GRADE 4 FLUENCY ACTIVITIES: Module 1 (PV, Rounding, Add/Subtract Algorithms)

Place Value (3 minutes)

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

Note: Reviewing and practicing place value skills in isolation will prepare students for success in multiplying different place value units during the lesson.

T: (Project place value chart to the thousands.) Show 4 ones in number disks. Write the number below it.

S: (Students draw 4 ones disks and write 4 below it.)

T: Show 4 ten disks and write the number below it.

S: (Students draw 4 ten disks and write 4 at the bottom of the tens column.)

T: Say the number in unit form.

S: 4 tens, 4 ones

T: Say the number in standard form.

S: 44.

Continue for the following possible sequence: 2 tens 3 ones, 2 hundreds 3 ones, 2 thousands 3 hundreds, 2 thousands 3 tens, and 2 thousands 3 hundreds 5 tens and 4 ones.

Skip Counting (4 minutes)

Note: Practicing skip-counting on the number line builds a foundation for accessing higher order concepts throughout the year.

Direct students to count by threes forward and backward to 36, focusing on the crossing-ten transitions.

Example: (3, 6, 9, 12, 9, 12, 9, 12, 15, 18, 21, 18, 21, 24, 27, 30, 27, 30, 33, 30, 33, 30, 33, 36…) The purpose of focusing on crossing the ten transitions is to help students to make the connection that, for example, when adding 3 to 9 that 9 + 1 is 10 and then 2 more is 12.

We see a similar purpose in counting down by threes; 12 – 2 is 10 and subtracting 1 more is 9. This work builds on the fluency work of previous grade levels. Students should understand that when crossing the tens that they, in essence, are regrouping.

Direct students to count by fours forward and backward to 48, focusing on the crossing ten transitions.

Place Value (4 minutes)

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

T: (Project place value chart to the thousands place.) Show 5 tens in number disks and write the number below it.

Students draw 5 ten disks, write 5 below it and 0 in the ones column. (Draw to correct student misunderstanding.)

T: Say the number in unit form.

S: 5 tens.

T: Say the number in standard form.

S: 50.

Continue for the following possible sequence: 3 tens 2 ones, 4 hundreds 3 ones, 1 thousand 2 hundreds, 4 thousands 2 tens, 4 thousands 2 hundreds 3 tens and 5 ones.

Multiply by 10 (4 minutes)

Materials: (S) Personal white boards

Note: This fluency will review concepts learned in Lesson 1.

T: (Project 10 ones x 10 = 1 \_\_\_\_\_\_.) Fill in the blank.

Students write 10 ones x 10 = 1 hundred.

T: Say the multiplication sentence in standard form.

S: 10 x 10 = 100.

Repeat for the following possible sequence 10 x \_\_\_\_\_ = 2 hundreds; 10 x \_\_\_\_\_ = 3 hundreds; 10 x \_\_\_\_\_\_ = 7 hundreds;
10 x 1 hundred = 1 \_\_\_\_\_\_\_; 10 x \_\_\_\_ = 2 thousands; 10 x \_\_\_\_\_\_ = 8 thousands;

10 x 10 thousands = \_\_\_\_\_\_.

Place Value and Value (3 minutes)

Note: Reviewing and practicing place value skills in isolation will prepare students for success in multiplying different place value units during the lesson.

T: (Project the number 1,468,357 on a place value chart. Underline the 5.) Say the digit.

S: 5.

T: Say the place value of the 5.

S: Tens.

T: Say the value of 5 tens.

S: 50

Repeat process, underlining 8, 4, 1, and 6.

Base Ten Units (2 minutes)

Note: This fluency will bolster students’ place value proficiency while reviewing multiplication concepts
learned in Lessons 1 and 2.

T: (Project 2 tens =\_\_\_\_.) Say the number in standard form.

S: 2 tens = 20.

Repeat for possible sequence: 3 tens, 9 tens, 10 tens, 11, tens, 12 tens, 19 tens, 20 tens, 30, tens, 40 tens, 80 tens, 84 tens, and 65 tens.

Skip-Counting (3 minutes)

Note: Practicing skip-counting on the number line builds a foundation for accessing higher order concepts throughout the year.

Direct students to skip-count by fours forward and backward to 48 focusing on transitions crossing the ten.

