will do the same in their Number Corner Student Books.
 - 5 Take the first turn to show students how the game is played. Then have the class take their first turn.
 - Spin the spinner and ask the students to read the number.
 - Demonstrate how to color in the quarter circles in the teacher’s row using a red crayon, and have the students record your spin in their books as well.

Teacher I landed on 2. I get to color in 2 quarter circles in the row labeled Teacher. (Picks up red crayon and colors in 2 quarter circles on the first circle in the row.)
 - Select a student to spin the 1–4 Number Spinner and read the number to the class.
 - Ask the students to color the number of quarter circles indicated by the spinner on the first circle in their row.

Teacher Our student helper spun a 3, so you get to color in 3 quarter circles. Pick up your red crayon and color in 3 quarters of the first circle in the Students row.
 - Show the students what this will look like by coloring in the quarter circles on your Color Five recording sheet and counting as you color: “One fourth, two fourths, three fourths.”
 - 6 Continue playing back and forth until each team—you and the class—has had 6 turns. Have both teams alternate colors each turn, coloring their first spin in red, their second in blue, their third in red, and so on.
 - Choose a different student to spin the spinner for the class each time it is their team’s turn.
 - Consider making a frequency table using tally marks to keep track of each turn.
 - 7 When each team has taken six turns, compare the results.

Ask questions such as the following:

 - Who won? By how much?
 - How many full circles was each team able to color in? How many fourths in addition to that? What was each team’s total?
 - Did either team go over? If so, by how much?
 - How many more quarter circles were needed to get exactly 5 whole circles?

- Could either team get exactly 5 circles with one more spin? Why or why not?
- What part of any given circle on the record sheet has been colored in red? (blue?)

Turns

Teacher

|||||

Students

|||||

November | Calendar Grid Activity 5

NAME _____ DATE _____

Color Five Fraction Game Record Sheet

Game 1

Students

Teacher

1-4 Spinner

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Students We won!

We beat you by 2 pieces.

Teacher How many circles did your team color in?

Students Four!

We filled up 4 all the way, and then we got one more fourth on the last circle.

Teacher So your final score was 4 and $\frac{1}{4}$. What was my final score?

Student You got 3 whole circles and then 3 more pieces.

Teacher Right. I colored in 3 circles and then 3 quarters of another circle. How much did you beat me by?

Students We got 2 more pieces than you did.

We beat you by 2 fourths.



Activity 6

Today Is ...

- 1 If you have extra teaching days in November, consider having students complete the Today Is ... Number Corner Student Book page toward the end of the month.

This sheet provides more practice with writing numerals to 31, filling in a calendar grid accurately, and using tally marks to represent quantities.

- Display your copy of the sheet as students locate the corresponding page in their books.
- Review and clarify the instructions on the sheet as needed.
- Give students the time remaining in the workout to complete the sheet.

Optional

November Calendar Collector

An Hour a Day

Overview

Students collect an hour a day, up to 15 hours, as the teacher introduces telling time to the hour on both digital and analog clocks. With help from the teacher, they record each collected hour on a linear timestrip and record a.m. and p.m. hours on two circle graphs. Students show half on an analog clock face that will be used as an aid for visualizing the half-hour later in the year. An optional activity at the end of the month helps students understand how long an hour really is.

Skills & Concepts

- Tell time to the hour on an analog clock (1.MD.3)
- Tell time to the hour on a digital clock (1.MD.3)
- Write time to the hour (1.MD.3)
- Partition a circle into 2 equal parts (1.G.3)
- Describe a whole circle as 2 of two equal parts (1.G.3)
- Use the terms halves and half of to talk about the 2 equal parts into which a circle has been partitioned (1.G.3)
- Model with mathematics (1.MP.4)
- Attend to precision (1.MP.6)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Introducing the Calendar Collector	1	TM T2 Calendar Collector Clock NCSB 13 Student Clock	<ul style="list-style-type: none"> • Analog Hour Display Cards (see Preparation) • Digital Hour Display Cards (see Preparation) 	<ul style="list-style-type: none"> • 3 sentence strips • 9" × 12" construction paper (3 pieces, see Preparation) • 1 ½" × 2" sticky notes (48) • card stock or poster board for clock hands (see Preparation) • three 3" × 5" index cards • 2 brass fasteners • large teacher display clock (e.g., Judy Clock)
Activity 2 Finding Half & Whole on the Clock	6, 12	NCSB 13 Student Clock	<ul style="list-style-type: none"> • Analog Hour Display Cards • Digital Hour Display Cards • Word Resource Cards: <i>half, whole</i> 	<ul style="list-style-type: none"> • crayons (class set) • large teacher display clock • brass fasteners (1 per student) • tagboard clock hands (1 per student, see Preparation)
Activity 3 Completing the Tell the Time Page	8	NCSB 15* Tell the Time	<ul style="list-style-type: none"> • Digital Hour Display Cards 	<ul style="list-style-type: none"> • crayons (class set) • large teacher display clock • standard pocket chart
Activity 4 Collecting the Thirteenth Hour	13		<ul style="list-style-type: none"> • Analog Hour Display Cards • Digital Hour Display Cards 	<ul style="list-style-type: none"> • marker in a different color than used for hours 1–12 • large teacher display clock
Activity 5 (optional) Telling Time on the Alarm Clock	15			<ul style="list-style-type: none"> • digital alarm clock (optional)

Vocabulary

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

analog clock
clock face*
clockwise
collect
digital clock
half*
hour (hr.)*
hour hand
midday
midnight
minute (min.)*
minute hand
noon
time
timeline
whole*

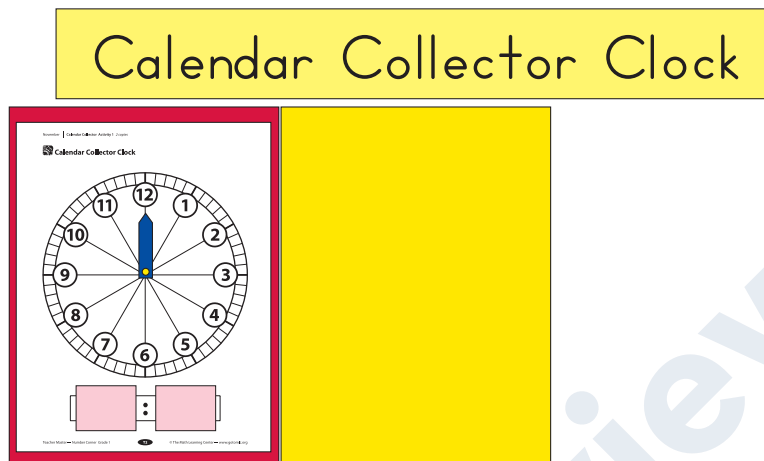
TM – Teacher Master, NCSB – Number Corner Student Book
Copy instructions are located at the top of each teacher master.

*Run 1 copy of this page for display.

Preparation

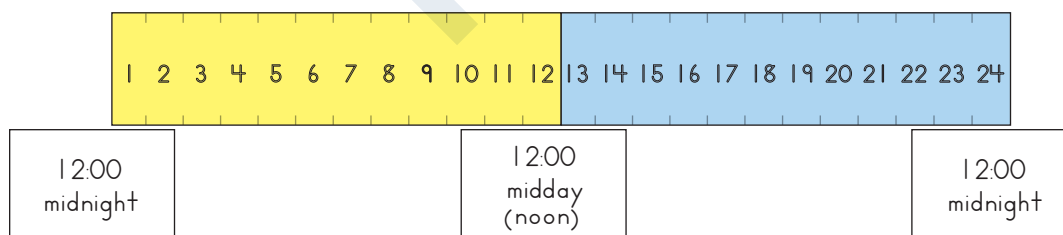
Hour a Day Data Collection Display

Cut two colored card stock or poster board strips, each $\frac{1}{2}'' \times 2 \frac{1}{4}''$, to make hour hands, one for each copy of the Calendar Collector Clock Teacher Master. Use scissors to trim a point on one end of each strip. Attach an hour hand to each clock using a brass fastener. Back each with a $9'' \times 12''$ piece of construction paper, the first with red and the second with blue. Attach a pad of 12 sticky notes ($1 \frac{1}{2}'' \times 2''$) on each rectangular area below the clock faces. To start the month, display the Calendar Collector Clock backed with red paper on the wall in your Number Corner area. Post a piece of yellow construction paper to the right of it. On Day 13, add the second clock. Use a sentence strip to label the display, as shown. You'll continue to collect hours and use this display in December.



Linear Timeline Strip

To make the linear timeline strip, measure and mark 1-inch increments on two (half) sentence strips, as shown, to result in one 24-inch strip. Number one sentence strip 1–12 and the other sentence strip 13–24. On two of the index cards, write "12:00 midnight." Write "12:00 midday (noon)" on the third, and position as shown. Display the linear timeline strip in your Number Corner area near the Hour a Day Data Collection Display. You will use this timeline to continue collecting hours in December as well.



Analog Clock Cards and Digital Clock Cards

Order the cards in both sets from 1:00–12:00. Place these cards near your Number Corner area.

Hour Hands for Student Clocks

To make the hour hands for the student clocks in the Number Corner Student Books, use a paper cutter to cut colored card stock or poster board into $\frac{1}{2}'' \times 2 \frac{1}{4}''$ strips. You will need one strip for each student plus one to use as a model. Using scissors, trim a point on one end of each strip. On the other end, make a hole with a nail, school compass, or small hole punch. This will make it easier for your students to attach the hour hand with a brass fastener to the clocks in their books.

Key Questions

Use the following questions to guide your students' discussion about time and the hours collected.

- How many hours have we collected so far?
- What are some activities that last for one hour (for example, school activity, television show, sporting event)?
- What can you do in one hour?
- What hour of the day is it right now?
- What do we do in school at particular hours of the day?
- What are you usually doing at 8:00 a.m. (12:00 noon, 2:00 p.m., 6:00 p.m., 9:00 p.m., 12 midnight, 3:00 a.m.)?
- What time will it be in one more hour (two more hours)?

Mathematical Background

Even before children can tell time, they are thinking and asking questions about it: When's recess? What time is lunch? Is it time to clean up? Yet motivating young students to learn to tell time on an analog clock can be challenging. After all, they are surrounded by cellphones, handheld gaming devices, computers, and microwaves with digital displays. Simply being able to read numbers on a digital clock is not the same as being able to tell time, and the concepts of duration and elapsed time are far more meaningful when modeled on an analog clock. The activities this month focus on telling time to the hour. Activities in future months will reinforce concepts introduced this month and introduce time-telling to the half-hour.

Update

After Activity 1, update every school day until 15 hours are collected (3:00 p.m.). You will continue the same collection again in December, collecting hours 16–24.

Procedure

- The teacher uses a large teacher display clock to show the time displayed on the Calendar Collector clock and then advances the time by one hour, first on the demonstration clock and then on the Calendar Collector clock.
- Students read the time, and the teacher posts the corresponding Analog and Digital Hour Display Clock Cards.
- The teacher or a student helper colors in one more hour on the Calendar Collector clock and writes the time on a new sticky note below. One color is used for the first six hours, then a second color is used for the following six hours to show the two halves of the analog clock face.
- The teacher or a student helper circles one more hour on the linear timeline strip.
- The class counts the number of hours collected so far as the teacher points to the hours on the Calendar Collector clock or the timeline strip.

Activity 1

Introducing the Calendar Collector

Day 1

- 1 Introduce this month's Calendar Collector by showing students your geared display clock and asking for observations.
 - Ask students to take a moment to look quietly at the clock and give thumbs up when they have something they would like to share.
 - Have students share with a partner, and then call on a few students to share their observations with the class.
- 2 Direct students' attention to the numbers on the teacher display clock and its hour hand.
 - Ask students how many circled numbers are on the clock.
 - Point to each numeral, starting with 1, as the students read it aloud.
 - Explain to the students that the numbers tell what hour it is in the day.
 - Point to the hour hand and explain that when the hour hand moves from one number to the next, one hour has passed.
- 3 Explain to the class that this month they will collect one hour each school day until they have collected enough hours to equal one day.

Literature Connections

It's not hard to find good books on telling time. These titles would all be fine read-alouds this month.

Bats Around the Clock by Kathi Appelt
An all-night dance marathon featuring a different dance each hour.

