

December Number Corner - Gr. 3

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

Calendar Collector Collection & Record Sheet
You'll measure and collect the mass of a variety of ordinary objects during Calendar Collector this month. See the Preparation section of the workout for more information.

December Materials Needed

Materials	
Copies	Run copies of Teacher Masters T1–T6 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 18–23. Run a single display copy of Number Corner Student Book pages 18–22.
Charts	Prepare the Observations Chart according to Preparation instructions in the Calendar Grid workout. Prepare the Record Sheet according to Preparation instructions in the Calendar Collector workout.
Special Items	Before Calendar Collector Activity 4, gather a collection of items that together have a mass of 1 kilogram. See Preparation instructions in the workout for more details.

Vocabulary

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

denominator*	pattern*
equation*	product*
equivalent fraction*	skip-count
fraction*	strategy
numerator*	compute
whole	estimate*
gram (g)*	hundreds
kilogram (kg)*	round
mass*	distributive property*
unit*	factor*
equal*	multiple*
	multiplication
	multiply*

Calendar Grid Observations

Date	Fraction		Equations	Observations
	Shaded	Equivalent Fractions		

Collecting Grams Record Sheet

Day	Object	Mass	How Many?	Total Mass Added

Literature Connections:

- The Hundred Pound Problem* by Jennifer Dussling
- How Much, How Many, How Far, How Heavy, How Long, How Tall is 1,000?* by Helen Nolan
- Even Steven and Odd Todd* by Kathryn Cristaldi
- Two of Everything* by Lily Toy Hong
- Further Adventures of Penrose the Mathematical Cat* by Theoni Pappas

December: Day 1

Need:

- Calendar Grid Markers
- Resource Cards: numerator, denominator, fraction, whole
- Whiteboards & whiteboard markers for each student

C. Grid: 1-Introducing the December Calendar Grid (p. 8)

1. Reveal the first marker. On a whiteboard, have students draw what the whole, of which this triangle is half, might look like.
1. Have students hold up their whiteboards and share their observations or questions about other's drawings.
 - a. Use the resource cards to clarify terms: numerator, denominator, fraction, whole
2. Turn and Talk: Make a prediction about what the next day's calendar marker will look like.
 - a. Invite a few students to share their partners' prediction
3. **Note:** Even if it is past the first day of the month, do not reveal any more calendar markers.

December: Day 2

Need:

- Resource Card: mass
- balance scale
- gram masses
- classroom objects to measure
- Calendar Collector Record Sheet

C. Collector: 1-Introducing the December Calendar Collector (p. 17)

1. Introduce the term *mass* using the resource card: explain this month they will explore mass.
 - a. When scientists use the word *mass*, they are talking about a measure of how much matter an object has. Everything has matter, some more than other. It is different than weight, how heavy something is.
1. Introduce the balance scale- it is called a pan balance or balance scale, it is used to measure mass
2. Work with the class to find the mass of two different objects in the classroom.
 - a. Place an object (crayon, eraser) on one side then add masses on the other side until the two sides are balanced. Discuss how to tell which side is heavier. Add mass to find the total number of grams. Measure a second object.
3. Introduce this month's collection
 - a. Each day, the student helper will find an object to add to the collection
 - i. It must fit on one side of the scale
 - b. Record the object, mass, how many of the item, and the total mass added.
4. The challenge this month is to accumulate a collection of objects that together have a mass as close as possible to 1,000 grams or 1 kilogram.
5. Store the objects in a plastic bag where you will store the growing collection of objects this month

December: Day 3

Need:

- Whiteboard, marker, & eraser for each student
- Zero Facts Teacher Master
- Ones Facts Teacher Master

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Comp. Fluency: 1-Multiplying by Zero & One (p. 24)

1. "The next few months you will be focusing on mastering multiplication facts through 10x10."
2. Spend time discussing and solving each story problem on the Zero Facts Teacher Master one at a time. Students can represent the problems on their whiteboards.
3. Have students tell a partner how they would describe in their own words what happens when you multiply any number by 0.
 - a. Call on a few students to share.
4. Share the Zero Property of Multiplication: zero times any number is zero.
5. Repeat with the Ones Facts Teacher Master
 - a. Students solve words problems on their whiteboards, discuss their definition of the Identity Property of Multiplication: any number times one is that number
6. Discuss problems like:

a.	$0 \times 45 = \underline{\quad}$	$3 \times 0 = \underline{\quad}$	$10 \times 0 = \underline{\quad}$
	$0 \times 328 = \underline{\quad}$	$0 \times \frac{1}{2} = \underline{\quad}$	
b.	$1 \times 5 = \underline{\quad}$	$32 \times 1 = \underline{\quad}$	$105 \times 1 = \underline{\quad}$
		$1 \times \frac{1}{4} = \underline{\quad}$	$1 \times 6 = \underline{\quad}$