Place Value (2 minutes)

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|  | NOTES ON MULTIPLE MEANS OF REPRESENTATION: |
| Place value fluency practices support language acquisition as it couples meaningful visuals with valuable practice speaking the standard and unit form of numbers to 1 million. |

Materials: (S) Personal white boards, place value chart to the hundred thousands

Note: Reviewing and practicing place value skills in isolation will prepare students for success in writing multi-digit numbers in expanded form.

T: Show 5 hundred thousands in number disks and write the number below it on the place value chart.

Students draw 5 hundred thousands disks, write 5 at the bottom of the ten thousands column and 0 in each column to the right of it. (Draw to correct student misunderstanding.

T: Say the number in unit form.

S: 5 hundred thousands.

T: Say it in standard form 500,000.

Continue for the following possible sequence: 5 hundred thousands 3 ten thousands, 5 hundred thousands 3 hundreds, 5 ten thousands 3 hundreds, 1 hundred thousand 3 hundreds 5 tens, 4 hundred thousands, 2 ten thousands, 5 tens, 3 ones.

Numbers Expressed in Different Base Units (8 minutes)

Materials: (S) Personal white boards, place value chart to the millions

Note: This fluency will prepare students for success in writing multi-digit numbers in expanded form.

Base Hundred Units

T: (Project 3 hundreds = \_\_\_\_.) Say the number in standard form.

S: 300.

Continue with a suggested sequence of 9 hundreds, 10 hundreds, 19 hundreds, 21 hundreds, 33 hundreds, 30 hundreds, 100 hundreds, 200 hundreds, 500 hundreds, 530 hundreds, 537 hundreds, and 864 hundreds.

Base Thousand Units

T: (Project 5 thousands = \_\_\_\_\_.) Say the number in standard form.

S: 5000.

Continue with a suggested sequence of 9 thousands, 10 thousands, 20 thousands, 100 thousands, 220 thousands, and 347 thousands.

Base Ten Thousand Units

T: (Project 7 ten thousands = \_\_\_\_\_.) Say the number in standard form.

S: 70,000.

Continue with a suggested sequence of 9 ten thousands, 10 ten thousands, 12 ten thousands, 19 ten thousands, 20 ten thousands, 30 ten thousands, 80 ten thousands, 800 ten thousands, 817 ten thousands, and 438 ten thousands.

Base Hundred Thousand Units

T: (Project 3 hundred thousands = \_\_\_\_\_.) Say the number in standard form.

S: 300,000.

Continue with a suggested sequence of 6 hundred thousands, 9 hundred thousands, 10 hundred thousands, 20 hundred thousands, 70 hundred thousands, 71 hundred thousands, 75 hundred thousands, and 43 hundred thousands.

Unit Skip-Counting (2 minutes)

Note: This fluency will apply skip-counting fluency that was built during the first four lessons and apply it to
the multiplying by ten lessons.

T: Count by twos.

S: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20.

T: Now count by 2 tens. Stop counting and raise your hand when you see me raise my hand.

S: 2 tens, 4 tens, 6 tens. (Raise hand.)

Students raise hand.

T: Say the number in standard form.

S: 60.

Continue stopping the students at 12 tens, 16 tens, and 20 tens.

Repeat the process for threes and three ten thousands.

Place Value (2 minutes)

Note: Reviewing and practicing place value skills in isolation will prepare students for success in comparing
numbers during the lesson.

T: (Write 3,487.) Say the number.

S: 3,487.

T: What digit is in the tens place?

S: 8.

T: (Underline 8.) What’s the value of the 8?

S: 80.

T: State the value of the 3.

S: 3,000.

T: 4?

S: 400.

Repeat for the following possible sequence: 59,607; 287,493; and 7,142,952.

Unit Skip-Counting (3 minutes)

Note: This fluency will apply skip-counting fluency to the multiplying by ten lessons.

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|  |  NOTES ON MULTIPLE  MEANS FOR ACTION  AND EXPRESSION: |
| Before directing the students to count by *3 ten thousands*, first direct them to count by *3 cats*. Then direct them to count by *3 hundreds*. Then bridge the directions to counting by *3 ten thousands*.  |

T: Count by threes.

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

T: Now count by 3 ten thousands. Stop counting and raise your hand when you see me raise my hand.

S: 3 ten thousands, 6 ten thousands, 9 ten thousands. (Raise hand.)

Students raise hand.

T: Say the number in standard form.

S: 90,000.

Continue stopping the students at 15 ten thousands, 21 ten thousands, and 30 ten thousands.

Repeat process for fours and 4 hundred thousands

Rename the Units (5 minutes)

Note: This fluency applies students’ place value skills in a new context that will help them better access the lesson’s content.

