**GRADE 5 FLUENCY ACTIVITIES: Module 1 (Place Value & Decimal Fractions)**

Rename the Units—Choral Response (2 minutes)

T: (Write 10 ones = \_\_\_\_\_ ten.) Say the number sentence.

S: 10 ones = 1 ten.

T: (Write 20 ones = \_\_\_\_\_ tens.) Say the number sentence.

S: 20 ones = 2 tens.

T: 30 ones.

S: 3 tens.

Repeat the process for 80 ones, 90 ones, 100 ones, 110 ones, 120 ones, 170, 270, 670, 640, and 830.

Decimal Place Value (2 minutes)

Note: Reviewing this Grade 4 topic will help lay a foundation for students to better understand place value to bigger and smaller units.

T: (Project place value chart from millions to hundredths. Write 3 ten disks in the tens column.) How many tens do you see?

S: 3 tens.

T: (Write 3 underneath the disks.) There are 3 tens and how many ones?

S: Zero ones.

T: (Write 0 in the ones column. Below it, write 3 tens = \_\_\_.) Fill in the blank.

S: 3 tens = 30.

Repeat the process for 3 tenths = 0.3.

T: (Write 4 tenths = \_\_\_.) Show the answer in your place value chart.

S: (Students write four 1 tenth disks. Below it, they write 0.4.)

Repeat the process for 3 hundredths, 43 hundredths, 5 hundredths, 35 hundredths, 7 ones 35 hundredths, 9 ones 24 hundredths, and 6 tens 2 ones 4 hundredths.

Take Out the Tens (2 minutes)

Materials: (S) Personal white boards

Note: Decomposing whole numbers into different units will lay a foundation to do the same with decimal fractions.

T: (Write 83 ones = \_\_\_\_ tens \_\_\_\_ ones.) Write the number sentence.

S: (Students write 83 ones = 8 tens 3 ones.)

Repeat process for 93 ones, 103 ones, 113 ones, 163 ones, 263 ones, 463 ones, and 875 ones

Bundle Ten and Change Units (2 minutes)

Note: Reviewing this fluency will help students work towards mastery of changing place value units in the base ten system.

T: (Write 10 hundreds = 1 \_\_\_\_.) Say the sentence, filling in the blank.

S: 10 hundreds = 1 thousand.

Repeat the process for 10 tens = 1 \_\_\_\_, 10 ones = 1 \_\_\_\_, 10 tenths = 1 \_\_\_\_, 10 thousandths = 1 \_\_\_\_, and 10 hundredths = 1 \_\_\_\_.

Multiply and Divide by 10 (5 minutes)

T: (Project place value chart from millions to thousandths.) Write three ones disks and the number below it.

S: (Write 3 ones disks in the ones column. Below it, write 3.)

T: Multiply by 10. Cross out each disk and the number 3 to show that you’re changing its value.

S: (Students cross out each ones disk and the 3. They draw arrows to the tens column and write 3 tens disks. Below it, they write 3 in the tens column and 0 in the ones column.)

Repeat the process for 2 hundredths, 3 tenths 2 hundredths, 3 tenths 2 hundredths 4 thousandths, 2 tenths 4 hundredths 5 thousandths, and 1 tenth 3 thousandths. Repeat the process for dividing by 10 for this possible sequence: 2 ones, 3 tenths, 2 ones 3 tenths, 2 ones 3 tenths 5 hundredths, 5 tenths 2 hundredths, and 1 ten 5 thousandths.

State the Unit as a Decimal—Choral Response (4 minutes)

Notes: Reviewing these skills will help students work towards mastery of decimal place value, which will help them apply their place value skills to more difficult concepts.

