

# November Number Corner - Gr. 3

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

**Calendar Grid Observations Chart**  
You might use 24" x 36" chart paper. If you laminated a sheet in previous months, you can erase and reuse it now.

**Unit Fraction Race Display**  
You'll need a place to hang a sheet of butcher paper about 5 feet wide. You might be able to hang it from the bottom of your Number Corner display. The class will update this display during Calendar Collector activities.

**Unit Fraction Race Spinners & Fraction Pieces**  
These items are made from copies of teacher masters. Store them, along with a clear spinner overlay, where they'll be handy during Number Corner time.

## November Materials Needed

Materials	
<b>Copies</b>	Run copies of Teacher Masters T1-T9 according to the instructions at the top of each master.
	If students do not have their own Number Corner Student Books, run a class set of pages 11-17.
	Run a single display copy of Number Corner Student Book pages 11-17.
<b>Chart Preparation</b>	Prepare the Observations Chart according to Preparation instructions in the Calendar Grid workout.
	Use butcher paper to create a number line chart according to preparation instructions in the Calendar Collector workout.
	Prepare this month's version of the record sheet according to preparation instructions in the Calendar Collector workout.
<b>Paper Cutting</b>	Make copies of the Small Number Charts Teacher Master; cut and store them according to preparation instructions in the Calendar Grid workout.
	Run copies of the fraction pieces teacher masters on colored paper; cut and store pieces according to preparation directions in the Calendar Collector workout.

**Literature Connections:**  
 -One Hundred Hungry Ants  
 -Hershey's Milk Chocolate Multiplication Book  
 -Coyotes All Around  
 -Farmer's Market Rounding

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

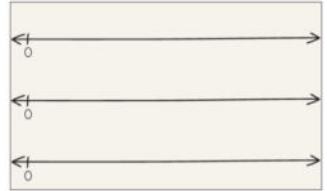
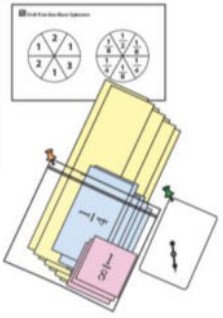
array*	multiple*	denominator*
equation*	place value	equation*
factor*	rounding*	equivalent fractions*
product*	tens	fraction*
sum or total*	difference*	improper fraction*
	equation*	mixed number*
	product*	numerator*
	sum or total*	unit fraction
	variable*	

**Unit Fractions Race Record Sheet**

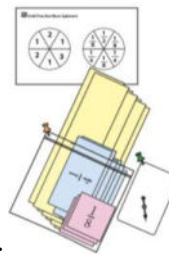
Day	Number of Pieces	Size of Pieces	Equations

**Calendar Grid Observations**

Date	Color	Height x Length	Area	Square?	Observations



# November: Day 1

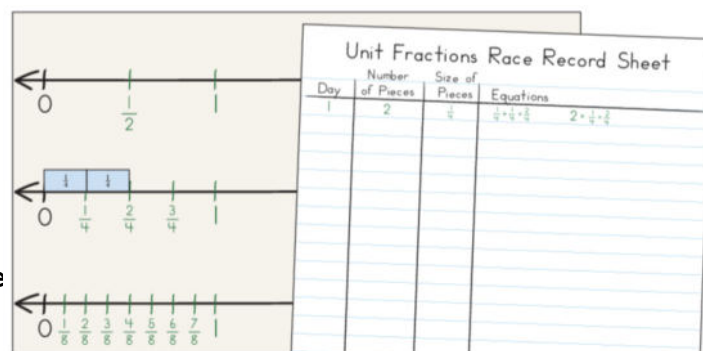


### Need:

- Prepared number lines
- Unit fraction pieces
- Race Record sheet
- Unit fraction race spinner
- Clear spinner
- Bag for pieces
- Marker

