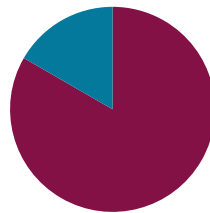


# Lesson 17

Objective: Practice and solidify Grade 4 fluency.

## Suggested Lesson Structure

- Fluency Practice (50 minutes)
- Student Debrief (10 minutes)
- Total Time (60 minutes)**



### Fluency Practice (50 minutes)

- Count by Equivalent Fractions (5 minutes)
- Mixed Review Fluency (45 minutes)

### Count by Equivalent Fractions (5 minutes)

Note: Students have practiced this fluency activity throughout the year.

T: Count by threes to 30 starting at 0.

S: 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.

$\frac{0}{10}$	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{9}{10}$	$\frac{12}{10}$	$\frac{15}{10}$	$\frac{18}{10}$	$\frac{21}{10}$	$\frac{24}{10}$	$\frac{27}{10}$	$\frac{30}{10}$
0	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{9}{10}$	$\frac{12}{10}$	$\frac{15}{10}$	$\frac{18}{10}$	$\frac{21}{10}$	$\frac{24}{10}$	$\frac{27}{10}$	3
0	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{9}{10}$	$1\frac{2}{10}$	$1\frac{5}{10}$	$1\frac{8}{10}$	$2\frac{1}{10}$	$2\frac{4}{10}$	$2\frac{7}{10}$	3

T: Count by 3 tenths to 30 tenths starting at 0 tenths. (Write as students count.)

S:  $\frac{0}{10}, \frac{3}{10}, \frac{6}{10}, \frac{9}{10}, \frac{12}{10}, \frac{15}{10}, \frac{18}{10}, \frac{21}{10}, \frac{24}{10}, \frac{27}{10}, \frac{30}{10}$ .

T: Which of these fractions is equal to a whole number?

S: 30 tenths.

T: (Point to  $\frac{30}{10}$ .) 30 tenths is equal to how many ones?

S: 3 ones.

T: (Beneath  $\frac{30}{10}$ , write 3 ones.) Count by 3 tenths again. This time, when you come to a whole number, say the whole number. (Write as students count.)

S: 0,  $\frac{3}{10}, \frac{6}{10}, \frac{9}{10}, \frac{12}{10}, \frac{15}{10}, \frac{18}{10}, \frac{21}{10}, \frac{24}{10}, \frac{27}{10}, 3$ .

T: (Point to  $\frac{12}{10}$ .) Say  $\frac{12}{10}$  as a mixed number.

S:  $1\frac{2}{10}$ .

Continue the process for  $\frac{18}{10}$ ,  $\frac{21}{10}$ ,  $\frac{24}{10}$ , and  $\frac{27}{10}$ .

T: Count by 3 tenths again. This time, convert to mixed numbers or whole numbers. (Write as students count.)

S:  $0, \frac{3}{10}, \frac{6}{10}, \frac{9}{10}, 1\frac{2}{10}, 1\frac{5}{10}, 1\frac{8}{10}, 2\frac{1}{10}, 2\frac{4}{10}, 2\frac{7}{10}, 3$ .

### Mixed Review Fluency (45 minutes)

Materials: (T) List of module titles for Modules 1–7 for the Debrief (S) Fluency cards (Template), mini-personal white board, protractor

For the rest of today’s lesson students are engaged in fluency activities reviewing the major work of Grade 4. They work and play in pairs, alternating the role of teacher, using the cards provided. Students might periodically move around the room selecting different partners, or they may stay in the same grouping for the duration of this practice. Also, consider letting students select other fluency favorites based on their needs and interests.


The New Problem component of each card may be best completed after practice using the Teacher Card. The practice helps students better understand all the blanks and the movement of the teacher–student talk. They are then empowered to extend each activity. Use the mini-personal white board so that the New Problem remains usable for the summer months.

After the session, the Fluency Cards are placed in the student folders for use during the summer.