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|  | NOTES ON  MULTIPLE MEANS OF ACTION AND EXPRESSION: |
| Very large numbers like *one million* and beyond easily capture the imagination of students. Consider allowing students to research and present to classmates the origin of number names like *googol* and *googleplex.* Connections to literacy can also be made with books about large numbers, such as *How Much is a Million* by Steven Kellogg, *A Million Dots* by Andrew Clements, *Big Numbers and Pictures That Show Just How Big They Are* by Edward Packard and Sal Murdocca.  The following benchmarks may help students appreciate just how large a *googol* is.   * There are approximately 1024 stars in the observable universe. * There are approximately 1080 atoms in the observable universe. * A stack of 70 numbered cards can be ordered in approximately 1 *googol* different ways. That means that that the number of ways a stack of only 70 cards can be shuffled is more than the number of atoms in the observable universe. | |

T: (Write 9 tenths = \_\_\_\_.)

S: 0.9

T: (Write 10 tenths = \_\_\_\_.)

S: 1.0

T: Write 11 tenths = \_\_\_\_.)

S: 1.1

T: (Write 12 tenths = \_\_\_\_.)

S: 1.2

T: (Write 18 tenths = \_\_\_\_.)

S: 1.8

T: (Write 28 tenths = \_\_\_\_.)

S: 2.8

T: (Write 58 tenths = \_\_\_\_.)

S: 5.8

Repeat the process for 9 hundredths, 10 hundredths, 20 hundredths, 60 hundredths, 65 hundredths, 87 hundredths, and 118 tenths. (This last item is an extension.)

Multiply and Divide by 10, 100, and 1000 (3 minutes)

T: (Project place value chart from millions to thousandths.) Write two 1 thousandths disks and the number below it.

S: (Students write two 1 thousandths disks in the thousandths column. Below it, they write 0.002.)

T: Multiply by 10. Cross out each disk and the number 2 to show that you’re changing its value.

S: (Students cross out each 1 thousandths disk and the 2. They draw arrows to the hundredths column and write two 1 hundredth disks. Below it, they write 2 in the hundredths column and 0 in the ones and tenths column.)

Repeat the process for the possible sequence: 0.004 x 100; 0.004 x 1000; 1.004 x 1000; 1.024 x 100; 1.324 x 100; 1.324 x 10; and 1.324 x 1000. Repeat the process for dividing by 10, 100, and 1000 for this possible sequence: 4 ÷ 10; 4.1 ÷ 10; 4.1 ÷ 100; 41 ÷ 1000; and 123 ÷ 1000.

Multiply and Divide Decimals by 10, 100, and 1000 (5 minutes)

Note: This fluency drill will review concepts taught in earlier lessons and help students work towards mastery in multiplying and dividing decimals by 10, 100, and 1000.

T: (Project place value chart from millions to thousandths. Write 3 disks in the tens column, 2 disks in the ones column, and 4 disks in the tenths column.) Say the value as a decimal.

S: 32.4 (thirty-two and four tenths).

T: Write the number on your personal boards and multiply it by ten.

Students write 32.4 on their place value charts, cross out each digit, and shift the number one place value to the left to show 324.

T: Show 32.4 divided by 10.

Students write 32.4 on their place value charts, cross out each digit, and shift the number one place value to the right to show 3.24.

Repeat the process and sequence for 32.4 x 100; 32.4 ÷ 100; 837 ÷ 1000; and 0.418 x 1000.

Write the Unit as a Decimal (2 minutes)

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|  | NOTES ON  MULTIPLE MEANS  OF ACTION AND ENGAGEMENT: |
| Consider posting a class-size place value chart as an aid to students in visualizing the unit work of this fluency activity. | |

It may also be fruitful to have students verbalize their reasoning about the equivalence of 10 tenths to 1.0, 20 tenths to 2.0, etc.

Note: Reviewing these skills will help students work towards mastery of decimal place value, which will in turn help them apply their place value skills to more difficult concepts.

T: 9 tenths.

S: 0.9

T: 10 tenths.

S: 1.0

Repeat the process for 20 tenths, 30 tenths, 70 tenths, 9 hundredths, 10 hundredths, 11 hundredths, 17 hundredths, 57 hundredths, 42 hundredths, 9 thousandths, 10 thousandths, 20 thousandths, 60 thousandths, 64 thousandths, and 83 thousandths.