## C. Collector: 1-Introducing the Unit Fraction Race (p. 15)

1. Introduce the term *unit fraction*
  - a. Explain that students will collect unit fractions. Show the  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{1}{8}$  pieces and explain that each is a unit fraction.
  - a. Ask students what these pieces have in common. Give students time to share.
1. Draw attention to the number lines and ask how they could use the  $\frac{1}{2}$  piece to mark the points  $\frac{1}{2}$  and 1 on the top line.
  - a. Give students time to share ideas. Then work together to label the points.
  - b. Repeat the process with the  $\frac{1}{4}$  and  $\frac{1}{8}$  pieces.
2. Explain the Calendar Collector process.
  - a. Each day a student will spin both spinners. The first tells how many pieces to collect, and the second tells what size pieces to collect. The helper records the spins on the record sheet and writes an addition or multiplication equation to show how much the fraction pieces are worth in all. Then the helper takes the pieces identified by the spins and glues or tapes them on the appropriate line. The helper then labels the ending point of their strips.
1. Work with the class to update the Calendar Collector
  - a. Model how to label the number line to show the total. Also model how to write an equation to show the total.



# November: Day 2

### Need:

- Calendar Grid Observation Chart
- Construction paper
- Marker

## C. Grid: 1-Introducing the Calendar Grid (p. 9)

1. Post all calendar markers through the current day. Give students time to observe and then share observations about the markers.
  - a. Encourage students to notice the dimensions and number of units in each array
2. Introduce the Observations Chart and work with student input to fill in the chart with posted markers
  - a. Review the meaning of area (total number of square units it takes to cover a figure or region) and how to find the area of each array as necessary
3. Have students predict what the next marker will be
  - a. Record predictions on construction paper next to chart

## C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

Date	Color	Height x Length	Area	Square?	Observations
1	blue	1 x 1	1	yes	that first one is a tiny square
2	green	1 x 2	2		I think tomorrow will be a rectangle
3	green	2 x 3	6		they're like miniature number charts

## November: Day 3

### Need:

- Word Resource Card for *equation*
- Story Problems with Equations Teacher Master

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Solving Problems: 1-Introducing Equations with Variables (p. 34)

1. Ask students what problem solving means and let several students share.
2. Review the meaning of the word *equation*.
3. Write the equation  $4 \times 6 = t$  and ask students what they notice about the equation. Use their observations to initiate a conversation about what a variable is and how to determine the value of the variable  $t$ .
4. Give students time to solve the equations below, one at a time. Discuss and allow students to share their thinking.
  - a.  $4 \times t = 24$       $t \times 6 = 24$       $3 \times m = 15$       $c - 7 = 10$       $25 + 25 = f$
5. Display the Story Problems with Equations Teacher Master showing only the top problem. Ask students to turn to a partner to come up with an equation with a letter standing for the unknown number.
6. Next, reveal the list of equations below the story problem that best matches. Invite students to share and justify their answers.
7. After students have determined that equations b and d can both be used to represent this problem, conclude the activity by letting them know they will continue working on these skills later in the month.

## November: Day 4

### Need:

- Number Line Teacher Master
- Colored pencils

### C. Grid: Update

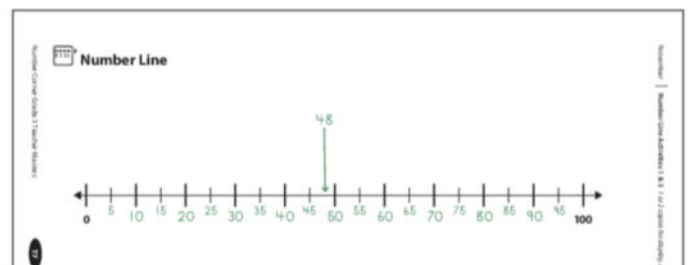
1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results.
  - a. Collect the specified number and kind of unit fraction pieces.
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Number Line: 1-Rounding to the Nearest Ten (p. 28)

1. Display the Number Line Teacher Master. Have students Turn and Talk about what they notice about this number line.
2. Label the markings with input from the class. Have students talk in pairs about where to place 48.
3. Invited students to share and then label 48 in pencil on the number line.
4. Introduce the idea of rounding based on this work.  
(Is 48 closer to 40 or 50?)
1. Practice rounding 23, 44, 57, 96, and 82 to the nearest ten.
1. Review rounding numbers with a 5 in the ones place (they are rounded up).