Chimp Math by Anne Whitehead Nagda and Cindy Bickel
Excellent use of timelines in the life of a baby chimp, especially the one showing all of the times he is bottle fed in one day.

The Clock Struck One: A Time-Telling Tale by Trudy Harris
An hourly tale based on the classic nursery rhyme Hickory Dickory Dock.

Cluck O'Clock by Kes Gray
A day in the life of a chicken in rhyme.

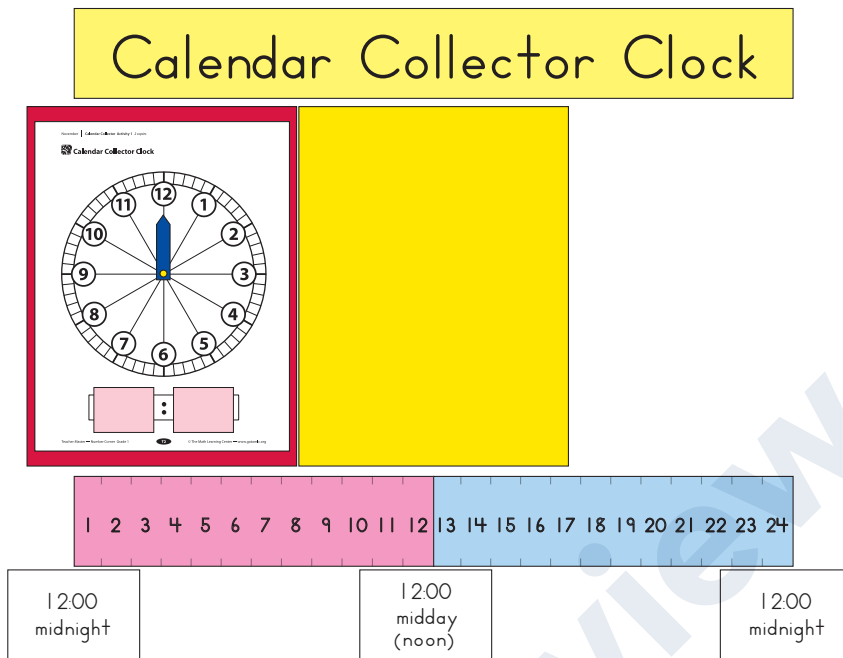
Telling Time: How to Tell Time on Digital and Analog Clocks! by Jules Older
This is one of the few books that includes both analog and digital clocks.

Time To ... by Bruce McMillan
An hour-by-hour account of a boy's day.

Why Do We Have Day and Night? by Anthony Lewis
This book provides a simple explanation of day and night cycles.

- 4 Show students the Calendar Collector clocks and the linear timeline strip posted in the Number Corner Display area, and ask how they are similar and different.

Students might notice, for example, that the numerals on the clock and on the first sentence strip include 1–12. On both the clock and the strip, there is space between each numeral and the next. The clocks appear to start with 12, while the numerals on the first strip start at 1 and run up through 12.



- 5 Take a minute to discuss the two labels under the timeline strip that read *midnight*.
- Point to the word *midnight*, and explain to the students that each new day begins at midnight.
 - Point to the first clock on the collection display, and show the students how the hour hand is pointing at the 12.
 - Explain that the clock represents midnight as 12 o'clock.
 - Ask the students what most people are doing at midnight.

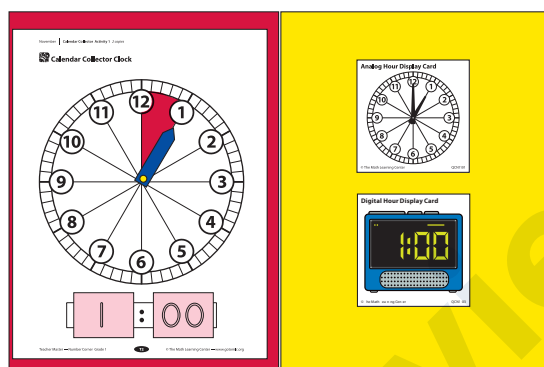
Students will most likely have stories about people, perhaps themselves, staying up until midnight or about people who work through the night. Some students might also know that 12:00 can also refer to midday or noon, and those with military family members might mention military time. A brief discussion is all that is necessary now. These concepts will develop over the next two months.

- 6 Show students how the clock hands move together over the period of one hour.
- Start with your geared display clock at 12:00.
 - Explain to the students that when both the hour hand and minute hand are on the 12, the time is 12:00.
 - Move the minute hand clockwise around the clock so that the time showing is 1:00.
 - Explain that as the long minute hand moves around the clock, the shorter hour hand moves from one number—one hour—to the next.
- 7 Introduce the term *o'clock* to the class, and have students use it as they practice reading time to the hour on your teacher display clock.

- Explain when the minute hand is pointing at the 12, the hour hand is pointing exactly to a number, and the time is read as *o'clock*.
- Move the hour hand on the clock to show 3:00, and tell the class the time is three o'clock.
- Repeat with different on-the-hour times, and ask students to whisper the time to their neighbor.

8 Demonstrate how you will collect one hour a day for the Calendar Collector.

- Display 12:00 on your geared display clock, and tell students that the clock reads 12:00 midnight.
- Move the hands on the geared clock to show 1:00, and ask the students to tell the time shown.
- Point to the Calendar Collector Clock in the display, and move the hour hand to 1:00.
- Color in the clock face as indicated to show you have collected one hour. Write 1:00 on the sticky note under the first clock face.
- Post the 1:00 Analog and Digital Hour Display Cards on the yellow construction paper, and explain that both of these clocks show 1:00.



- Point to the timeline strip, and show the students where it says midnight.
- Circle the 1 on the timeline strip to show one collected hour.



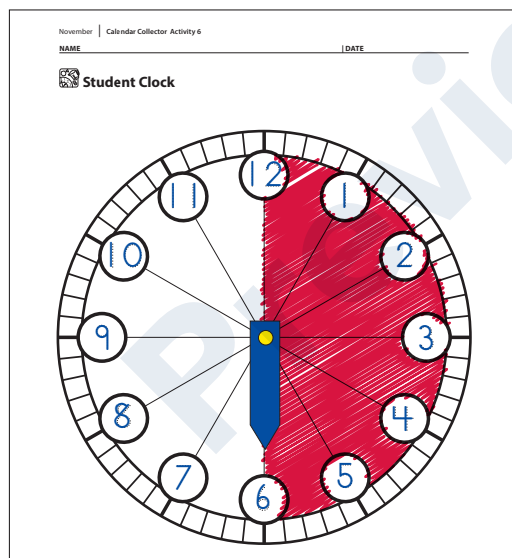
Activity 2

Finding Half & Whole on the Clock, Part 1

Day 6

- 1 Complete the update procedure.
- 2 Ask students to find the Student Clock page in their Number Corner Student Books.
Students will find the clock looks similar to the those on the Number Corner display board. They will need a pencil and one crayon of any color for this activity.
- 3 Show the students how to attach an hour hand to the center of the clock in their book.
 - Show the students the tagboard hour hands that you have prepared, and demonstrate how to poke a hole with a pencil in the center of the circle (if you haven't already poked the hole), and attach the clock hour hand with a brass fastener.
 - Pass out the clock hands and brass fasteners to the students.

- Tell students that when they have attached their clock hand, they may use their pencil to trace the clock numbers.
 - Assist students as needed.
- 4 Invite the students to show various o'clock times using their clocks in their Number Corner Student Books.
- Ask the students to move their hour hand so that it points to the number 3, and explain that this shows 3 o'clock.
 - Invite the students to move their hour hand so that it points to the number 4.
 - Ask the students to whisper to their partner the time the clocks shows now (4 o'clock).
 - Continue asking students to move their hour hand to various numbers and then to name the time.
- 5 Ask the students to look at the Calendar Collector display on the wall, and discuss finding half of the circle on the clock.
- Ask how many hours have been collected so far. How much of the clock has been colored in?
 - Invite students to find a Calendar Grid marker that shows half of a circle.
- 6 Have students color in half of the clock on their Number Corner Student Book Student Clock page.



Finding Half & Whole on the Clock, Part 2

Day 12

- 1 Complete the update procedure, then ask students to find the Student Clock page in their Number Corner Student Books.

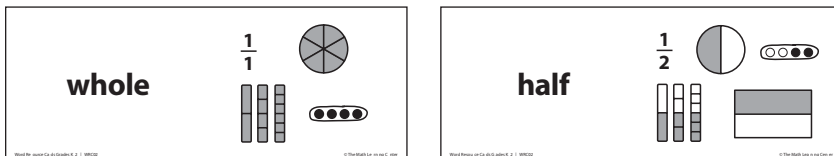
This page should be easy to find because students attached an hour hand to the clock, traced the numerals, and colored in half the clock face during Activity 2, Part 1.

- 2 Explain that they will add more hours to their clocks to match the hours collected on the display clocks, and discuss how many more to add.
- Ask the students how many hours are collected on the clock in their Number Corner Student Book.

- Next, ask them how many hours have been collected so far this month on the Calendar Collector display.
- Invite students to figure out how many more hours they need to add to their Number Corner Student Book page to equal the number of hours collected on the Calendar Collector.
- Have students share their thinking, first with a partner and then with the whole group.

3 Invite the students to color the other half of the clock on their Number Corner Student Book page, and discuss halves and wholes.

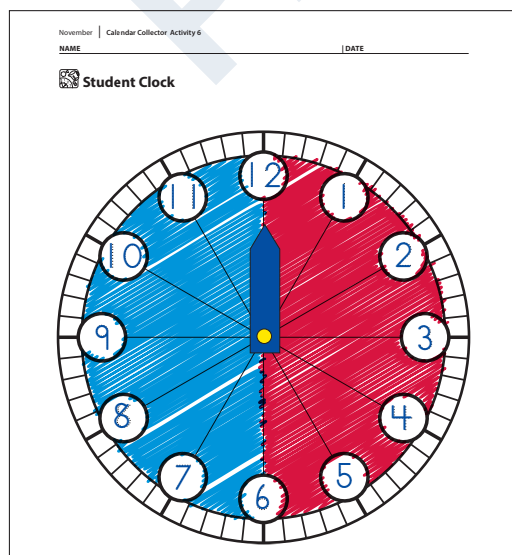
- Ask the students how much of the clock is colored in now. Highlight the Word Resource cards for *half* and *whole* to help them make the connection between half of a whole and half of the clock.



- Invite students to find a Calendar Grid marker that shows a whole circle.
- Remind students that two halves equal one whole. Explain that 6 hours plus 6 hours equals 12 hours, and there are 12 hours on an analog clock.

4 When students have shaded in their clocks, invite them to predict what will happen when they collect another hour.

- Ask the students to move the hour hand on their Student Clock page so that it points to the number 1. What time does the clock show?
- Invite the students to move their hour hand so that it points to the number 3. What time does the clock show now?
- Continue asking students to move their hour hand around the clock in order and naming the time.
- When students get to 12 o'clock, invite them to make predictions about the time for the next hour.
- What will happen when they add another hour to the Calendar Collector?





Activity 3

Completing the Tell the Time Page

Day 8

- 1 After completing the update procedure, display Digital Hour Display Cards 6–8 in your standard pocket chart.
- 2 Point to each card, and have the students read the time it shows.
- 3 Ask the students to open their Number Corner Student Books to the Tell the Time page.
- 4 Ask students to look at the first clock on the page and show thumbs up when they have an observation they would like to share with the class.
 - Explain that they will see four clock faces on this page.
 - Have students put their finger on the first clock.
 - Scan the class to see that all students are on the correct page, or ask the students to help their neighbors.
- 5 Invite students to share their observations quietly with a classmate. Then call on a few students to share their observations with the class.

*Students This clock looks like the other clock in our book, but it's smaller.
This clock doesn't have any hands.
It says o'clock underneath it.*
- 6 Choose a student to select one of the Digital Hour Display Cards from the standard pocket chart.
- 7 Have the students draw the hands on the first clock on their Tell the Time page to represent the time showing on the selected Digital Hour Display Card, then discuss.
 - Ask the students where the minute hand will be for an o'clock time (on the 12).
 - Remind the students that the minute hand is longer than the hour hand.
 - Choose a student to set the time on the large teacher display clock to match the time shown on the Digital Hour Display card.
 - Ask the class if they agree. Why or why not?
- 8 Repeat steps 6 and 7 with the remaining three clocks on the Number Corner Student Book page.