Write in Exponential Form (3 minutes)

Note: Reviewing this skill in isolation will lay a foundation for students to apply the skill in multiplication during the lesson.

T: (Write 100 = 10?.) Write 100 in exponential form.

S: (Students write 100 = 102.)

Repeat the process for 1000, 10,000, and 1,000,000.

Convert Units (2 minutes)

Note: Reviewing conversions in isolation will lay a foundation for students to apply this knowledge through multiplication and division during the lesson.

Use this quick fluency to activate prior knowledge of these familiar equivalents.

T: (Write 1 km = \_\_\_\_ m.) Fill in the missing number.

S: (Students write 1 km = 1000 m.)

Repeat process and procedure for 1 kg = \_\_\_\_ g, 1 liter = \_\_\_\_ ml, 1 m = \_\_\_\_ cm.

Multiply and Divide by Exponents (2 minutes)

Note: This fluency will help students work towards mastery on the concept that was introduced in Lesson 4.

Depending on students’ depth of knowledge, this fluency may be done with support from a personal place value chart or done simply by responding on the personal white board with the product or quotient.

T: (Project place value chart from millions to thousandths.) Write 54 tenths as a decimal.

S: (Students write 5 in the ones column and 4 in the tenths column.)

T: Say the decimal.

S: 5.4

T: Multiply it by 102.

S: (Students indicate change in value by using arrows from each original place value to product or quotient on personal white board. They may, instead, simply write product.)

T: Say the product.

S: 540.

Repeat the process and sequence for 0.6 x 102, 0.6 ÷ 102, 2.784 x 103, and 6583 ÷ 103.

Multiplying Metric Units (2 minutes)

Note: This fluency will help students work towards mastery on the concept that was introduced in Lesson 4.

T: (Write 3 m = \_\_\_ cm.) Show 3 in your place value chart.

S: (Students write 3 in the ones column.)

T: How many centimeters are in 1 meter?

S: 100 centimeters.

T: Show how many centimeters are in 3 meters on your place value chart.

S: (Students cross out the 3 and shift it 2 place values to the left to show 300.)

T: How many centimeters are in 3 meters?

S: 300 centimeters.

Repeat the process and procedure for 7 kg = \_\_\_\_ g, 7000 ml = \_\_\_\_ l, 7500 m = \_\_\_\_ km \_\_\_\_ m, and   
8350 g = \_\_\_\_ kg \_\_\_\_ g.

Find the Midpoint (5 minutes)

Note: Practicing this skill in isolation will help students conceptually understand rounding decimals in lesson 12.

T: (Project a 0 on the left side of a number line and 10 on the right side of the number line.) What’s halfway between 0 ones and 10 ones?

S: 5 ones.

T: (Write 5 ones halfway between the 0 and 10. Draw a second number line directly beneath the first. Write 0 on the left side and 1 on the right side.) How many tenths is 1?

S: 1 is 10 tenths.

T: (Write 10 tenths below the 1.) On your boards, write the decimal that is halfway between 0 and 1 or 10 tenths?

S: (Students write 0.5 approximately halfway between 0 and 1 on their number lines.)

Repeat the process for these possible sequences: 0 and 0.1; 0 and 0.01; 10 and 20; 1 and 2; 0.1 and 0.2; 0.01 and 0.02; 0.7 and 0.8; 0.7 and 0.71; 9 and 10; 0.9 and 1; and 0.09 and 0.1.

Rename the Units (2 minutes)

Note: Reviewing unit conversions will help students work towards mastery of decomposing common units into compound units.

T: (Write 100 cm = \_\_\_\_ m.) Rename the units.

S: 100 cm = 1 meter.

T: (Write 200 cm = \_\_\_\_ m.) Rename the units.

S: 200 centimeters = 2 meters.

T: 700 centimeters.

S: 7 meters.