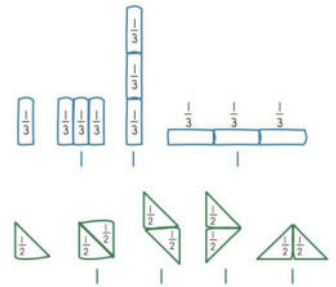
December: Day 4

Need:

- Whiteboard, marker, & eraser for each student
- Calendar Grid Observation Chart

C. Grid: 2-Introducing the December Calendar Grid Observation Chart (p.9)

1. Post the second calendar marker and share observations
 - a. Ask how students would label the second marker
 - b. Ask students to write more than one equation for the marker
2. Elicit and record the following equations: $\frac{1}{2} + \frac{1}{2} = 1$ and $\frac{1}{2} + \frac{1}{2} = \frac{2}{2}$
 - a. Students might also mention $2 \times \frac{1}{2} = 1$ or $2 \times \frac{1}{2} = \frac{2}{2}$
3. Turn and Talk: Make a prediction about what the next marker will look like.
4. Reveal the third marker and have students make observations. Have students predict what the whole will look like based on the shape that is identified as $\frac{1}{3}$.
 - a. Challenge students to sketch a variety of figures that could represent the whole.
1. Reveal the next 3 days, one at a time, allowing time for observations after each
2. Post the Calendar Grid Observation Chart. Explain what each heading means.
 - a. In the third column, students will generate equivalent fractions. This does not to be completed the first 5 days unless students happen to know some. It will be discussed on Day 10.
 - a. In the fourth column, equations do not need to be generated for unit fractions



Date	Fraction Shaded	Equivalent Fractions	Equations	Observations
1	$\frac{1}{2}$			Another equivalent triangle would make a whole.
2	$\frac{2}{2}$ or 1		$\frac{1}{2} + \frac{1}{2} = \frac{2}{2}$ or 1	Tomorrow there will be 3 halves.
3	$\frac{1}{3}$			The pattern is starting again.
4	$\frac{2}{3}$		$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$	Each day adds a new fraction.
5	$\frac{3}{3}$ or 1		$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{3}{3}$ or 1 $\frac{1}{3} \times 3 = \frac{3}{3}$	We made another whole.

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

December: Day 5

Need:

- Number Line Teacher Master

C. Grid: Update

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

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

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

1. Display the Number Line Teacher Master. Have students share their observations.
2. Label the markings with input from the class (write the multiples of 100 in large numbers, 50s in smaller numbers)
3. "Where would you place the number 536 and why?" Then 528, label both on the line
 - a. Introduce the idea of rounding to the nearest hundred, connecting to previous discussions
4. Round the following numbers to the nearest hundred using the number line to help: **287, 113, 995**
5. Finally review rounding numbers with a 5 in the tens place to the nearest hundred.
6. In the next activity, they will play a game that will give them practice rounding to the nearest hundred.

Note: Save the Number Line Teacher Master for use again in Activity 3

December: Day 6

Need:

- Calendar Collector materials

C. Grid: Update

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

C. Collector: 2-Making Estimates & Predictions (p. 18)

1. Update the collection with another object
2. Study the Calendar Collector Record Sheet- share observations and questions
3. Generate estimates of the total mass of the collection so far, share 5 estimates and record in order from least to greatest, have students explain their thinking
4. Work together to find the exact mass of the collection. Record on a sticky note or piece of paper beside the record sheet. Talk about what they will need to accumulate a total of 1,000 grams by the end of the month.