Activity 4
Collecting the Thirteenth Hour
Day 13

- Before completing the update procedure, discuss what to do now that the first clock displayed on the Calendar Collector is full.
 - Ask the students how many hours have been collected so far this month.

Teacher How many hours have we collected so far this month?

Students Twelve!

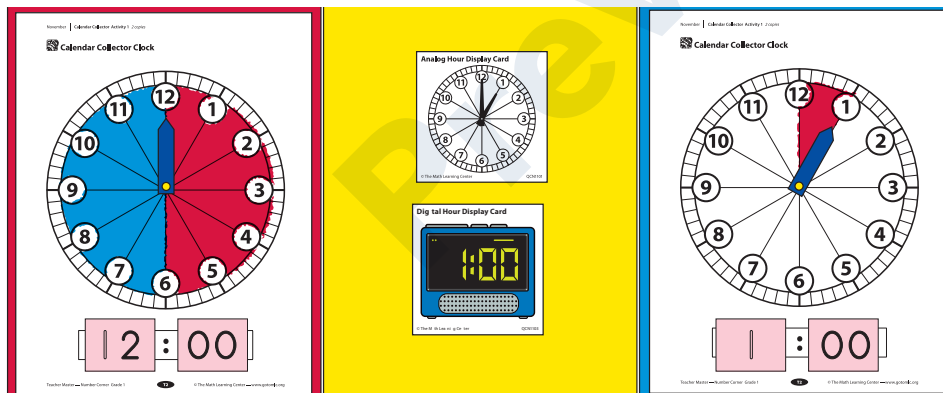
Teacher So if we have collected 12 hours, and we collect 1 more hour today, how many hours will we have?

Students Thirteen.

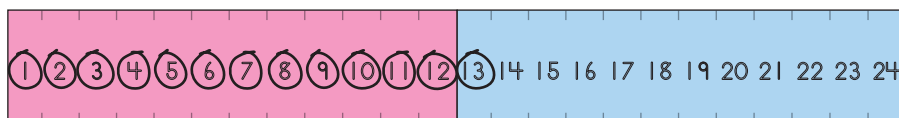
Teacher Hmm. Our clock is completely full. What should we do now?

- Display 12:00 on your large teacher display clock.
 - Ask students what time it will be if you advance the clock to the next hour.
 - Explain that after 12:00 comes 1:00, and the time of day changes from a.m. to p.m. or vice versa. Some students might be interested in knowing that military time does use the hours 13:00–24:00.
- Post the second Calendar Collector Clock (backed with blue paper) in the display area. Color in the clock face on the second clock to show you have collected one more hour, and write 1:00 on the sticky notes below.

Post the Hour and Digital Hour Display Cards for 1:00 on the yellow paper between the two clock faces as well.



- Direct students' attention to the linear timeline strip, and discuss adding the 13th hour.
 - Point to the timeline strip, and draw students' attention to the label that reads 12:00/midday/noon.
 - Discuss activities that may occur around this time of day with your students.
 - Explain that once the clock reaches 12:00 again, it is still the same day, but instead of it being 12:00 midnight when they are sleeping, it is 12:00 noon. Then the next hour starts again at 1:00.
 - Circle the numeral 13 on the timeline strip.





Activity 5

Telling Time on the Alarm Clock

Optional

This activity helps students get a feel for the length of an hour. It also gives them an opportunity to read a real digital clock and compare it to your classroom analog clock.

- 1 Set a digital alarm clock to go off exactly on the hour.
 - Bring in a digital alarm clock and set its time to match the time on your classroom clock.
 - Set the alarm to go off exactly on the hour (e.g., 10:00 a.m.). Choose a time when most students will be in the classroom and a short interruption in your routine won't be too disturbing.
 - Place the digital clock as close as possible to your classroom clock or directly beside a small analog clock set to the same time. If students comment on its new presence in the classroom, don't tell them that the alarm is going to ring. Let it be a surprise the first time.
- 2 When the alarm rings, discuss the time.
 - Shut off the alarm, and ask students to tell the time on both the digital clock and your classroom clock (or the analog clock you've set beside the digital clock for this activity).



- 3 Choose another time of day for the alarm to ring on the hour, but this time, set the alarm, with the students' help, exactly an hour before you will have the alarm ring.
 - Explain to the students that you are going to set the alarm clock to ring again in one hour.
 - Ask the students to tell the current time and what time it will be in one hour.
 - Set the alarm to go off in exactly one hour.
- 4 When the alarm rings, read the time as in step 2, but also discuss the hour length of time.
 - Ask the students to read the time.
 - Ask whether an hour was longer or shorter than they thought it would be.

If it's not convenient to have the alarm go off on the hour, choose a time that will work for your class. The important concept is to experience the duration of one hour.

- 5 Keep the digital alarm clock at school if possible, and repeat these activities on other occasions.

If you are able to set an analog clock directly next to your digital clock and keep both clocks there for several weeks, you might find that a few interested students will learn to tell time on their own or with just a bit of support from you.

November Days in School

Finding Fifty

Overview

Counting the number of days in school on the hundreds grid continues this month as students find the 10s, 5s, and 1s within the number for a given day and generate equations to match. Most schools will reach the 50th day of school this month—an exciting landmark. Students observe the occasion by coloring 50 squares on a hundreds grid in their Number Corner Student Books and writing equations to match the number that is halfway to 100.

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 the digits in a 2-digit number represent amounts of tens and ones (1.NBT.2)
- Use strategies based on place value, properties of operations, or the relationship between addition and subtraction to add with sums to 100 (1.NBT.4)
- Relate strategies for adding with sums to 100 to written methods (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	4, 8		<ul style="list-style-type: none"> • Days in School Chart (used in all November Days in School activities) • Number Line pocket chart 	<ul style="list-style-type: none"> • hundreds grid (continue to use the one posted from September) • red and blue markers • 5 ½" × 8 ½" sheet of paper to screen half the hundreds grid • arrow clip
Activity 2 Writing Equations for the Days in School	6, 14			<ul style="list-style-type: none"> • hundreds grid (continue to use the one posted from September) • red and blue markers • 5 ½" × 8 ½" sheet of paper to screen half the hundreds grid
Activity 3 Finding Fifty on the Hundreds Grid	11	NCSB 16 Finding Fifty on the Hundreds Grid		<ul style="list-style-type: none"> • red and blue crayons (class set) • 5 ½" × 8 ½" sheet of paper to screen half the hundreds grid

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

Mathematical Background

The hundreds grid model helps students understand how numbers can be broken into parts that are easy to work with, such as 5s, 10s and 1s. It also helps them see bigger chunks, such as 25 and 50. This month students are given opportunities to discover and understand that 50 is one-half of 100, and that 25 is one-half of 50 and one-fourth of 100. This understanding promotes the concepts of doubling and halving, both important to working flexibly with numbers.

Vocabulary

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

chart
column*
day
equals
equation*
half*
year

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.

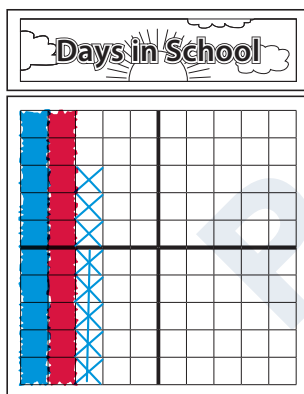
Procedure

- 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.
 - » When counting, ask students to report the total after they have counted the number of squares. This reinforces the concept of cardinality, that is, that the last number counted indicates the total number of things being counted.
- The teacher writes the day's number in numeral and word form on the Days in School Chart.

Activity 1

Discussing the Days in School Hundreds Grid Days 4, 8

- Complete the update procedure, using the hundreds grid begun in September and writing the day's number in numeral and word form on the Days in School Chart.



Days in School Chart

How Many Days in School?

38 thirty-eight

3 tens and 8 ones

Teacher Let's count and see how many days we have been in school today. We'll count the columns by 10s, the lines by 5s, and the Xs by 1s.

Teacher and Students 10, 20, 30, 35, 36, 37, 38.

Teacher So I need to write 38 on our Days in School Chart. How will I write 38?

Students Three tens and 8 ones.

Teacher Right. Here are the 3 tens—1, 2, 3—and here are the 8 ones—1, 2, 3, 4, 5, 6, 7, 8.

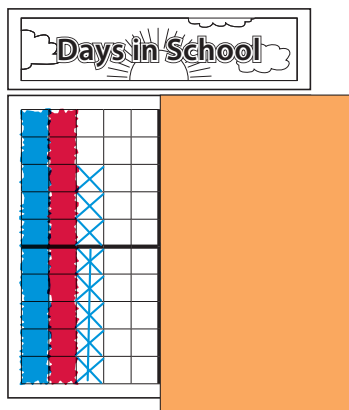
- Ask students how many more days must pass before another column will be colored in to make a 10, and discuss.
- Guide the class in discussing the 50 line dividing the hundreds grid in half.

Key Questions

Use the questions listed below to help your students see smaller numbers within larger numbers by decomposing the larger number into two or more equal parts.

- How many squares are marked on the hundreds grid so far? 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 more days until we reach 50? 100? How do you know?
- How many 10s are there in 46 (or any number represented)? How many 1s?

- Use a piece of paper to cover one-half of the hundreds grid chart to help students focus on the half you are discussing.



- Use some of the following questions to guide your class into thinking about the 50 line. It's possible that your students have already discovered this line and you've discussed it with them. Adjust your discussion as necessary, keeping the questions focused around the idea that 50 is part of the number 100.
 - » What do you think the line might be for?
 - » How many more days until we reach the line?
 - » How many squares are on the other side of the line?
 - » How many squares are on the total chart?
 - Invite the students to count the columns to confirm that when they reach the line they will have 50 squares colored in.
- 4 Choose a student to find today's number on the Number Line pocket chart.
- Invite the student to share where they think the day's number is hidden on the chart.
 - Ask the class to use a signal such as clapping twice to indicate that they agree.
 - Ask the student helper why she thinks the number is there.
 - Lift the sliding card to check, and clip the arrow card to the pocket.


Activity 2
Writing Equations for the Days in School
Days 6, 14

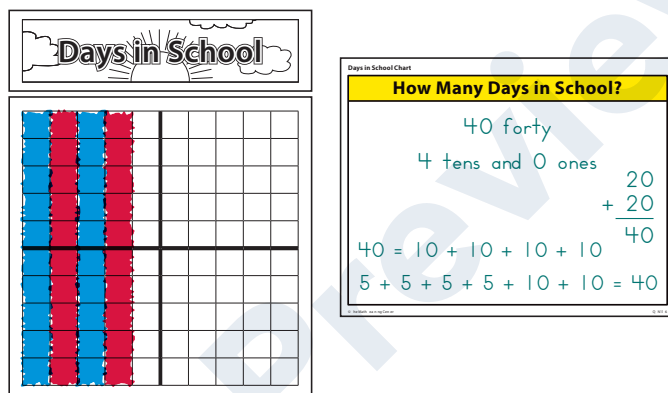
- After completing the update procedure, work with input from the students to write equations for today's number.
 - Refer to the 10s, 5s, and 1s structure on the hundreds grid to represent the number of days they see marked there.
 - Ask students to pair-share their equations and show thumbs up when they have one to share with the class.
 - Invite pairs of students to come up to the chart to show where they see the numbers as they share their ideas. Make sure they are showing each part of the number.

Student I see $10 + 10 + 10 + 10$.

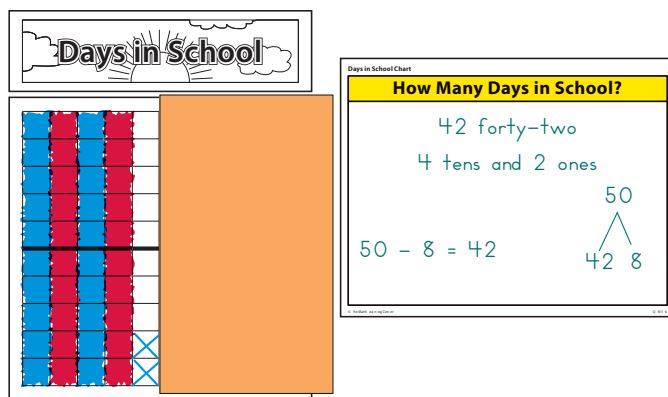
Teacher Come up and show us where you see the 4 tens.