T: (Write 750 cm = \_\_\_\_ m \_\_\_\_ cm.) Rename the units.

S: 7 meters 50 centimeters.

Repeat the process for 450 cm, 630 cm, and 925 cm.

Multiply by Decimal Fractions (5 minutes)

Materials: (S) Personal white boards, place value charts to the thousandths

Notes: Review will help students work towards mastery of this skill, which was introduced in previous lessons.

T: (Project a place value chart from tens to thousandths. Beneath the chart, write 3 x 10 =\_\_\_\_ .) Say the multiplication sentence.

S: 3 x 10 = 30.

T: (Write 3 in the tens column. Below the multiplication sentence write 30. To the right of 3 x 10, write 4 x 1 =\_\_\_\_ .) Say the multiplication sentence.

S: 4 x 1 = 4.

T: (Write 4 in the ones column and fill in the addition sentence so that it reads 30 + 4.)

Repeat process with each of the equations below so that in the end, the number 34.652 will be written in the place value chart and 30 + 4 + 0.6 + 0.05 + 0.002 is written underneath it:

6 x 5 x 2 x

T: Say the addition sentence.

S: 30 + 4 + 0.6 + 0.05 + 0.002 = 34.652.

T: (Write 75.614 on the place value chart.) Write the number in expanded form.

Repeat for these possible sequences: 75.604; 20.197; and 40.803.

Compare Decimal Fractions (2 minutes)

Note: This review fluency will help students work towards mastery of comparing decimal numbers, a topic they were introduced to in Lesson 6.

T: (Write 12.57 \_\_\_ 12.75.) On your personal boards, compare the numbers using the greater than, less than, or equal sign.

S: (Write 12.57 < 12.75 on boards.)

Repeat the process and procedure:

0.67 \_\_ \_\_0.084 328.2 \_\_ 328.099

4.07 \_\_ forty-seven tenths twenty-four and 9 thousandths\_\_\_ 3 tens

Rename the Units (3 minutes)

Note: Renaming decimals using various units strengthens student understanding of place value and provides an anticipatory set for rounding decimals in Lessons 7 and 8.

T: (Write 1.5 = \_\_\_\_ tenths.) Fill in the blank.

S: 15 tenths.

T: (Write 1.5 = 15 tenths. Below it, write 2.5 = \_\_\_\_ tenths.) Fill in the blank.

S: 25 tenths.

T: (Write 2.5 = 25 tenths. Below it, write 12.5 = \_\_\_\_ tenths.) Fill in the blank.

S: 125 tenths.

Repeat the process for 17.5, 27.5, 24.5, 24.3, and 42.3.

Rename the Units (6 minutes)

Note: Decomposing common units as decimals will strengthen student understanding of place value.

T: (Write 13 tenths = \_\_\_\_.) Say the decimal.

S: One and 3 tenths.

Repeat the process for 14 tenths, 24 tenths, 124 tenths, and 524 tenths.

T: Name the number of tenths. (Write 2. 5 tenths.)

S: 25 tenths.

Repeat the process for 17.5, 27.5, 24.5, 24.3, and 42.3. Repeat the entire process but with hundredths.

T: (Write 37 hundredths = \_\_\_\_.) Say the decimal.

S: 0.37

T: (Write 37 hundredths = 0.37. Below it, write 137 hundredths = \_\_\_\_.) Say the decimal.

S: 1.37

Repeat the process for 537 hundredths and 296 hundredths.

T: (Write 0.548 = \_\_\_\_ thousandths.) Say the number sentence.

S: 0.548 = 548 thousandths

T: (Write 0.548 = 548 thousandths. Below it, write 1.548 = \_\_\_\_ thousandths.) Say the number sentence.

S: 1.548 = 1548 thousandths.