Materials: (S) Personal white boards

T: (Write 54,783.) Say the number.

S: 54,783.

T: How many thousands are in 54,783?

S: 54 thousands.

T: (Write 54,783 = \_\_\_\_\_ thousands \_\_\_\_ ones.) On your boards, fill-in the number sentence.

Students write 54,783 = 54 thousands 783 ones.

T: How many ten thousands are in 54,783?

S: 5 ten thousands.

T: (Write 54,783 = \_\_\_\_\_ ten thousands \_\_\_\_ hundreds \_\_\_\_ ones.) On your white boards, fill-in the number sentence.

Students write 54,783 = 5 ten thousands 47 hundreds 83 ones. Follow the same process and sequence for 234,673.

Compare Numbers (4 minutes)

Materials: (S) Personal white boards

Note: This fluency will review comparing number concepts learned in Lesson 5.

T: (Write 231,005 \_\_\_\_\_ 83,872.)

On your personal white boards, compare the numbers by writing the greater than, less than, or equal symbol.

Students write 231,005 > 83,872.

Repeat for possible sequence: 6 thousands 4 hundreds 9 tens; 5 ten thousands 4 hundreds 9 ones; and 8 hundred thousands 7 thousands 8 hundreds 2 tens \_\_\_\_\_\_ 807,820.

Change Place Value (5 minutes)

Materials: (S) Personal white boards, place value chart to the millions

Note: This fluency will review Lesson 6’s content.

T: (Project place value chart to the millions place. Write 3 hundred thousands, 5 ten thousands,
2 thousands, 1 hundred, 5 tens, and 4 ones.) On your personal boards, draw number disks and write the numbers beneath it.

S: (Students write.)

T: Show 100 more.

S: (Students write 1 more 100 disk, erase the number 1 in the hundreds place, and replace it with a 2 so that their boards read 352,254.)

Possible further sequence: 10,000 less, 100,000 more, 1 less, and 10 more.

T: (Write 300 + 80 + 5 =\_\_\_\_.) On your place value chart, write the number.

Possible further sequence: 7,000 + 300 + 80 + 5; 200,000 + 7,000 + 5 + 80; 300,000 + 6,000 + 30 + 2

Number Patterns (5 minutes)

Materials: (S) Personal white boards

Note: This fluency will synthesize skip-counting fluency with Lesson 6’s content and apply it in a context that
lays a foundation for rounding multi-digit numbers to the thousands place.

T: (Project 50,300; 60,300; 70,300; \_\_\_\_.) What is the place value of the digit that’s changing?

S: Ten thousand.

T: Count with me saying the value of the digit I’m pointing to.

S: (Point at the ten thousand digit as students count.) 50,000; 60,000; 70,000.

T: On your personal boards, write what number would come after 70,300.

S: Students write 80,300.

Repeat for the following possible sequence, using number disks if students are struggling:

92,010 82,010 72,010 \_\_\_\_\_\_

135,004 136,004 137,004 \_\_\_\_\_\_

832,743 832,643 832,543 \_\_\_\_\_\_

271,543 281,543 291,543 \_\_\_\_\_\_

number line

Find the Midpoint (5 minutes)

Materials: (S) Personal white boards

Note: Practicing this skill in isolation will lay a foundation to conceptually understand rounding on a vertical number line.

Project a vertical line with endpoints 10 and 20.

T: What’s halfway between 10 and 20?

S: 15.

T: (Write 15 halfway between 10 and 20. Draw a second line with 1,000 and 2,000 as the endpoints.) How many hundreds are in 1,000?

S: 10 hundreds.

T: (Below 1,000 write 10 hundreds.) How many hundreds are in 2,000?

S: 20 hundreds.

T: (Write 20 hundreds below 2,000.) What’s halfway between 10 hundreds and 20 hundreds?

S: 15 hundreds.

T: (Write 1,500 halfway between 1,000 and 2,000. Below 1,500, write 15 hundreds.)

T: On your personal boards, draw a number line with two endpoints and a midpoint.

S: (Students draw number line with two endpoints and a midpoint.)

T: Write 31,000 and 32,000 as endpoints.

S: (Students write 31,000 and 32,000 as endpoints.)

T: How many hundreds are in 31,000?

S: 310 hundreds.

T: How many hundreds are in 32,000?

S: 320 hundreds.

T: Fill in the midpoint.

S: (Students write 31,500 as the midpoint.)