Day	Object	Mass	How Many?	Total Mass Added
1	crayon	4 g	10	40 g
2	marker	8 g	5	40 g
3	scissors	21 g	3	64 g
4	calculator	99 g	1	99 g
5	pencil sharpener	17 g	3	50 g
6	sunscreen	66 g	1	66 g
7				

Handwritten math work on a whiteboard showing the calculation of the total mass of the collection:

$$40 + 40 + 64 + 99 + 48 + 66 = ?$$

Calculations shown:

- $40 + 40 = 80$
- $64 + 99 = (63 + 1) + 99 = 63 + (1 + 99) = 63 + 100 = 163$
- $48 + 66 = 40 + 8 + 60 + 6 = 100 + 14 = 114$

Final addition:

$$\begin{array}{r} 163 \\ + 114 \\ \hline 277 \\ + 80 \\ \hline 357 \end{array}$$

December: Day 7

Need:

- Doubles Facts Teacher Master
- Whiteboard, marker, & eraser for each student
- S.B. Multiplying by Twos

C. Grid: Update

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

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Comp. Fluency: 2-The Doubles Facts (p. 24)

1. Display the Doubles Facts Teacher Master, then count students off by 1s and 2s: 1s will solve problem 1 and 2s will solve problem 2 on their whiteboards.
 - a. Have students share their solutions with a neighbor. Then call on a few students to share.
2. Review the top of the Teacher Master: the product of 2 and any number will be even (all multiples of 2 can be divided into 2 equal groups)
3. Display Number Corner Student Book-Multiplying by Two: read the poem out loud, then have students read it with you a second time
4. Give time to complete the page independently.
5. With a few minutes left, review the products for item 2. Have students circle any they missed or answered incorrectly.

December: Day 8

Need:

- Round & Add Teacher Master

C. Grid: Update

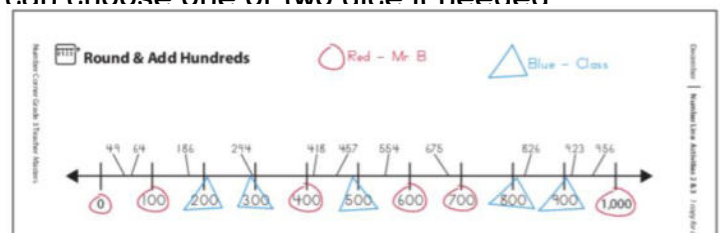
1. Post one or more calendar markers so that the Calendar Grid is current.
2. Update the Calendar Grid Observation Chart.

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Number Line: 2-Playing Round & Add Hundreds as a Class (p. 29)

1. Display the Round & Add Hundreds Teacher Master.
2. Mark the multiples of 100 on the number line and explain they will play the game from last month again but rounding to the hundreds. Play Teacher vs. Students
 - a. Roll three dice (2: 1-6, 1: 4-9), arrange the numbers to create a 3-digit number, mark it on the number line and circle the 100 to which it rounds using their color
 - b. Numbers cannot be claimed again, players can choose one or two dice if needed
 - c. Once all numbers have been claimed, predict who will have a larger sum, find each player's sum and find the difference between the prediction and actual sums
 - a. The player with the lowest difference wins.



December: Day 9

Need:

-S.B. Problem String Workspace

C. Grid: Update

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

C. Collector: Update

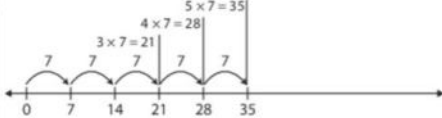
1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Solving Problems: 1-Problem String 7 (p. 34)

1. Review the process of doing a problem string- each new problem connects to the previous problem
2. Turn to Number Corner Student Book- Problem String Workspace

- a. 4×7 3×7 5×7 7×7 9×7 7×9 12×7
- b. Model students' strategies for solving the problems on a number line

Challenge: 20×7 19×7

Problems	Sample Strategies & Recording	Connections
4×7	Some students may skip-count by 4s. If so, draw a number line showing 7 jumps of 4 (4, 8, 12, 16, 20, 24, 28). Then, compare that to a number line with jumps of 7, as shown here. Ask students which looks more efficient.	Students may see on the first number line that 3×7 is 1 group of 7 less than 4×7 .
3×7	If students say they "just know it," acknowledge that being able to recall facts from memory is very useful, and then draw the number line as a foundation for future problems. Model each problem one at a time on the same number line so that it looks like this after all 3 problems are finished.	You can add 1 more jump of 7 on to the number line to show that 7×5 is 1 more group of 7 than 4×7 , which is equal to $28 + 7$ or 35. Big Idea When multiplying, you can think about equal groups or repeated jumps on a number line. You can use what you know about one combination to solve another, for example, by adding or subtracting equal groups to use known combinations like 4×7 to solve unknown combinations like 3×7 and 5×7 .
5×7		

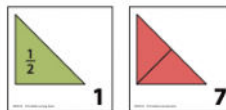
December: Day 10

Need:

-S.B. Multiplication Table
-Resource Card: equivalent fractions
-Yellow crayon for each student

C. Grid: 3-Equivalent Fractions (p. 11)

1. Update the Calendar Grid and observation chart
2. Use the resource card: equivalent fraction (two fractions that represent the same amount of the same whole)
1. Look at markers posted so far and try to find any that represent the same amount of the whole square
1. Complete the equivalent fractions column of the recording chart.