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|  | NOTES ON  MULTIPLE MEANS  OF ENGAGEMENT: |
| *Turn and talk* is a strategy intended to broaden active student participation by offering opportunity for all to speak during a lesson. Spend time in the beginning of the school year helping students understand what *turn and talk* looks like and sounds like by demonstrating with a student for the whole class. Modeling knee-to-knee, eye-to-eye body posture and active listening expectations (Can I restate my partner’s ideas in my own words?) make for successful implementation of this powerful strategy. | |

Repeat the process for 2.548 and 7.352.

Round to Different Place Values (6 minutes)

Note: Reviewing this skill introduced in Lesson 7 will help students work towards mastery of rounding decimal numbers to different place values.

Although the approximation sign (≈) is used in Grade 4, a quick review of its meaning may be in order.

T: (Project 8.735.) Say the number.

S: 8 and 735 thousandths.

T: Draw a vertical number line on your boards with 2 endpoints and a midpoint.

T: Between what two ones is 8.735?

S: 8 ones and 9 ones.

T: What’s the midpoint for 8 and 9?

S: 8.5

T: Fill in your endpoints and midpoint.

T: 8.5 is the same as how many tenths?

S: 85 tenths.

T: How many tenths are in 8.735?

S: 87 tenths.

T: (Write 8.735 ≈ \_\_\_\_\_\_\_.) Show 8.735 on your number line and write the number sentence.

S: (Students write 8.735 between 8.5 and 9 on the number line and write 8.735 ≈ 9.)

Repeat the process for the tenths place and hundredths place. Follow the same process and procedure for 7.458.

Decompose the Unit (2 minutes)

Note: Decomposing common units as decimals will strengthen student understanding of place value.

T: (Project 6.358.) Say the number.

S: 6 and 358 thousandths.

T: How many tenths are in 6.358?

S: 63 tenths.

T: (Write 6.358 = 63 tenths \_\_\_\_ hundredths.) On your boards, write the number separating the tenths.

S: (Students write 6.358 = 63 tenths 58 thousandths.)

Repeat process for hundredths. Follow the same process for 7.354.

Round to Different Place Values (2 minutes)

Note: Reviewing this skill that was introduced in lesson 8 will help students work towards mastery of rounding decimal numbers to different place values.

T: (Project 2.475.) Say the number.

S: 2 and 475 thousandths.

T: On your boards, round the number to the nearest tenth.

Students write 2.475 ≈ 2.5. Repeat the process, rounding 2.457 to the nearest hundredth. Follow the same process, but vary the sequence for 2.987.

One Unit More (2 minutes)

Note: This anticipatory fluency drill will lay a foundation for the concept taught in this lesson.

T: (Write 5 tenths.) Say the decimal that’s one tenth more than the given value.

S: 0.6

Repeat the process for 5 hundredths, 5 thousandths, 8 hundredths, 3 tenths, and 2 thousandths. Specify the unit to increase by.

T: (Write 0.052.) On your board, write one more thousandth.

S: 0.053

Repeat the process for 1 tenth more than 35 hundredths, 1 thousandth more than 35 hundredths, and 1 hundredth more than 438 thousandths.

Take Out the Unit (3 minutes)

Note: Decomposing common units as decimals will strengthen student understanding of place value.

T: (Project 76.358 = \_\_\_\_.) Say the number.

S: 76 and 358 thousandths.

T: (Write 76.358 = 7 tens \_\_\_\_\_ thousandths.) On your board, fill in the blank.

S: (Students write 76.358 = 7 tens 6358 thousandths.)

Repeat the process for tenths and hundredths 76.358 = 763 tenths \_\_\_\_\_ thousandths, 76.358 = \_\_\_\_ hundredths 8 thousandths.

Add Decimals (3 minutes)

Note: Reviewing this skill that was introduced in Lesson 9 will help students work towards mastery of adding common decimal units.

T: (Write 3 tenths + 2 tenths = .) Write the addition sentence in decimal form.

S: 0.3 + 0.2 = 0.5

Repeat the process for 5 hundredths + 4 hundredths and 35 hundredths + 4 hundredths.