Repeat process and procedure to find the midpoint of 831,000 and 832,000; 63,000 and 64,000;
264,000 and 265,000; and 99,000 and 100,000.

Rename the Units (3 minutes)

Materials: (S) Personal white boards

Note: This fluency applies students’ place value skills in a new context that will help them better access the lesson’s content.

T: (Write 357,468.) Say the number.

S: 357,468.

T: (Write 357,468 = \_\_\_\_ thousands 468 ones.) On your personal white boards, fill in the number sentence.

S: (Students write 357,468 = 357 thousands 468 ones.)

Repeat process for 357,468 = \_\_\_\_ ten thousands 7468 ones; 357,468 = \_\_\_\_ hundreds 6 tens 8 ones; 357,468 = \_\_\_\_ tens 8 ones

Multiply by Ten (5 minutes)

Materials: (S) Personal white boards

Note: This fluency will deepen the students’ foundation of multiplying by ten.

T: (Write 10 x 10 =\_\_\_\_.) Say the multiplication sentence.

S: 10 x 10 = 100.

T: (Write 10 x \_\_\_\_ ten = 100.) On your boards, fill in the blank.

Students write 10 x 1 ten = 100.

T: (Write \_\_\_\_ ten x \_\_\_\_ ten = 100.) On your boards, fill in the blank.

Students write 1 ten x 1 ten = 100.

T: (Write \_\_\_\_ ten x \_\_\_\_ ten = \_\_\_\_hundred.) On your personal white boards, fill in the blank.

Students write 1 ten x 1 ten = 1 hundred.

Repeat process for possible sequence: 1 ten x 20 =\_\_\_\_, 1 ten x 40 = \_\_\_\_ hundreds, 1 ten x \_\_\_\_= 700,
4 tens x 1 ten = \_\_\_\_ hundreds.

Note: The use of the digit or a unit is intentional. It builds understanding of multiplying by different units
(6 ones times 1 ten equals 6 tens, so 6 tens times 1 ten equals 6 hundreds, not 6 tens

Multiply by Ten (3 minutes)

Materials: (S) Personal white boards

Note: This fluency will deepen student understanding of base ten units.

T: (Write 10 x 10 =\_\_\_\_.) Say the multiplication sentence.

S: 10 x 10 = 100.

T: (Write \_\_\_\_ten x 10 = 100.) On your boards, fill in the blank.

Students write 1 ten x 10 = 100.

T: (Write \_\_\_\_ten x \_\_\_\_ten = 100.) On your boards, fill in the blanks.

Students write 1 ten x 1 ten = 100.

T: (Write \_\_\_\_ten x \_\_\_\_ten = \_\_\_\_hundred.) On your boards, fill in the blanks.

Students write 1 ten x 1 ten = 1 hundred

Repeat using the following sequence: 1 ten x 50 =\_\_\_\_, 1 ten x 80 = \_\_\_\_hundreds, 1 ten x \_\_\_\_= 600.
3 tens x 1 ten = \_\_\_\_hundreds.

Note: Watch for students who say 3 tens x 4 tens is 12 tens rather than 12 hundreds.

Round to Different Place Values (5 minutes)

Materials: (S) Personal white boards

Note: This fluency reviews rounding skills that are building towards mastery.

T: (Write 3,941.) Say the number. We are going to round this number to the nearest thousand.

T: How many thousands are in 3,941?

S: 3 thousands.

T: (Label the lower endpoint of a vertical number line with 3,000.) And 1 more thousand will be?

S: 4 thousands.

T: (Mark the upper endpoint with 4,000.) Draw the same number line. (Students do so.)

T: What’s halfway between 3,000 and 4,000?

S: 3,500.

T: Label 3,500 on your number line as I do the same. (Students do so.)

T: Label 3,941 on your number line. (Students do so.)

T: Is 3,941 nearer to 3,000 or 4,000?

T: (Write 3,941 ≈ \_\_\_\_.) Write your answer on your board.

S: (Students write 3,941 ≈ 4,000.)

Repeat process for 3,941 rounded to the nearest hundred, 74,621 rounded to the nearest ten thousand, and nearest thousand, 681,904 rounded to the nearest hundred thousand and nearest ten thousand, 681,904 rounded to the nearest thousand.

Multiply by 10 (4 minutes)

Materials: (S) Personal white boards

Note: This fluency will deepen student understanding of base ten units.

T: (Write 10 x \_\_\_\_ = 100.) Say the multiplication sentence.

S: 10 x 10 = 100.