6	$\frac{1}{4}$			There will be 4 days of fourths.
7	$\frac{2}{4}$ or $\frac{1}{2}$	$\frac{2}{4} = \frac{1}{2}$	$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$	It looks like the first day. Half is shaded, so $\frac{1}{2} = \frac{1}{4} + \frac{1}{4}$.
8	$\frac{3}{4}$		$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$ or $3 \times \frac{1}{4}$	One more fourth will make a whole.
9	$\frac{4}{4}$ or 1	$\frac{4}{4} = 1$	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 1$	It takes longer to get to a whole when the fractions are smaller.
10	$\frac{1}{6}$		$\frac{1}{6} \times 1 = \frac{1}{6}$	The sixths should take 6 days to get them all.
11	$\frac{2}{6}$ or $\frac{1}{3}$	$\frac{2}{6} = \frac{1}{3}$	$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$ or $\frac{1}{6} \times 2 = \frac{2}{6}$	It looks like the third day.
12	$\frac{3}{6}$ or $\frac{1}{2}$	$\frac{3}{6} = \frac{1}{2}$	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{3}{6}$ or $\frac{1}{6} \times 3 = \frac{3}{6}$	It's a different shape than any others so far.

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Comp. Fluency: 3-Zeroes, Ones & Doubles Facts on the Multiplication Table (p. 25)

1. Display Number Corner Student Book- Multiplication Table
2. Color the doubles facts yellow, leave the 0s and 1s facts blank
3. Have students give a thumbs up or down to show if they are confident with their 0s, 1s, and 2s facts.

December: Day 11

Need:

-S.B. Problem String Workspace

C. Grid: Update

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

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

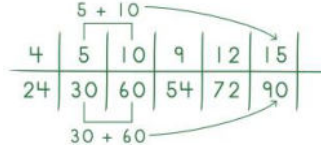
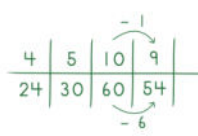
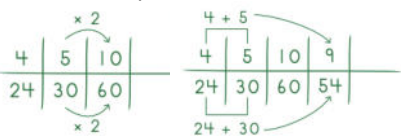
Solving Problems: 2-Problem String 8 (p.36)

1. Review the process of doing a problem string- each new problem connects to the previous problem
2. Turn to Number Corner Student Book- Problem String Workspace practice using arrays

a. 4×6 5×6 10×6 9×6 12×6

b. Model students' strategies for solving the problems on an array

1. After the string, begin a ratio table to show the relationships between the problems.



4×6	<p>Depending on how comfortable students are with the multiplication facts, they might say they "just knew" that 4×6 is 24. If so, model their thinking with an open array.</p> <p>You can use rows and columns to model skip-counting strategies on an array as well.</p>
5×6	<p>$5 \times 6 = (4 + 1) \times 6 = (4 \times 6) + 6 = 24 + 6 = 30$</p>

December: Day 12

Need:

-Sticky note or piece of paper
-S.B. More Rounding Practice
-S.B. Round & Add Hundreds

C. Grid: Update

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

C. Collector: 3-Finding the Total Mass of the Collection (p. 21)

1. Add an object to the collection, record the mass on the chart
2. Work together to find the total mass of the objects collected so far.
3. Use a sticky note next to the record sheet to record the total mass for day 12
4. Discuss what they need to do to accumulate a total of 1,000 grams by the end of the month.
 - a. How many more grams do they need to collect to get to 1,000?
 - b. How many more days do they have to add to their collection?
 - c. About how many grams will they need to collect each day to get to that total?
 - d. What objects in the room might be good choices to add to the collection?

Number Line: 2-Playing Round & Add Hundreds in Pairs

1. Display Number Corner Student Book- More Rounding Practice
2. Read the directions and give students time to complete.
3. When students have finished, they can play Round & Add Hundreds with a partner.