One Unit Less (4 minutes)

Note: This anticipatory fluency drill will lay a foundation for the concept taught in this lesson.

T: (Write 5 tenths.) Say the decimal that is 1 less than the given unit.

S: 0.4

Repeat the process for 5 hundredths, 5 thousandths, 7 hundredths, and 9 tenths.

T: (Write 0.029.) On your board, write the decimal that is one less thousandth.

S: 0.028

Repeat the process for 1 tenth less than 0.61, 1 thousandth less than 0.061, and 1 hundredth less than 0.549.

Note: *Add Decimals* is a review of skills learned in Lesson 9. The discussion of adding like units provides a bridge to the subtraction of like units which is the topic of today’s lesson.

Take Out the Unit (4 minutes)

Note: Decomposing common units as decimals will strengthen student understanding of place value.

T: (Project 1.234 = \_\_\_\_\_ thousandths.) Say the number. Think about the how many thousandths in 1.234.

T: (Project 1.234 = 1234 thousandths.) How much is one thousand, thousandths?

S: One thousand, thousandths is the same as 1.

T: (Project 65.247 = \_\_\_\_.) Say the number.

S: 65 ones 247 thousandths.

T: (Write 76.358 = 7 tens \_\_\_\_\_ thousandths.) On your board, fill in the blank.

S: (Students write 76.358 = 7 tens 6358 thousandths.)

Repeat the process for hundredths 76.358 = 736 tenths \_\_\_\_\_ thousandths, 76.358 = \_\_\_\_ hundredths 8 thousandths.

Add and Subtract Decimals (6 minutes)

Note: Reviewing these skills that were introduced in Lessons 9 and 10 will help students work towards mastery of adding and subtracting common decimal units.

T: (Write 7258 thousandths + 1 thousandth = \_\_\_\_.) Write the addition sentence in decimal form.

S: 7.258 + 0.001 = 7.259.

Repeat the process for 7 ones 258 thousandths + 3 hundredths, 7 ones 258 thousandths + 4 tenths, 6 ones 453 thousandths + 4 hundredths, 2 ones 37 thousandths + 5 tenths, and 6 ones 35 hundredths + 7 thousandths.

T: (Write 4 ones 8 hundredths – 2 ones = \_\_\_ ones \_\_\_ hundredths.) Write the subtraction sentence in decimal form.

S: (Students write 4.08 – 2 = 2.08.)

Repeat the process for 9 tenths 7 thousandths – 4 thousandths, 4 ones 582 thousandths – 3 hundredths, 9 ones 708 thousandths – 4 tenths, and 4 ones 73 thousandths – 4 hundredths.

Find the Product (3 minutes)

Note: Reviewing this skill that was introduced in Lesson 11 will help students work towards mastery of multiplying single-digit numbers times decimals.

T: (Write 4 x 2 ones = \_\_.) Write the multiplication sentence.

S: 4 x 2 = 8

T: Say the multiplication sentence in unit form.

S: 4 x 2 ones = 8 ones.

Repeat the process for 4 x 0.2; 4 x 0.02; 5 x 3; 5 x 0.3; 5 x 0.03; 3 x 0.2; 3 x 0.03; 3 x 0.23; and 2 x 0.14.

Find the Product (3 minutes)

Note: Reviewing this skill that was introduced in Lessons 11 and 12 will help students work towards mastery of multiplying single-digit numbers times decimals.

T: (Write 4 x 3 = .) Say the multiplication sentence in unit form.

S: 4 x 3 ones = 12 ones.

T: (Write 4 x 0.2 = .) Say the multiplication sentence in unit form.

S: 4 x 2 tenths = 8 tenths.

T: (Write 4 x 3.2 = .) Say the multiplication sentence in unit form.

S: 4 x 3 ones 2 tenths = 12.8.

T: Write the multiplication sentence.

S: (Students write 4 x 3.1 = 12.8.)

Repeat the process for 4 x 3.21, 9 x 2, 9 x 0.1, 9 x 0.03, 9 x 2.13, 4.012 x 4, and 5 x 3.2375.