# November: Day 5

## C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

## C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

# November: Day 6

## Need:

-Word Resource Cards: *mixed numbers and improper fractions*

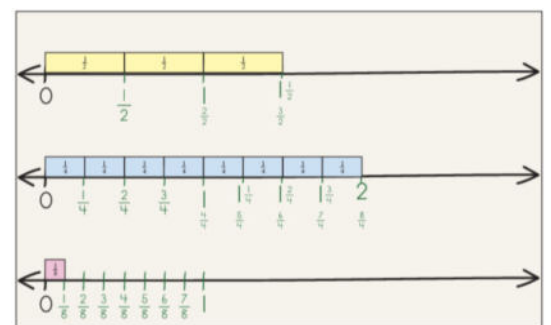
## C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

## C. Collector: 2-Labeling the Number Lines & Making Predictions (p. 17)

1. Update the collector for the day. Allow students to make observations of the number lines.
  - a. Use student observations to begin labeling the parts of each number line that have been filled in with unit fraction pieces.
  - b. Point out that numbers greater than 1 can be expressed as both *mixed numbers* and *improper fractions*. Use the Word Resource cards to introduce this vocabulary.
  - c. Encourage students to count the unit fraction pieces to figure out how to label each point.
2. Determine the running total for each number line.

Day	Number of Pieces	Size of Pieces	Equations
1	2	$\frac{1}{2}$	$\frac{1}{2} + \frac{1}{2} = 2 \cdot \frac{1}{2} = 1$
2	3	$\frac{1}{3}$	$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 3 \cdot \frac{1}{3} = 1$
3	1	$\frac{1}{4}$	$1 = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
4	1	$\frac{1}{5}$	$1 = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$
5	3	$\frac{1}{6}$	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} = 3 \cdot \frac{1}{6} = \frac{1}{2}$
6	2	$\frac{1}{8}$	$\frac{1}{8} + \frac{1}{8} = 2 \cdot \frac{1}{8} = \frac{1}{4}$





## November: Day 7

### Need:

-Field Trips page from Number Corner Student Book

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Solving Problems: 2-Solving Problems with Equations (p. 36)

1. Quickly review equations with variables. Write the equation  $3 \times m = 24$  and ask students what number they could write for  $m$  to make the equation true.
2. Display just the top half of the first Field Trips page from the Number Corner Student Book. Work on the first problem as a class.
  - a. Go through each step as a class while students record the work in their number corner books.
3. Review the second problem and give students time to solve the problem in pairs. They should continue to solve the third problem.

## November: Day 8

### Need:

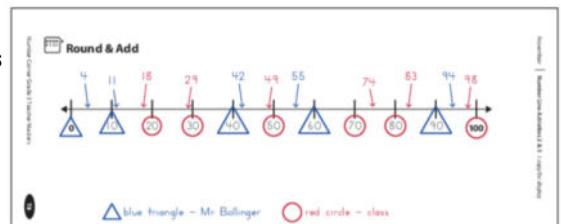
-Round & Add Teacher Master  
-1-6 dice and 4-9 dice  
-2 different colored pencils

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.



### Number Line: 2-Playing Round & Add as a Class (p. 30)

1. Display the Round & Add Teacher Master. Ask students what they notice.
2. Work with students to mark the multiples of 10. They will use this number line to play a game.
  - a. The first player begins by rolling 2 dice (one 1-6 dice and one 4-9 dice). The player arranges the numbers to form a 2-digit number. The player marks the number on the number line and then circles the multiple of ten that it rounds to using their color. Players take turns rolling the dice, arranging the digits, marking the 2-digit number they created, and circling the multiple of ten it rounds to. Each multiple of ten can only be claimed once. Either player may choose to use one dice to claim 0 or 10. After all the multiples have been claimed, the players make a prediction of who has the highest sum using their rounded numbers. Then players add of their exact sum. The highest sum wins.
  - b. Take a minute to explain that rounding can be helpful when you don't need an exact calculation. Players could find the winner using the rounded numbers.