Student Here—see these 4 stripes are all colored in, and they all have 10 in them.

- Write the equations on the chart. As you record each, ask the students to count the colored squares in a way that matches the equation as you point to the configurations on the grid.



- Encourage students to use 50 as a benchmark when generating equations.
 - On one or more days before you reach the 50th day of school, use a sheet of paper to cover half of the hundreds grid at the 50 line. Ask students to think about the number of squares that are not colored in at this time.
 - Help students to write a subtraction equation showing 50 as the total and the marked squares and unmarked squares as the parts (for example, $50 - 42 = 8$). Ask them to represent the equation as a number tree.



Activity 3

Finding Fifty on the Hundreds Grid

Day 11

- Ask the students to locate the Finding Fifty on the Hundreds Grid page in their Number Corner Student Books.
Have them find the page with a detective and a hundreds grid, and scan to see they are all on the right page.
- Give students a few moments to examine the page quietly. Have them show thumbs up when they have an observation they would like to share with the class.
- Call on a few students to share their observations.
- Invite the students to color in 50 squares on the hundreds grid.
 - Remind them that they can use the Days in School hundreds grid as a model for their own work.
 - Let the students work for a few minutes while helping as needed.
- Ask the students how many squares are not colored on the hundreds grid, and discuss the fact that 50 is one-half of 100.
- Guide students in answering the question “How many days have you been in school?”
 - Read the question with the students.
 - Review the less than, equal to, and greater than symbols.
 - Have the class circle the choice that reflects the number of days your class has been in session.
- Ask the students to write one or more equations that equal 50.
Remind students that they may think about the number of 5s and 10s in the number as well as other numbers they see. This is an excellent time to encourage students to show what they know. Some students might want to write number trees, fact families, or even show that they know how to write a multiplication equation: 5×10 , or 5 groups of 10, equals 50.
- Invite students to share their equations for 50 with the class.



Notes About This Activity

Students will need their Number Corner Student Books, a pencil, and red and blue crayons for this activity. Some teachers like to have a container of crayons in these colors available as students come into the Number Corner area.

Preview

November Computational Fluency

Doubles & Halves to Ten

Overview

This month the teacher introduces addition doubles facts to 10 and the related subtraction facts, using pair-wise ten-frame display cards and finger patterns. Students tell stories and work with partners to write equations to represent some of the Doubles and Half facts as they learn more about the connection between addition and subtraction.

Skills & Concepts

- Solve subtraction problems by finding an unknown addend (1.OA.4)
- Use the relationship between addition and subtraction to add and subtract within 20 (1.OA.6)
- Use strategies to add and subtract within 20 (1.OA.6)
- Model with mathematics (1.MP.2)
- Look for and make use of structure (1.MP.7)

Materials

Activities	Day	Copies	Kit Materials	Classroom Materials
Activity 1 Introducing Doubles Facts to Ten with Ten-Frames	3		<ul style="list-style-type: none"> • Ten-Frame Pair-Wise Display Cards 0, 2, 4, 6, 8, and 10 • Numbers to Twenty Counting Mats, Ten-Frame Side (class set plus 1 extra) 	<ul style="list-style-type: none"> • standard pocket chart • Unifix cubes in stacks of 10, one stack per student
Activity 2 Ten-Frame Finger Flash Doubles	4, 7		<ul style="list-style-type: none"> • Ten-Frame Pair-Wise Display Cards 0, 2, 4, 6, 8, and 10 	
Activity 3 Telling Math Stories & Writing Doubles Equations	9, 12	NCSB 17 My Math Thinking	<ul style="list-style-type: none"> • Ten-Frame Pair-Wise Display Cards 0, 2, 4, 6, 8, and 10 • Numbers to Twenty Counting Mats, Ten-Frame Side (optional) 	<ul style="list-style-type: none"> • standard pocket chart • Unifix cubes in stacks of 10 (optional, have available)
Activity 4 Connecting Doubles & Half Facts	15	TM T3 Ten-Frames & Number Trees	<ul style="list-style-type: none"> • Numbers to Twenty Counting Mat, Ten-Frame Side (1) 	<ul style="list-style-type: none"> • student whiteboards, pens, and erasers • 1 stack of 10 Unifix cubes

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

Mathematical Background

Understanding doubles is a critical step in developing numeracy. Students have a natural understanding that things in the world around them often come in pairs: car wheels, insect legs, their own eyes and hands and feet. As they learn part-whole concepts, knowing that two parts are equal is important to being able to use doubles as a strategy. Doubling serves as an anchor strategy for computational fluency, since combinations like $6 + 7$ can be thought of as $6 + 6 + 1$. Conversely, a subtraction half is the opposite of doubling. If students know that $5 + 5 = 10$, then they will also be able to learn that $10 - 5 = 5$ by understanding that addition and subtraction are inverse operations. Students can also extend their knowledge of doubles to solve larger but related combinations such as $50 + 50$, $500 + 500$, $100 - 50$, and $1000 - 500$.

Vocabulary

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

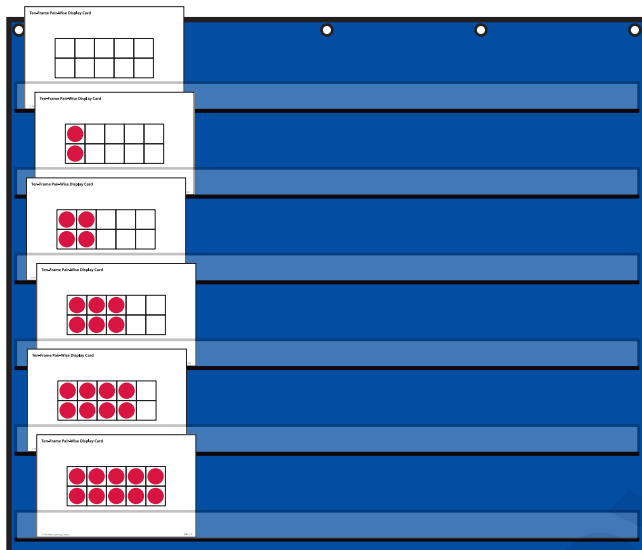
add*
double
equal*
equation*
half*
halves
least*
most*
row*
subtract*
ten-frame
sum or total*



Activity 1

Introducing Doubles Facts to Ten with Ten-Frames Day 3

- 1 Post the six Ten-Frame Pair-Wise Display Cards in your standard pocket chart, and discuss with students.



- Give them a few moments to examine the cards quietly, and ask them to show thumbs up when they have an observation to share.
- Invite students to share with a partner, and then call on a few students to share their observations with the class.

Students There are 3 dots on top and 3 dots on the bottom.
There's always the same number of dots in each row on every card.
One card doesn't have any dots.
All of the dots have partners. I can count them by 2s.

- 2 Explain that the cards in this sequence show *doubles* combinations—the number of dots in the top and bottom row on each card are exactly the same. Point out that the total number of dots on each card is divided into 2 equal groups.
- 3 Ask the students to each place their stack of 10 Unifix cubes and their Numbers to Twenty Counting Mat, ten-frame side up, in front of them so they'll be ready to do some building, counting, and adding.
- 4 Briefly flash one Ten-Frame Pair-Wise Display Card for students to see, and then ask them to set Unifix cubes into the boxes on their mats to show the number of dots they saw on the cards.
You might want to use the “hide and show” routine discussed last month. If so, remind students to hide their cubes by placing their hands on top of the mat and to wait for the signal before showing their cubes.

Teacher I am going to show you one of our ten-frame cards for doubles. Look at the card and remember the number of dots you see. Then I would like you to build the amount you saw on your mat using Unifix cubes by placing a Unifix cube where you saw a dot. When you have built the number, hide your cubes with your hands. When I say “show,” remove your hands so we can see your cubes.



Key Questions

Use these questions to help your students think about doubles and halves.

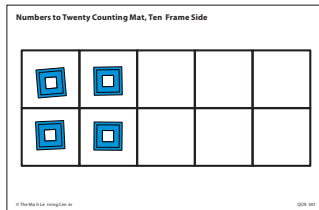
- What does it mean to double the amount of items?
- What does it mean to halve the amount of items?
- If you build a double on a ten-frame for 10 (8, 6, 4, or 2) how many cubes will there be in the top row? How many will there be in the bottom row?
- Can you think of real-world examples of doubles?
- What kinds of things come in 2s, 4s, 6s, 8s, or 10s?



Notes About This Activity

You will need the Ten-Frame Pair-Wise Display Cards (red dots) 0, 2, 4, 6, 8, and 10 for this activity. Each student will need a stack of 10 Unifix cubes (5 in each of two different colors) and a Numbers to Twenty Counting Mat.

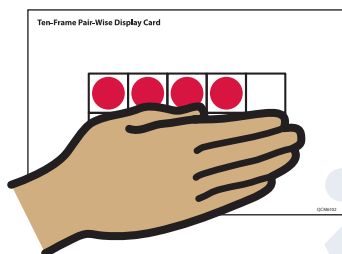
- 5 When students have built the quantity on their mats, ask them how many cubes are on the top row, how many cubes are on the bottom row, and how many cubes they have in all.



- 6 Continue flashing the Ten-Frame Display Cards and having the students build the number. Discuss each arrangement as a pair of sets that add to make a sum twice the size of either one of the sets by itself.

Be sure to include 0. Students will think this is funny, but it is important to reinforce zero as an empty set.

CHALLENGE Screen the bottom row as you flash each Ten-Frame Display Card, and challenge students to build and report the total on their counting mats.



Student A OK, there were 4 on top.

Student B That means there must be 4 on the bottom, because these are doubles cards.

Student A So 4 on top, 4 on the bottom. That's 8 in all.

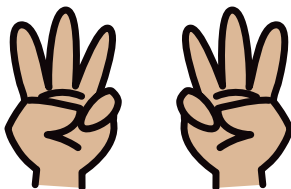
Activity 2

Ten-Frame Finger Flash Doubles

Days 4, 7

- Demonstrate how to show doubles with finger patterns, and have students practice the patterns for each of the six Ten-Frame Pair-Wise Display Cards.
 - Show one of the display cards. Ask the students to report how many dots they see in the top and in the bottom rows.
 - Explain to the students that we can use our fingers to make doubles by showing the number of dots in the top row on one hand and the number of dots in the bottom row on the other hand.
 - Demonstrate the finger pattern for one of the display cards.

Teacher This card shows 3 dots on the top row and 3 dots on the bottom row, so I'll show 3 fingers on my right hand and 3 fingers on my left hand.



Literature Connections

If you have access to them, read aloud the following books this month to connect students with doubles.

Double the Ducks by Stuart J. Murphy

Double Play! Monkeying Around with Addition by Betsy Franco

How Many Feet in the Bed? by Diane Johnston Hamm

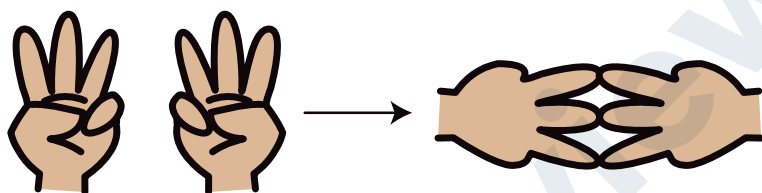
Martha Blah Blah by Susan Meddaugh (What happens when half of the alphabet letters are fired?)

Two of Everything by Lily Toy Hong

- Then show the students how to match the two halves to make the total by bringing your hands together so that each of the outstretched fingers on one hand is touching the corresponding finger on the other hand.



- Repeat the demonstration, but string the motions together into a single flow. As you show the students the fingers on one hand, say the number. Do the same for the second hand. Then touch the fingers on both hands together as you say the total. This sequence reinforces combining parts to make a whole in addition.



“Three (shows 3 fingers on one hand) and 3 (shows 3 fingers on the other hand) make (brings the fingers of both hands together) 6.”