### Student Debrief (10 minutes)

#### Reflection (3 minutes)

Before the Student Debrief, instruct students to complete the Reflection pictured to the right. Reflections are replacing Exit Tickets in Topic D in order for students to have four days to think back on their learning and growth in Grade 4.



**NOTES ON MULTIPLE MEANS OF ENGAGEMENT:**

These are games that students can play with family members to maintain skills over the summer. It may be appropriate to invite parents and siblings to learn and participate, perhaps during a math or parents’ night. Students may consider game partners and make adjustments accordingly. For example, if played with a younger or older sibling, games may include math appropriate for siblings. Discuss with students how to best adapt the games for their personal summer experiences.

Name \_\_\_\_\_ Date \_\_\_\_\_

1. What are you able to do now in math that you weren’t able to do at the beginning of Grade 4?
  
  
  
2. Which activities would you like to practice this summer in order to keep fluent or get more fluent?
  
  
  
3. What type of practice would help you build your fluency with these concepts?

**Lesson Objective:** Practice and solidify Grade 4 fluency.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their reflections before going over their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

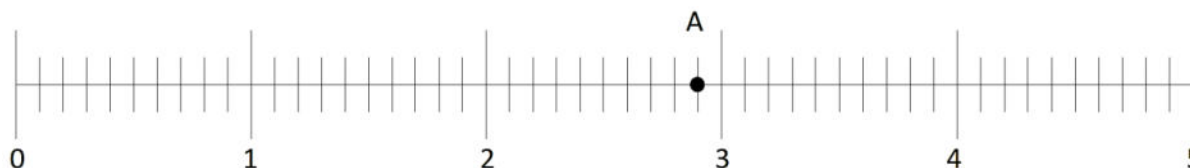
- Share your Reflection with a partner. After you have both shared, talk more about ways you would like to practice this summer. What problems might you have when you try to practice?
- Do you think that, without practice, fluency can be lost? Why or why not?
- (Display a list of module titles for Modules 1–7.) We have worked hard this year and have learned many concepts in math. Let’s brainstorm a list of what we have learned in math this year.
- Which of these concepts were challenging to you at first, but as you worked at them, you understood better?



Name \_\_\_\_\_

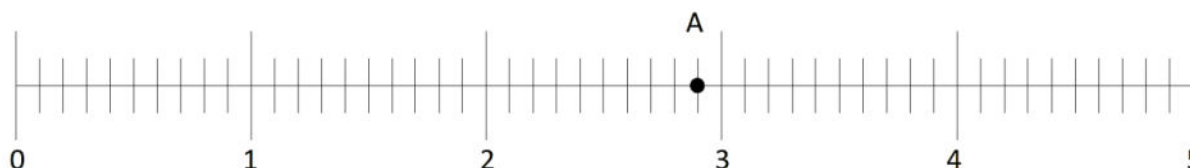
Date \_\_\_\_\_

1. Decimal Fraction Review: Plot and label each point on the number line below, and complete the chart. Only solve the portion above the dotted line.



Point	Unit Form	Decimal Form	Mixed Number (ones and fraction form)	How much more to get to the next whole number?
A	2 ones and 9 tenths			
B		4.4	$4\frac{4}{10}$	
C				$\frac{2}{10}$ or 0.2

1. Complete the chart. Create your own problem for B, and plot the point.



Point	Unit Form	Decimal Form	Mixed Number (ones and fraction form)	How much more to get to the next whole number?
A	2 ones and 9 tenths			
B				

2. Complete the chart. The first one has been done for you. Only solve the top portion above the dotted line.

Decimal	Mixed Number	Tenths	Hundredths
3.2	$3\frac{2}{10}$	32 tenths or $\frac{32}{10}$	320 hundredths or $\frac{320}{100}$
8.6			
11.7			
4.8			

-----

2. Complete the chart. Create your own problem in the last row.

Decimal	Mixed Number	Tenths	Hundredths
3.2			
8.6			
11.7			

Name \_\_\_\_\_

Date \_\_\_\_\_

**Convert Units: Teacher Card**

Materials: (S) Mini-personal white board

T: (Write 1 m 20 cm = \_\_\_\_\_ cm.)  
1 m 20 cm is how many centimeters?