## November: Day 9

### Need:

-Field Trips Number Corner student pages

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Solving Problems: 3-Discussing Problems with Equations (p. 38)

1. Spend a few minutes reviewing students' work on the Field Trips Number Corner student pages.
2. Have a few students share what the problem was asking them to do, how they wrote an equation for the problem, and how they solved the problem.
3. In the remaining time, allow students to finish problem 3 if they have not already done so.
4. Wrap-up by asking students what they know about writing equations that they didn't before. What is still confusing for them about this approach to problem solving?

## November: Day 10

### Need:

-Small Number Charts for each student  
-Word Resource Cards for *dimension*, *area*, *factor*, *product*, and *array*  
-Students each need colored pencils for shading

### C. Grid: 2-Exploring Patterns & Using the Area Model (p.10)

1. Complete the update procedure
2. Have students share the patterns they notice
  - a. Use the Word Resource Cards to help students share their observations (*dimension*, *area*, *factor*, *product*, *array*)
  - b. Help students make a connection between the 3rd and 4th columns on the Observations Chart and the formula for finding the area of a rectangle ( $\text{height} \times \text{length} = \text{area}$ )
3. Pass out a Small Number Chart to each student to use to draw predictions for future markers
  - a. Have students decide which marker they want to make a prediction about
    - i. Students should: label the dimensions and area of the array they draw, use the correct color to shade in the array, label the date of the marker about which they are making a prediction
4. Have a few students share their predictions
  - a. Add these predictions to the display so students can check their predictions as the month progresses

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

# November: Day 11

## Need:

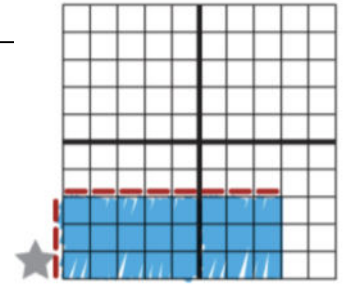
- Introducing Array Race Teacher Master
- 2 different colored pencils
- 1-6 dice, 4-9 dice, and More or Less dice

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.



### Comp. Fluency: 1-Introducing Array Race (p.22)

1. Display the Introducing Array Race Teacher Master and introduce the game.
  - a. Array Race is similar to Loops & Groups. Players draw arrays instead of loops and groups to represent multiplication problems.
  - b. Players take turns rolling two dice, a 1-6 dice and a 4-9 dice, to see what size array they should draw. Draw the frame of the array and shade it in. Then write the equation that shows the dimensions (factors) and area (product) of the array. When each player has had 3 turns, they add their 3 products to get a final score. Then they roll a More or Less die to determine whether the player with the higher or lower score wins.
2. Play a game as teacher vs. students. Take the first turn.
  - a. Roll one of the dice and record the result (this tells how many rows). Use a colored pencil to mark the left side of your grid, starting from the bottom corner (where the star is).
  - b. Roll the other dice and record the number of columns on your grid. Shade in the array.
  - c. Work with students to determine the number of shaded squares. Then write a multiplication equation to represent the array.
3. Play until both the teacher and students have each had 3 turns. Then work together to find the total scores. Roll the More or Less dice to see who wins.

# November: Day 12

## Need:

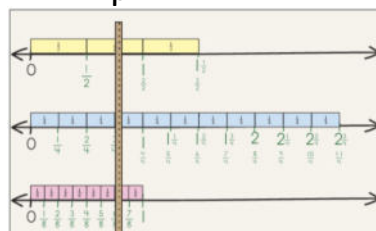
- Yardstick
- Fractions on a Number Line student book page

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Observations Chart.

### C. Collector: 3-Working with Equivalent Fractions & Number Lines (p. 18)

1. First update the collector for the day with students. Give students time to look at the number lines and record sheet before sharing observations and predictions.
2. Work with students to label each number line completely with fractions and mixed numbers if they have not completely been filled in already.
3. Then work with students to use the number lines and unit fraction pieces to explore equivalent fractions. (*How many eighths are equal to  $\frac{3}{4}$ ? How many fourths are equal to  $1\frac{1}{2}$ ? What is another way to express that fraction?*)
  - a. Use a yardstick to line up fractions
4. Give students the remaining time to complete the Fractions on a Number Line page in their Number Corner workbook.