December: Day 13

Need:

- S.B. Scout Them Out (0,1,2)
- S.B. Multiplication Table
- Blue, red, & green crayon for each student

C. Grid: 4-Updating the Calendar Grid (p. 13)

1. Update the calendar grid and observation chart
2. Spend time focusing on the equivalent fraction column
 - a. Compare the equivalent fractions using the calendar markers
 - i. $\frac{1}{3}$ ___ $\frac{1}{6}$ $\frac{3}{8}$ ___ $\frac{3}{4}$ $\frac{2}{4}$ ___ $\frac{2}{6}$
 $\frac{3}{4}$ ___ $\frac{6}{8}$ $\frac{2}{6}$ ___ $\frac{2}{3}$ $\frac{1}{12}$ ___ $\frac{1}{6}$

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

Comp. Fluency: 4-Scout Them Out (p. 26)

1. Review the Zero, Ones, and Double Facts using the multiplication table
2. Display Number Corner Student Book Scout Them Out (0,1,2) they are going to go on a scavenger hunt for multiplication facts
 - a. Read the directions and work together to circle each kind of fact in the specified color
 - b. Finish independently- share answers with a partner

December: Day 14

Need:

- S.B Thinking About Fractions

C. Grid: 5-Completing the Thinking About Fractions Page (p. 14)

1. Examine the page and review the questions on Number Corner Student Book page 18
2. Students work independently to complete the assignment
CHALLENGE:
 - a. Ask to imagine the pattern for several more days. What would come after the twelfths? Why?
 - b. If the pattern went on forever, on what day would they see the next three fractions that were equal to 1 whole

C. Collector: Update

1. Student Helper: select an object to add to the collection, estimate and record the mass, find the exact mass using the balance scale, add the object to the bag.

December: Day 15

Need:

-Bag of items that equal 1 kilogram

C. Grid: Update

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

C. Collector: 4-Comparing the Collection to a Kilogram (p. 21)

1. Add one last object to the collection and add information about it to the record sheet.
2. Quietly think, "Does the collection have a mass that is pretty close to 1,000 grams or 1 kilogram?"
3. Introduce 1 kilogram by showing the bag of items you have prepared that are equal to 1 kilogram. Have a couple of students hold the bags to compare the mass
4. Use the balance scale to determine if the class has collected roughly 1 kilogram.
 - a. Challenge: If the collection is more than 1 kilogram suggest removing some items to determine how much over they are.
5. Spend time finding the exact sum of the masses of all the objects
6. Compare their results to the results of the balance scale
7. Have students pick up the bags to get the sense of what 1 kilogram feels like.

December Calendar Grid Answer Key

About the Pattern:

- Each day adds another unit fraction to a growing collection. Each set of markers has the same denominator and same major color, although the shades of the color change systematically to help students see equivalent fractions.

Date	Fraction Shaded	Equivalent Fractions	Equations
1	$\frac{1}{2}$		
2	$\frac{2}{2}$ or 1		$\frac{1}{2} + \frac{1}{2} = \frac{2}{2} = 1$
3	$\frac{1}{3}$		
4	$\frac{2}{3}$		$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$
5	$\frac{3}{3}$ or 1		
6	$\frac{1}{4}$		
7	$\frac{2}{4}$ or $\frac{1}{2}$	$\frac{2}{4} = \frac{1}{2}$	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$
8	$\frac{3}{4}$		
9	$\frac{4}{4}$ or 1	$\frac{4}{4} = \frac{2}{2} = 1$	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1$
10	$\frac{1}{6}$		
11	$\frac{2}{6}$ or $\frac{1}{3}$	$\frac{2}{6} = \frac{1}{3}$	$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$ or $2 * \frac{1}{6} = \frac{2}{6}$
12	$\frac{3}{6}$ or $\frac{1}{2}$	$\frac{3}{6} = \frac{1}{2}$	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{3}{6}$
13	$\frac{4}{6}$ or $\frac{2}{3}$	$\frac{4}{6} = \frac{2}{3}$	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6}$
14	$\frac{5}{6}$		$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{5}{6}$
15	$\frac{6}{6}$ or 1	$\frac{6}{6} = 1$	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{6}{6}$