- Ask the students to show the double finger pattern for the card you demonstrated, reporting the number of dots in each row as they hold up the fingers on one hand to show, and reporting the total as they bring their hands together so the outstretched fingers are touching.
 - Hold up each of the remaining display cards, and have the students show the amount for the card on their fingers using the doubles finger pattern as they say the parts and total.
- 2 Now, briefly flash one of the display cards. Then hide it from view and ask students to show the number on their fingers.
- Ask the students to hold two fists above their head showing “double zero” with their fingers.
 - Briefly show one of the display cards for the students to see, and then remove it from view.
 - On your signal, ask the students to show you the number they saw by displaying their fingers above their heads like antlers.

Teacher I am going to show you one of our display cards. When I say “ready,” I want you to hold both fists above your head showing me double zero. When I say “show,” I want you to use your fingers to show me how many dots you see. Hold your fingers like antlers above your head. Remember these are doubles, so you’ll show me the same number of fingers on each hand. Ready... show.



- As the students are showing you their finger patterns, ask questions about their finger arrangements.

Teacher How many dots did you see?

Students Eight.

Teacher How many fingers are up on your left hand?

Students Four.

Teacher How many fingers are up on your right hand?

Students Four.

Teacher Now join your fingers together. How many fingers total?

Students Eight.

Teacher Yes. Four and 4 make 8.

The kinesthetic motion of joining the two halves of the double often helps students to understand that doubles are made of two equal parts; each finger has a partner. This will be even more useful when thinking about subtraction halves such as $6 - 3 = 3$ during Activity 4.

- 3 Continue flashing the display cards and having the students show the number of dots they see with their fingers.

It is important that students return to zero between each card so that they are clearly representing the number seen on the card and not working from a previously shown number.


Activity 3

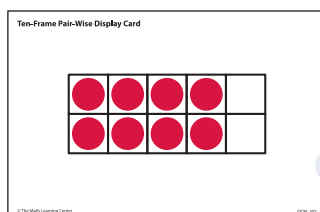
Notes About This Activity

You will need the Ten-Frame Pair-Wise Display Cards 0, 2, 4, 6, 8, and 10 and a pocket chart for this activity. The last time you do this activity, each student will also need their Number Corner Student Book and a pencil.

Telling Math Stories & Writing Doubles Equations Days 9, 12

- 1 Post the Ten-Frame Pair-Wise Display Cards in your pocket chart.
 - 2 Guide students in telling math stories and writing equations to match each display card.
 - Explain to the class that today they are going to tell some math stories that match the doubles shown on the ten-frame cards.
- If you have a chart about things that come in doubles, this would be a great time to post it.*
- Choose one card and have the students think about a math story that they could tell to match the card.

Teacher *Let's take a look at this ten-frame card. It has 4 dots on top and 4 dots on the bottom for 8 total. Think quietly in your mind about a story you can tell that has 4 and 4 more and show thumbs up when you have a story to share.*



- Call on a few students to share their stories, and model drawing a quick sketch using simple circles or Xs rather than detailed pictures to represent their story.

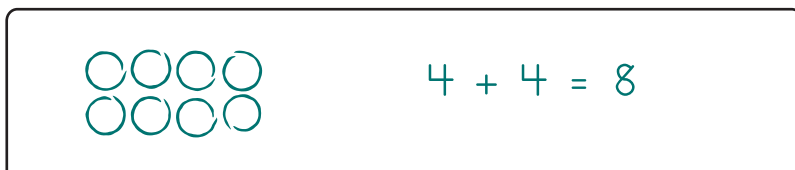
Student *My truck has four wheels, and it's pulling our trailer with 4 wheels, so there are 8 wheels in all.*

Teacher *So, I'm going to make a quick sketch to remember your story. I'll draw 4 circles for the truck wheels and 4 circles for the trailer wheels.*

- With the students' help, write an equation to match the card.

Teacher *What equation will I write to go with this story?*

Students *Four + 4 = 8.*



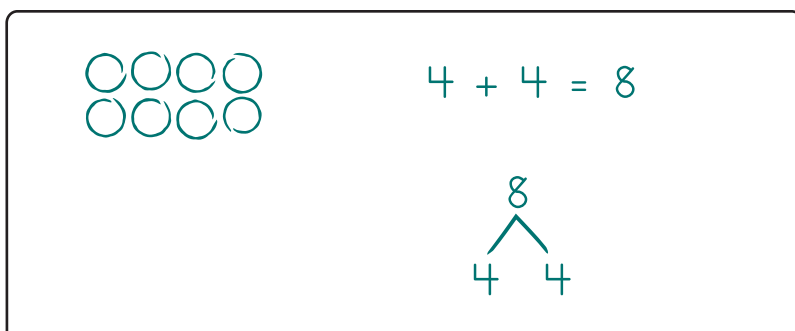
- To encourage students to think in part-whole relationships, write the number tree to match the card as well. Draw the number tree frame and ask about the parts and total. Determining the unknown is like working with fact families.

Teacher *What number will I write at the top of our number tree to show the total?*

Students *Eight.*

Teacher *What will I write for the parts?*

Students *Four and 4.*



- 3 When you repeat this activity, have students each think of math stories, draw quick sketches, and write equations and matching number trees on the My Math Thinking page of their Number Corner Student Books.
- Remind them to look for Pencil Puppy to find the correct page.
 - Have students touch and read the words at the top of the page with you, and use the Date Chart as a model to write the day's date on the line.
 - Explain that they should choose a ten-frame card with their eyes and think of a story to match what they see.
 - Then have them draw a quick sketch to remind them of their story and write the equation and number tree.
 - Tell the students that when they finish one card, they may choose another card to write about.
 - Assist as necessary.

SUPPORT. Encourage students who are having difficulty with the equation or number tree to use Unifix cubes or counting mats, ten-frame side up. If they are having difficulty thinking of a story, provide a topic or refer to something they can see in the room to get them started. Some may need to count on from the first number to find the total. With time they will commit these facts to memory.



Activity 4

Connecting Doubles & Half Facts

Day 15

- 1 Display the Numbers to Twenty Counting Mat, ten-frame side up, so all students can see it.
- 2 Explain to the students that today you will be using your counting mat and Unifix cubes to *subtract half* from a number of cubes.
- 3 Place 4 cubes in the top row and 4 in the bottom row of the mat. Have students show the number with their fingers using the doubles finger pattern and say the double fact aloud as they do so.

Teacher How many cubes on top?

Students Four.

Teacher How many cubes on the bottom?

Students Four.

Teacher Say the doubles fact and show me with your finger patterns like deer antlers above your head.

Students Four and 4 is 8.



Notes About This Activity

You will need a stack of 10 Unifix cubes in two colors and a counting mat, as well as a copy of the Ten Frames & Number Trees Teacher Master for this activity. Students will need whiteboards, markers, and erasers.

- 4 Explain subtraction half facts to the class by modeling with the ten-frame and cubes that 4 is half of 8.
- Direct students' attention back to the ten-frame with 8 Unifix cubes.
 - Review the fact that each row shows half the total number of cubes.
 - Show students that if you have 8 cubes and you take half away, 4 cubes will be left.

- 5 Ask the students to show 8 with their doubles finger pattern and to subtract half.

Teacher Show me 4 and 4. Now join your fingers together. How many fingers total?

Students Eight.


Teacher Now subtract half of your fingers by putting one hand down. How many fingers are left?

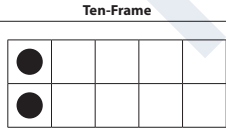

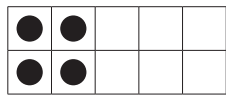

Students Four.

Teacher Right! Half of 8 is 4.

- 6 Repeat steps 4 and 5 with the following numbers: 6 (3 on top, 3 on the bottom), then 10 (5 on top, 5 on the bottom), and then 2 (1 on top, 1 on the bottom).
- 7 Display the Ten-Frames & Number Tree Teacher Master, and explain that you and the students will work together to fill in a number tree and write equations for the first ten-frame shown.
- Invite the students to name the parts and total, and write these on the number tree.
 - Have them each draw and label the number tree on their whiteboards.
 - Next, work with input from the students to write the corresponding doubles addition fact on the sheet.
 - Do the same for the related subtraction half fact.

November | Computational Fluency Activity 4 | copy for display

 **Ten-Frames & Number Trees**

Ten-Frame	Number Tree	Equations
		Addition $1 + 1 = 2$
		Subtraction $2 - 1 = 1$
		Addition
		Subtraction

- 8 Invite students to work singly or in pairs to draw the number tree and write the equations for the next ten-frame shown, and have a few pairs of students share their work with the class as you record on the master.
- 9 Repeat step 8 for the remaining ten-frames shown, helping students as necessary.

November Number Line

The Forties & Fifties

Overview

This month's work centers on reinforcing numeral identification, place value, and number sequences between 31 and 60. Students play another round of Guess My Number and count by 10s on the Classroom Number Line. They celebrate a new Decade Day with a game of Leap by Tens and complete the Fifth Decade Day page in their Number Corner Student Books.

Skills & Concepts

- 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 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 (e.g., the number 60 refers to 6 tens and no ones) (1.NBT.2c)
- Compare pairs of 2-digit numbers, based on an understanding of what the digits in their tens and ones places represent and use $>$, $=$, and $<$ symbols to record comparisons of two 2-digit numbers (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 Forward & Backward, Parts 1 & 2	2, 5, 11, 14		<ul style="list-style-type: none"> • Number Line pocket chart (used in all November Number Line activities) • Number Line Display Cards 31–50 for Part 1 and 41–60 for Part 2 	<ul style="list-style-type: none"> • arrow clip • frog pointer
Activity 2 Playing Guess My Number	7		<ul style="list-style-type: none"> • Number Line Display Cards 31–50 • Greater Than or Less Than Display Cards 	<ul style="list-style-type: none"> • arrow clip • chart paper or whiteboard surface • marker • frog range marker clips
Activity 3 Celebrating Decade Day	10	NCSB 18 The Fifth Decade Day	<ul style="list-style-type: none"> • Number Line Display Cards 31–50 	<ul style="list-style-type: none"> • Classroom Number Line sentence strip (prepared in September) • black erasable marker • frog pointer

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

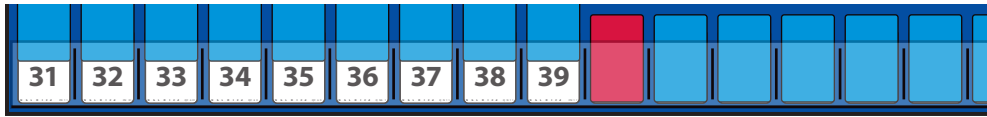
Vocabulary

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

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

Preparation

Prior to Activity 1, Part 1, place Number Line Display Cards 31–50 in order in the Number Line pocket chart. Cover the numbers 40 and 50 with red cards. Cover each of the numbers 31–39 and 41–49 with a blue card, but pull the blue cards up on the first nine pockets to reveal numbers 31 through 39.



Prior to Activity 1, Part 2, place Number Line Display Cards 41–60 in order in the Number Line pocket chart. Cover the numbers 50 and 60 with red cards. Cover each of the numbers 41–49 and 51–59 with a blue card, but pull the blue cards up on the first nine pockets to reveal numbers 41 through 49.



Mathematical Background

Counting is more than saying numbers in a sequence. Many students who have math difficulties lack a good understanding of how the number system is organized. They don't recognize patterns that enable fluent counters to count forward, backward, skip-count, and understand the place value system in general. For example, students need to understand that the 4 in 40 stands for 4 tens and has a value of 40 ones. This is tricky, and first graders often confuse the digit in the tens place for the value of the digit. As students move into the forties and fifties number sequences, it's important that they see and understand the patterns and place value relationships that exist among each number family.

Activity 1

Counting Forward & Backward, Part 1

Days 2, 5

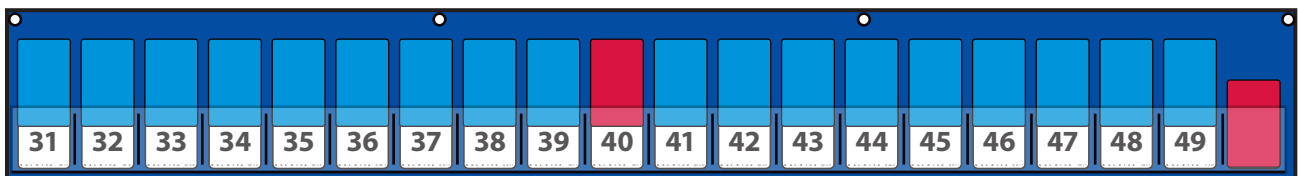
- Invite students to choral count forward from 31 to 39, and then backward from 39 to 31 as you point to the numbers on the Number Line pocket chart.