Day	Number of Pieces	Size of Pieces	Equations
1	2	$\frac{1}{4}$	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ $2 \times \frac{1}{4} = \frac{2}{4}$
2	3	$\frac{1}{2}$	$\frac{1}{2} + \frac{1}{2} = 1$ $3 \times \frac{1}{2} = \frac{3}{2}$
3	1	$\frac{1}{8}$	$1 = \frac{8}{8}$
4	1	$\frac{1}{4}$	$1 = \frac{4}{4}$
5	3	$\frac{1}{4}$	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$ $3 \times \frac{1}{4} = \frac{3}{4}$
6	2	$\frac{1}{4}$	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ $2 \times \frac{1}{4} = \frac{2}{4}$
7	1	$\frac{1}{8}$	$1 = \frac{8}{8}$
8	3	$\frac{1}{8}$	$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{3}{8}$ $3 \times \frac{1}{8} = \frac{3}{8}$
9	2	$\frac{1}{8}$	$\frac{1}{8} + \frac{1}{8} = \frac{2}{8}$ $2 \times \frac{1}{8} = \frac{2}{8}$
10	2	$\frac{1}{4}$	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ $2 \times \frac{1}{4} = \frac{2}{4}$
11	1	$\frac{1}{8}$	$1 = \frac{8}{8}$
12	1	$\frac{1}{8}$	$1 = \frac{8}{8}$

## November: Day 13

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
1. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Number Line: 3-Playing Round & Add in Pairs (p.32)

1. Review how to round to the nearest ten, using the Number Line Teacher Master from Activity 1.
2. Have students round 18, 33, 55, 91, and 86 to the nearest ten.
3. Display the completed Round & Add Teacher Master from Activity 2. Use it to review how the game is played.
4. Give students the remaining time to play the game in pairs.
5. Wrap-up by asking students when they might use rounding in general.

### Need:

- Number Line Teacher Master
- Round & Add Teacher Master
- 1-6 dice and 4-9 dice for each pair
- Round & Add page in student book
- 2 different colored pencils

## November: Day 14

### C. Grid: 3-Reviewing Multiplication Concepts & Arrays (p. 12)

1. Display Student Book page 11 - Rectangular Arrays.
  - a. Read through the directions together. Then answer any questions.
  - b. Give students time to complete the page in their workbooks.
2. After most students are done, invite them to share their work.
3. Spend the remaining time posting as many calendar markers as time allows. This gives students the opportunity to notice the patterns before the end of the month.

### C. Collector: Update



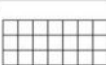
1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Need:

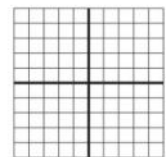
- Student book page 11 (Rectangular Arrays) for display

#### Rectangular Arrays

- 1 Label the dimensions of each array. Then find the total area of each rectangle. Try to find the area without counting every square. Finally, write a multiplication equation using the dimensions and area of the array.

<b>ex</b> 	<b>a</b> 	<b>b</b> 
Total Area:	Total Area:	Total Area:
Multiplication Equation:	Multiplication Equation:	Multiplication Equation:

- 2 Color in a 7-by-6 array on the grid. Label each dimension.
- 3 Then find the total area of the array. See if you can find a way to do it without counting each square one by one. Show your work below. You can use pictures, numbers, or words to show how you found the area.





# November: Day 15

## Need:

- Array Race student book page
- Colored pencils
- 1-6 dice, 4-9 dice, and More or Less dice
- Introducing the Array Race Teacher Master

### C. Grid: Update

1. Post one or more calendar markers so that the Calendar Grid is current.
1. Update the Observations Chart.

### C. Collector: Update

1. Have your student helper spin the spinners and record the results
  - a. Collect the specified number and kind of unit fraction pieces
  - b. Glue the pieces to the appropriate number line and labels on the number line.