S: 120 centimeters.

Repeat the process with this sequence:

- 1 m 80 cm = 180 cm
- 3 km 249 m = 3,249 m
- 4 L 71 mL = 4,071 mL
- 2 kg 5 g = 2,005 g

**New Problem**

T: (Write \_\_\_\_\_ = \_\_\_\_\_.)  
 \_\_\_\_\_ is how many \_\_\_\_\_?

S: \_\_\_\_\_.

**Add Large Numbers: Teacher Card**

Materials: (S) Mini-personal white board

T: (Write 747 thousands 585 ones.)  
 On your board, write this number in standard form.

S: (Write 747,585.)

T: (Write 242 thousands 819 ones.)  
 Add this number to 747,585 using the standard algorithm.

S: (Write 747,585 + 242,819 = 990,404 using the standard algorithm.)

Continue the process with this sequence:

- 528,649 + 247,922 = 776,571
- 348,587 + 629,357 = 977,944
- 426,099 + 397,183 = 823,282

**New Problem**

T: (Write \_\_\_\_\_ thousands \_\_\_\_\_ ones.)  
 On your board, write this number in standard form.

S: (Write \_\_\_\_\_.)

T: (Write \_\_\_\_\_ thousands \_\_\_\_\_ ones.)  
 Add this number to \_\_\_\_\_ using the standard algorithm.

S: ( \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ using the standard algorithm.)

fluency cards

**Subtract Large Numbers: Teacher Card**

Materials: (S) Mini-personal white board

T: (Write 600 thousands.) On your board, write this number in standard form.

S: (Write 600,000.)

T: (Write 545 thousands 543 ones.) Subtract this number from 600,000 using the standard algorithm.

S: (Write  $600,000 - 545,543 = 54,457$  using the standard algorithm.)

Continue the process with this sequence:

$$400,000 - 251,559 = 148,441$$

$$700,000 - 385,476 = 314,524$$

$$600,024 - 197,088 = 402,936$$

**New Problem**

T: (Write \_\_\_\_\_ thousands.) On your board, write this number in standard form.

S: (Write \_\_\_\_\_.)

T: (Write \_\_\_\_\_ thousands \_\_\_\_\_ ones.) Subtract this number from \_\_\_\_\_ using the standard algorithm.

S: ( \_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_ using the standard algorithm.)

**Multiply Mentally: Teacher Card**

Materials: (S) Mini-personal white board

T: (Write  $32 \times 3 =$  \_\_\_\_\_.) Say the multiplication sentence.

S:  $32 \times 3 = 96$ .

T: (Write  $32 \times 3 = 96$ . Below it, write  $32 \times 20 =$  \_\_\_\_\_.) Say the multiplication sentence.

S:  $32 \times 20 = 640$ .

T: (Write  $32 \times 20 = 640$ . Below it, write  $32 \times 23 =$  \_\_\_\_\_.)

On your board, solve  $32 \times 23$ .

S: (Write  $32 \times 23 = 736$ .)

Repeat the process with this sequence:

$$42 \times 2 = 84, \quad 42 \times 20 = 840, \quad 42 \times 22 = 924$$

$$31 \times 4 = 124, \quad 31 \times 40 = 1,240, \quad 31 \times 44 = 1,364$$

**New Problem**

T: (Write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_.)

Say the multiplication sentence.

S: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

T: (Write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_. Below it, write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_.)

Say the multiplication sentence.

S: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_.

T: (Write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_. Below it, write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_.)

On your board, solve \_\_\_\_\_  $\times$  \_\_\_\_\_.

S: (Write \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_.)

fluency cards



**Divide Mentally: Teacher Card**

Materials: (S) Mini-personal white board

T: (Write  $40 \div 2$ .) Write the division sentence in unit form.

S:  $4$  tens  $\div 2 = 2$  tens.