- Introduce the forties number family.
 - Ask the students to think about what is hidden behind the first red door and whisper their ideas to a neighbor, and then have a student pull up the red card to reveal the number 40.

Teacher Here's the number 40 we met behind the red door on the 40th day of school. Our next number family is the forties number family. Now let's meet the rest of the members.

- Pull up the card (or have your helper pull up the card) as you say the name of each new number.



Key Questions

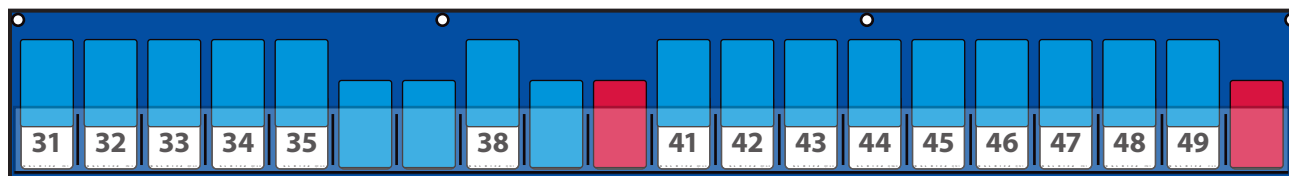
Use these questions to encourage forward and backward counting on the number line.

- What number comes next? How do you know?
- What number comes before (any given number 31–59)?
- 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?

- 3 Ask the students to examine the display quietly for a few moments and show thumbs up when they have something to share.

Listen for a student observation that the 4 in the tens place in the forties number family stands for 4 tens and has a value of 40. If this insight doesn't come from a student, contribute it to the discussion.

- 4 Point to the numbers with the frog pointer and have the students choral count forward from 31 to 49, and do the same going backward from 49 to 31.
- 5 Slide closed the cards for numbers 36, 37, 39, and 40. Invite the students to choral count forward from 36 to 49, and then backward from 49 to 36 as you point to the numbers.



- 6 When you repeat this activity later in the week, use the following suggestions to vary it.
- Hide some of the thirties and forties numbers behind blue cards. Then invite students to count, first forward from numbers that are uncovered, and then backward, stopping at any number that is not 40 or 31.
 - Pull down the blue cards to hide some of the thirties and forties numbers. Point to an uncovered number and ask students to name it. Then ask them to identify the numbers that come before and after it. Consider using a signal such as tapping the blue card with your finger to allow all students to have think time before giving the answer.
- SUPPORT** You may notice that the level of visual support is beginning to decrease as the students become more familiar with the counting sequence pattern. If students have difficulty when asked to name 39 as a hidden number, consider having them count forward from 35 to get a running start, or ask them what number they would see in the tens place for the number right before 40. What number would they see in the ones place?
- 7 Invite a student helper to place the arrow clip on the pocket that shows the number of days they have been in school.

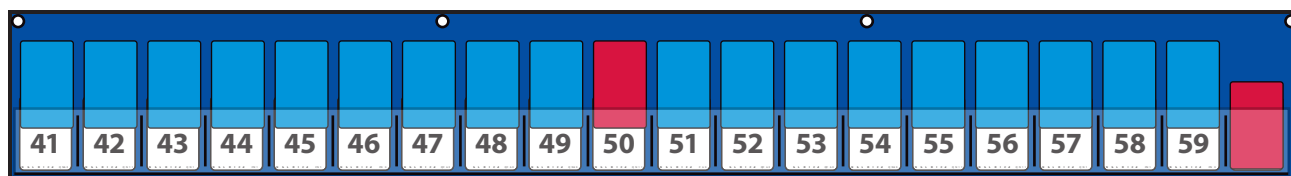
Counting Forward and Backward, Part 2

Days 11, 14

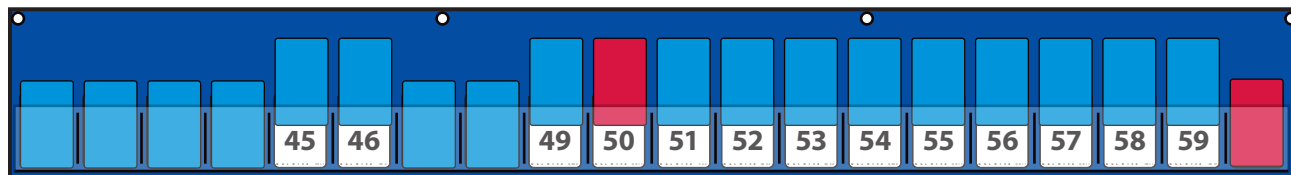
- 1 Invite students to choral count forward from 41 to 49 and backward from 49 to 41 as you point to the numbers on the Number Line pocket chart.
- Ask students to imagine how much these numerals represent. How many 10s? How many 1s?



- 2 Introduce the fifties number family.
- Pull up the first red card to reveal 50, and then pull up each blue card (or have a student helper pull up the card) one by one as you say the name of each new number from 51 to 59.



- 3 Point to the numbers and have the students count forward from 41 to 59 and backward from 59 to 41.
- 4 Slide the blue cards down to hide all numbers in the forties family except 45, 46, and 49. Invite the students to choral count forward from 45 to 59, and then backward from 59 to 45 as you point to the numbers.



- 5 When you repeat this activity later in the week, use the following suggestions to vary it.
 - Hide some of the forties and fifties numbers behind blue cards. Then invite students to count, first forward from numbers that are uncovered, and then backward, stopping at any number that is not 50 or 41.
 - Pull down the blue cards to hide some of the forties and fifties numbers. Point to an uncovered number and ask students to name it. Then ask them to identify the numbers that come before and after it. Consider using a signal such as tapping the blue card with your finger to allow all students to have think time before giving the answer.
 - Invite the students to describe their strategies for figuring out what comes before and after a number, using the language of place value. How many in the tens place? How many in the ones place?
- 6 Invite a student helper to place the arrow clip on the pocket of the Number Line pocket chart that shows the number of days they have been in school.

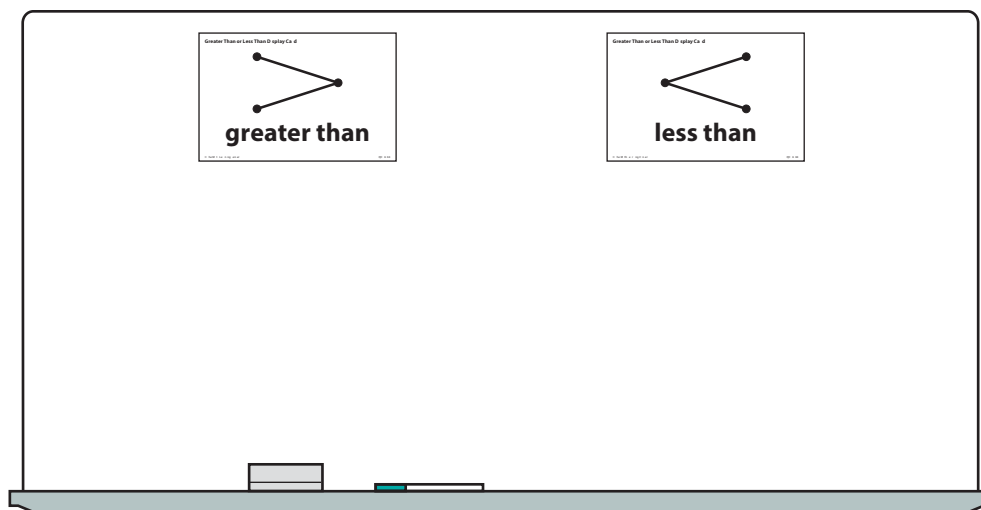


Activity 2

Playing Guess My Number

Day 7

- 1 Prepare the Number Corner discussion area before students arrive.
 - Remove one card from the 31–49 sequence on the Number Line pocket chart, and hide the card in a drawer or pocket.
 - Then cover all the numbers with sliding cards, including the space for the number you have removed.
 - Keep numbers 40 and 50 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.

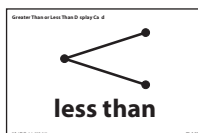
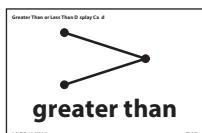


- 2 When students join you in the discussion area, draw their attention to the cards you have posted and review the *greater than* and *less than* symbols. Let the the class know you are going to play Guess My Number.
- 3 Tell the class that you have removed one of the numeral cards from the chart pocket, and invite the students to guess the number.
 - Each time a guess is made, tell students whether your secret number is *greater than* or *less than* the number they just guessed, and record the information on the chart or whiteboard below the Greater Than or Less Than Display Cards.
 - Lift the door on the number the student guessed to show that it is still in place. Then lower the door and have a student mark that pocket with one of the frog range marker clips.

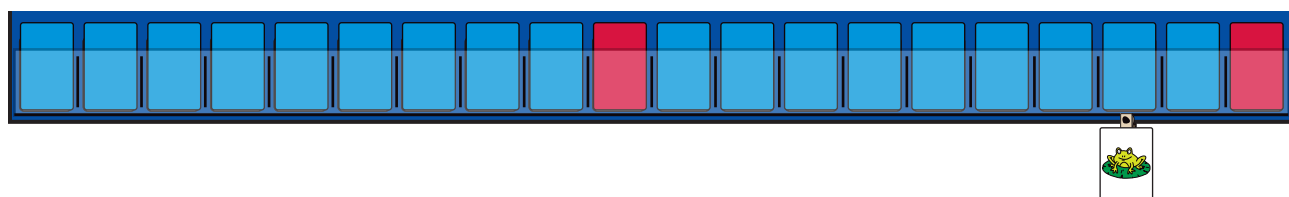
Teacher I'm thinking of a number between 31 and 49. In fact, I removed it from our chart and have put it in my drawer. Who'd like to ask a question to try to find out what my secret number is?

Student Is it 48?

Teacher No, 48 is still here (lifts the blue card to show the 48 on the chart, and then lowers the card again). My number is less than 48. I'm going to record that information on this chart. Will my student helper mark the pocket holding the number 48 with a frog clip so we can remember that my secret number is less than 48?

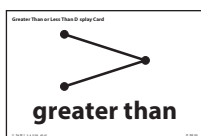


my number < 48

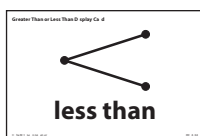


Student Is it 33? That's my best number!

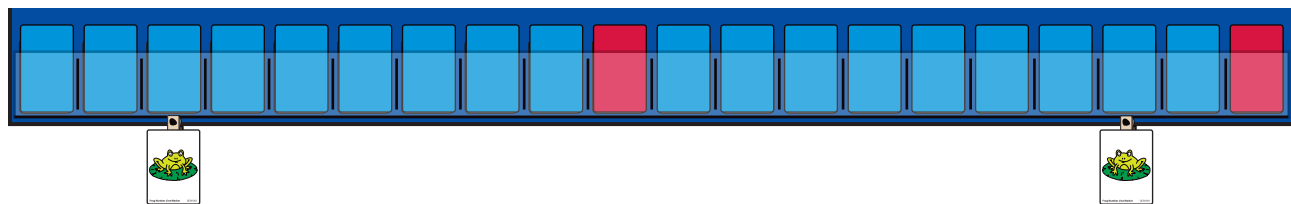
Teacher Nope, my number is greater than 33. Yep, there it is. Will you mark the pocket holding 33 with our other frog clip?



my number $>$ 33



my number $<$ 48



Student Is it 38?

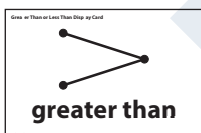
Teacher No, 38 is still in the chart, see? My number is greater than 38. Let's move the frog clip on the left up to the pocket that's holding 38, and I'll write that information on our chart.

Student Then it must be 46!

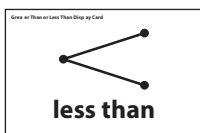
Teacher Good guess, but my number is less than 46. See, the 46 is still in its pocket. Let's move the clip on the right down to that pocket, and record the information on our chart.