### Comp. Fluency: 2-Playing Array Race (p. 24)

1. Display the Introducing the Array Race Teacher Master and review how to play the game.
2. Give students time to play the game with a partner.
3. After most students have finished, reflect on the game.
  - a. Did it help with their facts?
  - b. Was the array helpful? Why or why not?

## November Calendar Grid Answer Key

### About the Pattern:

- Color: blue, green, green, purple; blue, green, green, purple; and so on
- Shape: Day one is a square and every fourth array is a square. The three arrays between each square are all rectangles, creating a repeating pattern of square, rectangle, rectangle, rectangle
- Array Height: The height of each square is 1 unit greater than the height of previous square. Thus, the height array on day 1 is 1. On day 5 the height is 2. On day 9, it's 3, and so forth. In three days between each square, heights fall into a repetitive pattern of 2, 3

Date	Color	Height x Length	Area	Square?	Observations
1	blue	1 x 1	1	yes	Add observations from students.
2	green	1 x 2	2	no	
3	green	2 x 3	6	no	
4	purple	3 x 4	12	no	
5	blue	2 x 2	4	yes	
6	green	1 x 3	3	no	
7	green	2 x 4	8	no	
8	purple	3 x 5	15	no	
9	blue	3 x 3	9	yes	
10	green	1 x 4	4	no	
11	green	2 x 5	10	no	
12	purple	3 x 6	18	no	
13	blue	4 x 4	16	yes	
14	green	1 x 5	5	no	
15	green	2 x 6	12	no	
16	purple	3 x 7	21	no	
17	blue	5 x 5	25	yes	
18	green	1 x 6	6	no	
19	green	2 x 7	14	no	
20	purple	3 x 8	24	no	
21	blue	6 x 6	36	yes	
22	green	1 x 7	7	no	
23	green	2 x 8	16	no	
24	purple	3 x 9	27	no	
25	blue	7 x 7	49	yes	
26	green	1 x 8	8	no	
27	green	2 x 9	18	no	
28	purple	3 x 10	30	no	
29	blue	8 x 8	64	yes	
30	green	1 x 9	9	no	
31	green	2 x 10	20	no	

# November Daily Planner

Day	Date	Calendar Grid	Calendar Collector	Computational Fluency	Number Line	Solving Problems
1			<b>Activity 1</b> Introducing the Unit Fraction Race (p. 15)			
2		<b>Activity 1</b> Introducing the Calendar Grid (p. 9)	Update			
3		Update	Update			<b>Activity 1</b> Introducing Equations with Variables (p. 34)
4		Update	Update		<b>Activity 1</b> Rounding to the Nearest Ten (p. 28)	
5		Update	Update			
6		Update	<b>Activity 2</b> Labeling the Number Lines & Making Predictions (p. 17)			
7		Update	Update			<b>Activity 2</b> Solving Problems with Equations (p. 36)
8		Update	Update		<b>Activity 2</b> Playing Round & Add as a Class (p. 30)	
9		Update	Update			<b>Activity 3</b> Discussing Problems with Equations (p. 38)
10		<b>Activity 2</b> Exploring Patterns & Using the Area Model (p. 10)	Update			
11		Update	Update	<b>Activity 1</b> Introducing Array Race (p. 22)		
12		Update	<b>Activity 3</b> Working with Equivalent Fractions & Number Lines (p. 18)			
13		Update	Update		<b>Activity 3</b> Playing Round & Add in Pairs (p. 32)	
14		<b>Activity 3</b> Reviewing Multiplication Concepts & Arrays (p. 12)	Update			
15		Update	Update	<b>Activity 2</b> Playing Array Race (p. 24)		

**Note** On days when the Calendar Grid or Calendar Collector are not featured in an activity, a student helper will update one or both either before or after Number Corner. Summaries of the update routines appear below.

**Calendar Grid** – The student helper posts one or more calendar markers so that the Calendar Grid is complete up to the current date. After the record sheet is posted, the student will update the chart as well.

**Calendar Collector** – The student helper spins the spinners, records the spins on the record sheet, glues the appropriate number of fraction pieces to one of the three number lines, and marks that number line.