T: (To the right, write  $8 \div 2$ .) Write the division sentence in unit form.

S:  $8$  ones  $\div 2 = 4$  ones.

T: (Write  $48 \div 2$ .) Write the complete division sentence in unit form.

S:  $4$  tens  $8$  ones  $\div 2 = 2$  tens  $4$  ones.

T: Say the division sentence.

S:  $48 \div 2 = 24$ .

Continue the process with this sequence:

$$90 \div 3 = 30, 3 \div 3 = 1, 93 \div 3 = 31$$

$$80 \div 4 = 20, 8 \div 4 = 2, 88 \div 4 = 22$$

$$180 \div 6 = 30, 6 \div 6 = 1, 186 \div 6 = 31$$

**New Problem**

T: (Write  $\underline{\quad} \div \underline{\quad}$ .) Write the division sentence in unit form.

S:  $\underline{\quad}$  tens  $\div \underline{\quad} = \underline{\quad}$  tens.

T: (To the right, write  $\underline{\quad} \div \underline{\quad}$ .) Write the division sentence in unit form.

S:  $\underline{\quad}$  ones  $\div \underline{\quad} = \underline{\quad}$  ones.

T: (Write  $\underline{\quad} \div \underline{\quad}$ .) Write the complete division sentence in unit form.

S:  $\underline{\quad}$  tens  $\underline{\quad}$  ones  $\div \underline{\quad} = \underline{\quad}$  tens  
 $\underline{\quad}$  ones.

T: Say the division sentence.

S:  $\underline{\quad} \div \underline{\quad} = \underline{\quad}$ .

fluency cards

**State the Value of a Set of Coins: Teacher Card**

Materials: (S) Mini-personal white board

T: (Draw 2 quarters and 4 dimes as number disks labeled 25¢ and 10¢.) What’s the value of 2 quarters and 4 dimes?

S: 90¢.

T: Write 90 cents as a fraction of a dollar.

S: (Write  $\frac{90}{100}$  dollar.)

T: Write 90 cents in decimal form using the dollar sign.

S: (Write \$0.90.)

Continue the process with this sequence:

1 quarter 9 dimes 12 pennies = 127¢,  $\frac{127}{100}$  dollar, \$1.27

3 quarters 5 dimes 20 pennies = 145¢,  $\frac{145}{100}$  dollar, \$1.45

**New Problem**

T: (Draw \_\_\_\_\_ quarters and \_\_\_\_\_ dimes as number disks labeled 25¢ and 10¢.) What’s the value of \_\_\_\_\_?

S: \_\_\_\_\_.

T: Write \_\_\_\_\_ cents as a fraction of a dollar.

S: (Write \_\_\_\_\_ dollar.)

T: Write \_\_\_\_\_ cents in decimal form using the dollar sign.

S: (Write \$\_\_\_\_\_.)

**Break Apart 180°: Teacher Card**

Materials: (S) Mini-personal white board, protractor, straightedge

T: (Project a number bond with a whole of 180°. Fill in 80° for one of the parts.) On your board, complete the number bond, filling in the unknown part.

S: (Draw a number bond with a whole of 180°, and 80° and 100° as parts.)

T: Use your protractor to draw the pair of angles.

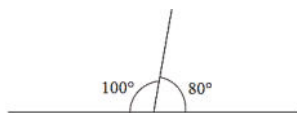
S: (Draw and label the two angles that make 180°.)

Continue the process for

$120^\circ + 60^\circ = 180^\circ$

$35^\circ + 145^\circ = 180^\circ$

\_\_\_\_\_ + \_\_\_\_\_ = 180°



**New Problem**

T: (Project a number bond with a whole of 180°. Fill in \_\_\_\_\_° for one of the parts.)

On your board, complete the number bond, filling in the unknown part.

S: (Draw a number bond with a whole of 180°, and \_\_\_\_\_° and \_\_\_\_\_° as parts.)

T: Use your protractor to draw the pair of angles.

S: (Draw and label the two angles that make 180°.)

fluency cards