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.

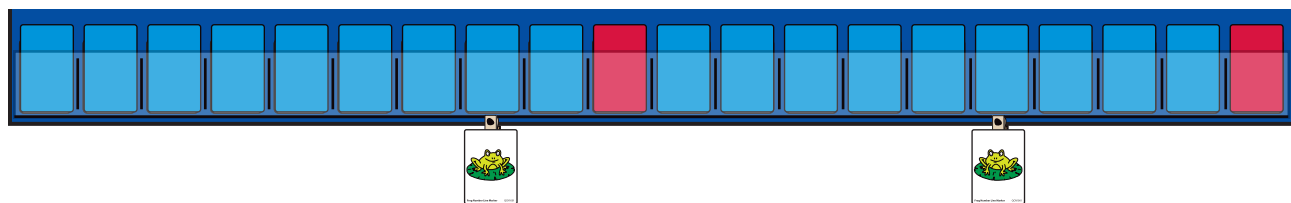
- 4 Help students evaluate their progress by reviewing the recorded guesses on the chart with them every few questions. Invite them to continue guessing until they correctly identify the hidden number.



my number $>$ 33
38



my number $<$ 48
46



Student It's 45, right?

Teacher Could my number be 45? Let's see if 45 matches all the clues you've gathered so far. Is 45 greater than 33?

Students Yes!

Teacher Is 45 greater than 38?

Students Yes!

Teacher Is 45 less than 48? Is it less than 46?

Students Yes, yes!

- 5 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 pocket 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 slot where the card belongs.

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



Activity 3



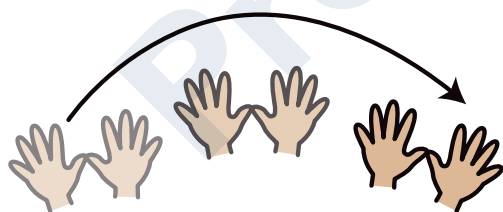
Notes About This Activity

Do this activity on your 50th day of school, even if you have to swap activities within the week.

Celebrating Decade Day

Day 10

- 1 Gather students in the Number Corner area, show them the frog pointer, and remind them that today is their 50th day of first grade—the fifth Decade Day!
- 2 On a new, prepared sentence strip, record the fifth decade with students' input, and add it to the Classroom Number Line.
 - Have students count by 10s to 30 using the leaps of ten hand motion as you use the frog pointer to point to the decade numbers—10, 20, 30—on the Classroom Number Line.



- Ask the class what number comes next, and use an erasable marker to record the numeral 40 on the new number line sentence strip.
- Ask students to switch their counting pattern now. Have them count by 1s from 40 to 49 while holding up fingers for the 1s numbers in this decade.
- With input from the students, write the numerals 41–49 to complete the decade. As you write the two digits in each number, say how many 10s and 1s it has.



- 3 After you arrive at 49, ask students where Tad will land after his next hop, and then hop him to the red door at the end of the Number Line pocket chart. Ask students to make predictions about the number, and then reveal 50 behind the red door.

- Point out that you are at the halfway point to the 100th day of school. Solicit students' ideas on where the Classroom Number Line will reach on the 100th day of school.

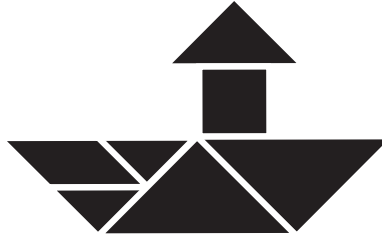
- 4 Invite students to play the game Leap by Tens, introduced during the previous Decade Day.

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 50 to determine how many 10s are in the number 50.
- Tell the students that since there are 5 tens in 50, you will choose five 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 five decade students to form a line, and point to each of them in turn while counting by 10s: 10, 20, 30, 40, 50.
 - » Ask these five decade students to kneel on the floor, tuck their heads and cover their faces with their hands.
 - » Show the frog how to press her hands on the back of the classmate at the end of the line and leap over with legs spread. Explain that she will leap over one decade at a time, and the watching students will count along by 10s.
 - » Join students in counting “10, 20, 30, 40, 50” as the frog leaps over the decades until she reaches the front of the line.
- Choose more students to leap across the decades, if time allows. You might also want to have the students leap over the decades counting backward from 50 to 0.
- Assure the students that on the next Decade Day more students will get to play Leap by Tens.

- 5 Give students the rest of the period to complete the Fifth Decade Day Number Corner Student Book page.

- Challenge students to write some equations that equal 50 in the space provided. Remind them they can use the Days in School Chart for ideas.



Teacher Masters

GRADE 1 – NOVEMBER

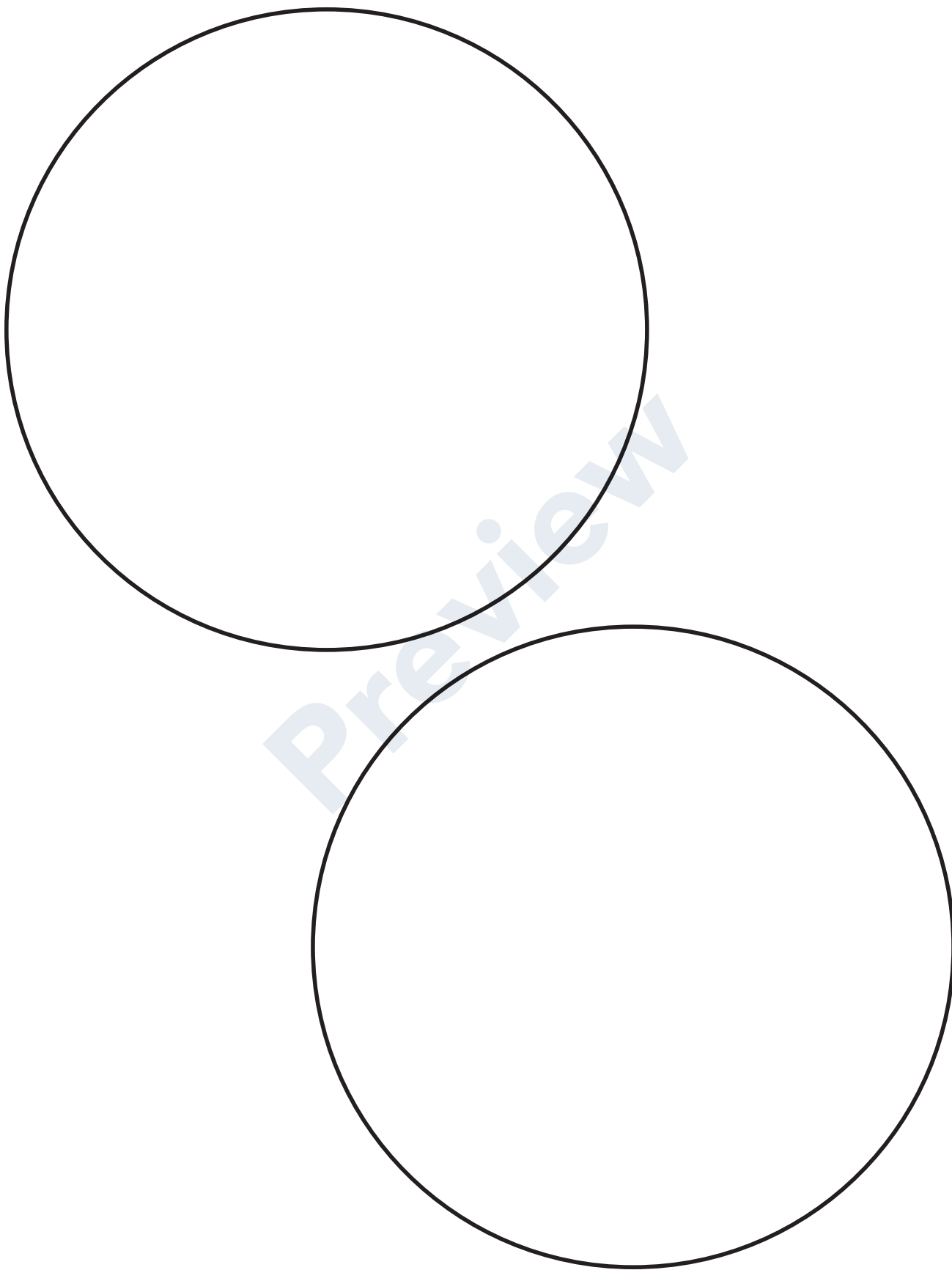
Preview



NUMBER[®]
CORNER



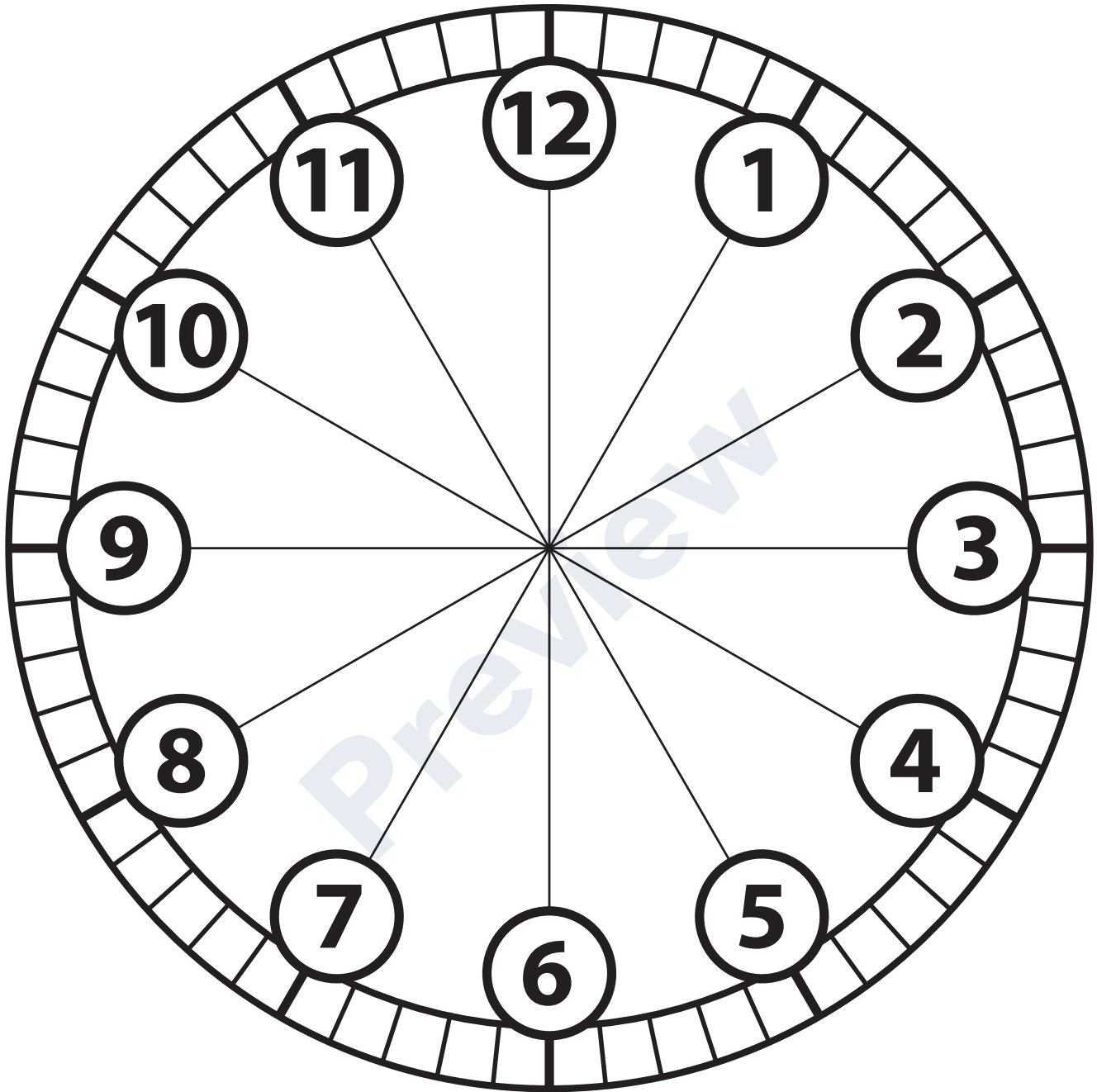
Circle Pattern



Preview



Calendar Collector Clock



:



Ten-Frames & Number Trees

Ten-Frame	Number Tree	Equations
		Addition
		Subtraction
		Addition
		Subtraction
		Addition
		Subtraction



Student Book

GRADE 1 – NOVEMBER

Preview



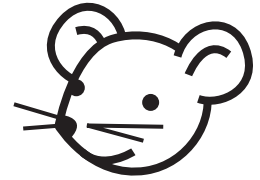
NUMBER[®]
CORNER

NAME _____

DATE _____



Color Five Fraction Game Record Sheet



Game 1

Students				
Teacher				

Game 2

Students				
Teacher				

NAME _____

DATE _____



Today Is ...