16	$\frac{1}{8}$		
17	$\frac{2}{8}$ or $\frac{1}{4}$	$\frac{2}{8} = \frac{1}{4}$	$\frac{1}{8} + \frac{1}{8} = \frac{2}{8}$
18	$\frac{3}{8}$		
19	$\frac{4}{8}$ or $\frac{1}{2}$	$\frac{4}{8} = \frac{1}{2}$	$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$
20	$\frac{5}{8}$		
21	$\frac{6}{8}$ or $\frac{3}{4}$	$\frac{6}{8} = \frac{3}{4}$	$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{6}{8} = \frac{3}{4}$
22	$\frac{7}{8}$		
23	$\frac{8}{8}$ or 1	$\frac{8}{8} = 1$	$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{8}{8} = 1$
24	$\frac{1}{12}$		
25	$\frac{2}{12}$ or $\frac{1}{6}$	$\frac{2}{12} = \frac{1}{6}$	$\frac{1}{12} + \frac{1}{12} = \frac{2}{12} = \frac{1}{6}$
26	$\frac{3}{12}$		
27	$\frac{4}{12}$ or $\frac{1}{3}$	$\frac{4}{12} = \frac{1}{3}$	$\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{4}{12} = \frac{1}{3}$
28	$\frac{5}{12}$		
29	$\frac{6}{12}$ or $\frac{1}{2}$	$\frac{6}{12} = \frac{1}{2}$	$\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{6}{12} = \frac{1}{2}$
30	$\frac{7}{12}$		
31	$\frac{8}{12}$ or $\frac{2}{3}$	$\frac{8}{12} = \frac{2}{3}$	$\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$

Dates	Denominator	Generating Denominators	Fractions in Set	Color
1, 2	2 ($2 \times 1 = 2$)	Start with 2	$\frac{1}{2}, \frac{2}{2}$	green
3-5	3 ($3 \times 1 = 6$)	Start with 3	$\frac{1}{3}, \frac{2}{3}, \frac{3}{3}$	blue
6-9	4 ($2 \times 2 = 4$)	Double 2 (4)	$\frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}$	red
10-15	6 ($3 \times 2 = 6$)	Double 3 (6)	$\frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}, \frac{6}{6}$	orange
16-23	8 ($2 \times 4 = 8$)	Double 4 (8)	$\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}, \frac{8}{8}$	purple
24-30	12 ($2 \times 6 = 12$)	Double 6 (12)	$\frac{1}{12}, \frac{2}{12}, \frac{3}{12}, \frac{4}{12}, \frac{5}{12}, \frac{6}{12}, \frac{7}{12}, \frac{8}{12}, \frac{9}{12}, \frac{10}{12}, \frac{11}{12}, \frac{12}{12}$	turquoise

- The denominators are generated by starting with 2 for the first set and then doubling on alternating sets (2, 4, 8). Every other set is generated by starting with 3 for the second set and then doubling on alternating sets (3, 6, 12). The result is that the denominators appear in the following order: 2, 3, 4, 6, 8, 12.

✓ December Daily Planner

Day	Date	Calendar Grid	Calendar Collector	Computational Fluency	Number Line	Solving Problems
1		Activity 1 Introducing the December Calendar Grid (p. 8)				
2		Update	Activity 1 Introducing the December Calendar Collector (p. 17)			
3		Update	Update	Activity 1 Multiplying by Zero & One (p. 24)		
4		Activity 2 Introducing the December Calendar Grid Observations Chart (p. 9)	Update			
5		Update	Update		Activity 1 Rounding to the Nearest Hundred (p. 28)	
6		Update	Activity 2 Making Estimates & Predictions (p. 18)			
7		Update	Update	Activity 2 The Doubles Facts (p. 24)		
8		Update	Update		Activity 2 Playing Round & Add Hundreds as a Class (p. 29)	
9		Update	Update			Activity 1 Problem String 7 (p. 34)
10		Activity 3 Equivalent Fractions (p. 11)	Update	Activity 3 Zeroes, Ones & Doubles Facts on the Multiplication Table (p. 25)		
11		Update	Update			Activity 2 Problem String 8 (p. 36)
12		Update	Activity 3 Finding the Total Mass of the Collection (p. 21)		Activity 3 Playing Round & Add Hundreds in Pairs (p. 32)	
13		Activity 4 Updating the Calendar Grid (p. 13)	Update	Activity 4 Scout Them Out (p. 26)		
14		Activity 5 Completing the Thinking About Fractions Page (p. 14)	Update			
15		Update	Activity 4 Comparing the Collection to a Kilogram (p. 22)			

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 Observations Chart is posted, the student will update the chart as well.

Calendar Collector – The student helper finds a classroom object to add to the collection, estimates its mass, and then finds its exact mass and records all the information on the record sheet.