Compare Decimal Fractions (3 minutes)

Note: This review fluency will help solidify student understanding of place value in the decimal system.

T: (Write 13.78 13.86.) On your personal white boards, compare the numbers using the greater than, less than, or equal sign.

S: (Students write 13.78 < 13.76.)

Repeat the process and procedure for 0.78 78/100, 439.3 4.39, 5.08 fifty-eight tenths, Thirty-five and 9 thousandths 4 tens.

Multiply and Divide by Exponents (3 minutes)

Notes: This review fluency will help solidify student understanding of multiplying by 10, 100, and 1000 in the decimal system.

T: (Project place value chart from millions to thousandths.) Write 65 tenths as a decimal. Students write 6 in the ones column and 5 in the tenths column.

T: Say the decimal.

S: 6.5

T: Multiply it by 102.

S: (Students cross out 6.5 and write 650.)

Repeat the process and sequence for 0.7 x 102, 0.8 ÷ 102, 3.895 x 103,

Round to Different Place Values (3 minutes)

Notes: This review fluency will help solidify student understanding of rounding decimals to different place values.

T: (Project 6.385.) Say the number.

S: 6 and 385 thousandths.

T: On your boards, round the number to the nearest tenth.

S: (Students write 6.385 ≈ 6.4.)

Repeat the process, rounding 6.385 to the nearest hundredth. Follow the same process, but vary the sequence for 37.645.

Find the Quotient (6 minutes)

Notes: Reviewing these skills that were introduced in Lesson 13 will help students work towards mastery of dividing decimals by single-digit whole numbers.

T: (Write 14 ÷ 2 = \_\_\_.) Write the division sentence.

S: 14 ÷ 2 = 7.

T: Say the division sentence in unit form.

S: 14 ones ÷ 2 = 7 ones.

Repeat the process for 1.4 ÷ 2, 0.14 ÷ 2, 24 ÷ 3, 2.4 ÷ 3, 0.24 ÷ 3, 30 ÷ 3, 3 ÷ 5, 4 ÷ 5, and 2 ÷ 5.

Find the Quotient (4 minutes)

Materials: (S) Personal white boards with place value chart

Note: This review fluency will help students work towards mastery of dividing decimal concepts introduced in Lesson 14.

T: (Project place value chart showing ones, tenths, and hundredths. Write 0.48 ÷ 2 = \_\_.) On your place value chart, draw 48 hundredths in number disks.

S: (Students draw.)

T: (Write 48 hundredths ÷ 2 = \_\_ hundredths = \_\_ tenths \_\_ hundredths.) Solve the division problem.

S: Students write 48 hundredths ÷ 2 = 24 hundredths = 2 tenth 4 hundredths.

T: Now solve using the standard algorithm.

Repeat the process for 0.42 ÷ 3, 3.52 ÷ 2, and 96 tenths ÷ 8

Find the Quotient (4 minutes)

Materials: (S) Personal white boards with place value chart

Note: This review fluency will help students work towards mastery of dividing decimal concepts introduced in Lesson 15.

T: (Project place value chart showing ones, tenths, and hundredths. Write 0.3 ÷ 2 = \_\_.) On your place value chart, draw 3 tenths in number disks.

S: (Students draw.)

T: (Write 3 tenths ÷ 2 = \_\_ hundredths ÷ 2 = \_\_ tenths \_\_ hundredths on the board.) Solve the division problem.

S: (Students write 3 tenths ÷ 2 = 30 hundredths ÷ 2 = 1 tenth 5 hundredths.)

T: (Write the algorithm below 3 tenths ÷ 2 = 30 hundredths ÷ 2 = 1 tenth 5 hundredths.) Solve using the standard algorithm.

S: (Students solve.)

Repeat process for 0.9 ÷ 5; 6.7 ÷ 5; 0.58 ÷ 4; and 93 tenths ÷ 6