Trace the numbers. Then use numbers to fill in the blank calendar.

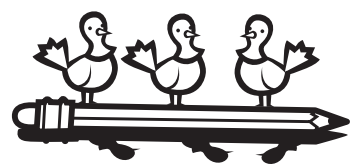
1 2 3 4 5 6 7 8 9 10
 11 12 13 14 15 16 17 18 19 20
 21 22 23 24 25 26 27 28 29 30

Today is

Month	Day	Year
-------	-----	------

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Show today's day of the month in tally marks.

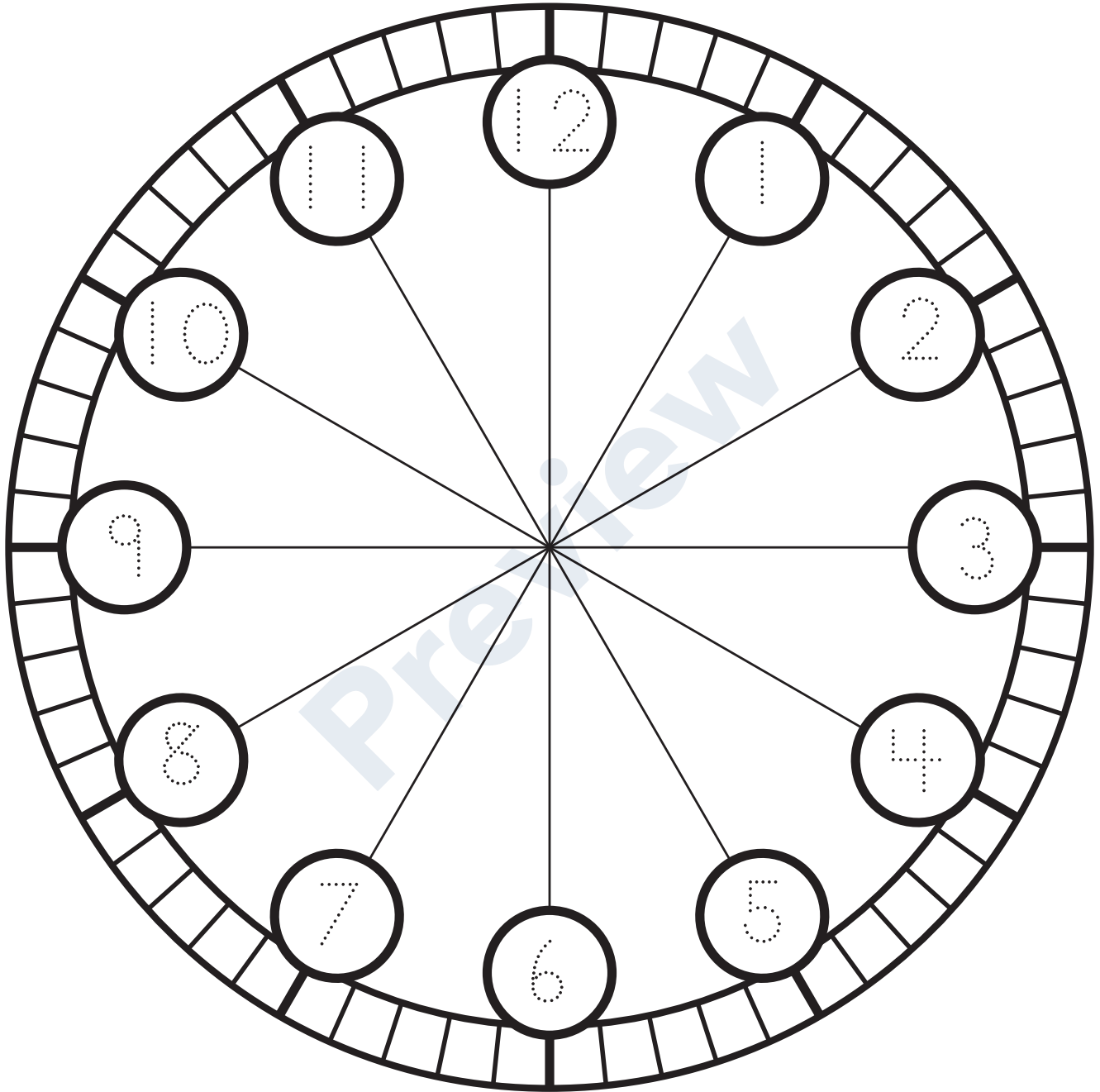


NAME _____

DATE _____



Student Clock



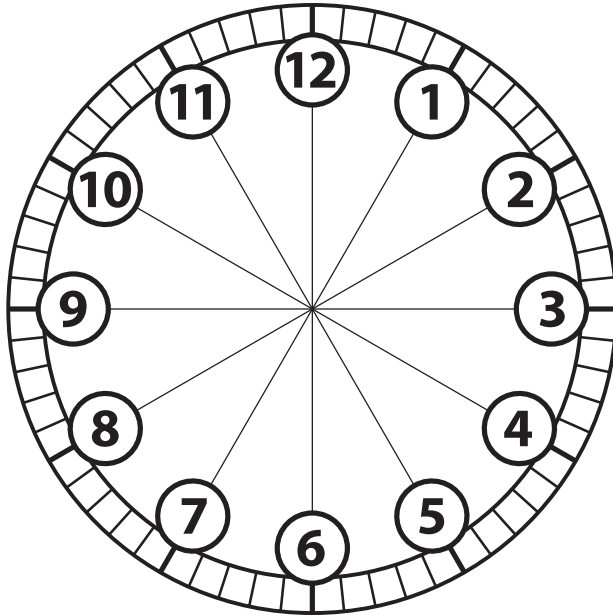
NAME _____

DATE _____

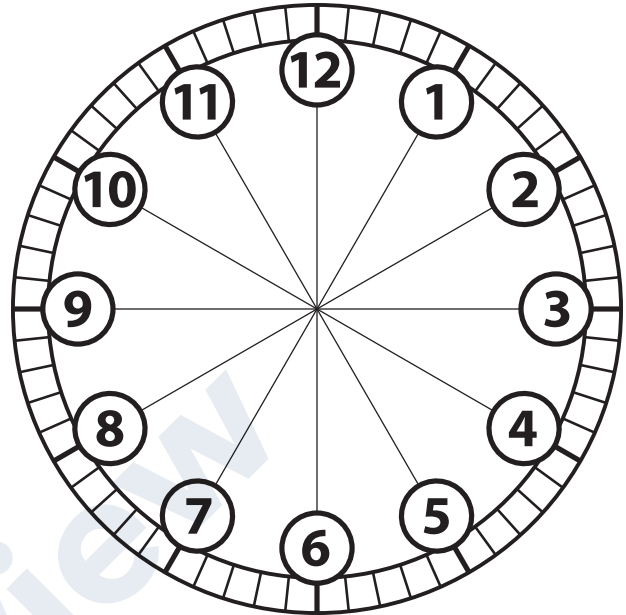


Tell the Time

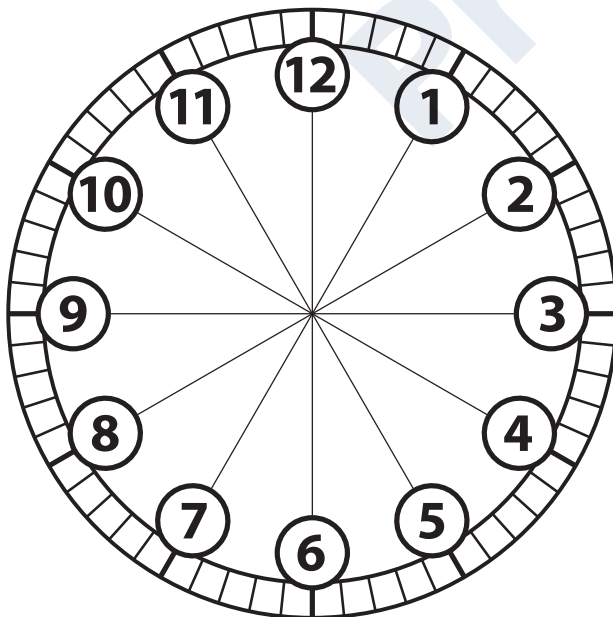
Draw a long hand pointing to the 12. Draw a short hand pointing to one of the other numbers. Tell the time.



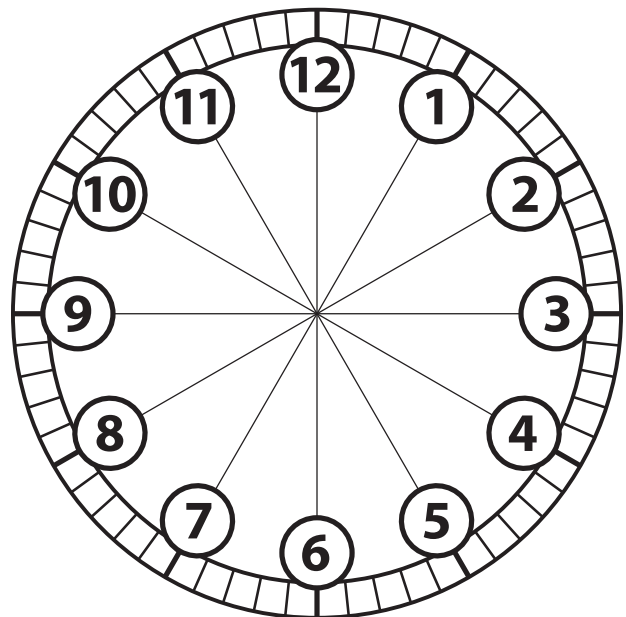
o'clock



o'clock



o'clock



o'clock

NAME _____

DATE _____



Finding Fifty on the Hundreds Grid



1 Color in squares to show the number 50.

2 How many days have you been in school? Circle one.

< 50

= 50

> 50

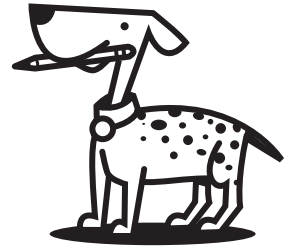
3 Write an equation to equal 50.

NAME _____

DATE _____



My Math Thinking



Preview

NAME _____

DATE _____

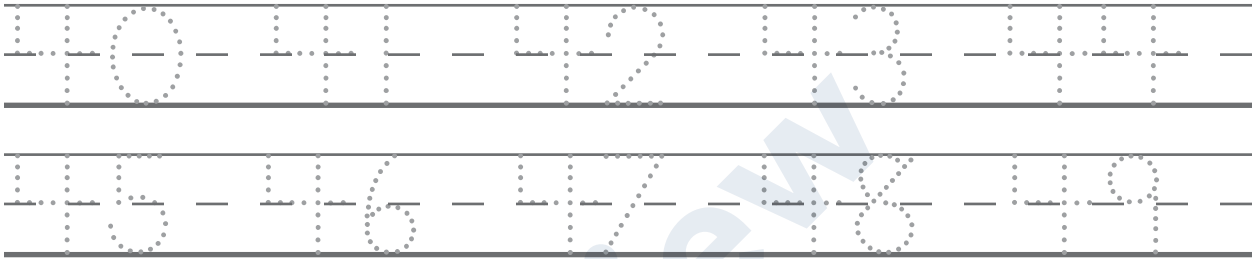


The Fifth Decade Day

- 1 Help Tad hop from 0 to 50 by tracing his hops.



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



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

- 4 What number comes after 49? _____

- 5 Write equations with the number 50.

a $50 = \underline{\hspace{2cm}}$

b $\underline{\hspace{2cm}} = 50$

c

d