T: (Write 10 x 1 ten = \_\_\_\_.) On your personal white boards, fill in the blank.

S: (Students write 10 x 1 ten = 10 tens.)

T: (Write 10 tens = \_\_\_\_ hundred.) On your personal white boards, fill in the blank.

T: (Write \_\_\_\_ten x \_\_\_\_ten = 1 hundred.) On your boards, fill in the blanks.

S: (Students write 1 ten x 1 ten = 1 hundred.)

Repeat process for the following possible sequence: 1 ten x 60 =\_\_\_\_, 1 ten x 30 = \_\_\_\_ hundreds,
1 ten x \_\_\_\_ = 900, 7 tens x 1 ten = \_\_\_\_ hundreds.

Note: Watch for students who say 3 tens x 4 tens is 12 tens rather than 12 hundreds.

Add Common Units (3 minutes)

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the algorithm.

T: (Project 303.) Say the number in unit form.

S: 3 hundreds 3 ones.

T: (Write 303 + 202 =\_\_\_\_.) Say the addition sentence and answer in unit form.

S: 3 hundreds 3 ones + 2 hundreds 2 ones = 5 hundreds 5 ones.

T: Write the addition sentence on your personal white boards.

S: (Students write 303 + 202 = 505.)

Repeat process and sequence for 505 + 404; 5,005 + 5,004; 7,007 + 4,004; 8,008 + 5,005.

Round to Different Place Values (6 minutes)

Materials: (S) Personal white boards

Note: This fluency reviews rounding skills that are building towards mastery.

T: (Project 726,354.) Say the number.

S: Seven hundred twenty-six thousand, three hundred fifty-four.

T: What digit is in the hundred thousands place?

S: 7.

T: What’s the value of the digit 7?

S: 700,000.

T: On your personal white boards, round the number to the nearest hundred thousand.

S: (Students write 726,354 ≈ 700,000.)

Repeat process, rounding 726,354 to the nearest ten thousand, thousand, hundred, and ten. Follow the same process and sequence for 496,517

Find the Sum (6 minutes)

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|  | NOTES ON MULTIPLE MEANS OF REPRESENTATION: |
| Students below grade level may have difficulty conceptualizing the larger numbers. Use smaller numbers to create a problem. Relate it in terms of something with which they are familiar. Have students make sense of the problem and direct them through the process of creating a tape diagram. “The pizza shop sold five pepperoni pizzas on Friday. They sold ten more sausage pizzas than pepperoni pizzas. How many pizzas did they sell?” Have a discussion about the two unknowns in the problem and about which unknown needs to be solved first. Students may draw a picture to help them solve. Then, relate the problem to that with bigger numbers and numbers that involve regrouping. Relay the message that it’s the same process. The difference is that the numbers are bigger.  |

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the algorithm.

T: (Write 417 + 232 =\_\_\_\_.) Solve mentally or by writing horizontally or vertically.

S: (Students write 417 + 232 = 649.)

Repeat process and sequence for 7073 + 2312; 13,705 + 4,412;
3,949 + 451; 538 + 385 + 853; and 23,944 + 6,056 + 159,368.

Find the Sum (6 minutes)

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the addition algorithm.

T: (Write 316 + 473 =\_\_\_\_.) Write an addition sentence horizontally or vertically.

S: (Students write 316 + 473 = 789.)

Repeat process and sequence for 6,065 + 3,731; 13,806 + 4,393; 5,928 + 124; and 629 + 296 + 962.

Subtract Common Units (6 minutes)

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the subtraction algorithm.

T: (Project 707.) Say the number in unit form.

S: 7 hundreds 7 ones.

T: (Write 707 – 202 =\_\_\_\_.) Say the subtraction sentence and answer in unit form

S: 7 hundreds 7 ones – 2 hundreds 2 ones = 5 hundreds 5 ones.

T: Write the subtraction sentence on your personal white boards.

S: (Students write 707 – 202 = 505.)

Repeat process and sequence for 909 – 404; 9,009 – 5,005; 11,011 – 4,004; and 13,013 – 8,008.

Base Ten Thousand Units (2 minutes)

Materials: (S) Personal white boards, place value chart to ten thousands

Note: Reviewing this fluency will help students work towards mastery of understanding base ten units.

T: (Project 8 ten thousands = \_\_\_\_\_.) Write the number in standard form.

S: 80,000.

Continue with the following possible sequence: 9 ten thousands, 10 ten thousands, 13 ten thousands,
19 ten thousands, 20 ten thousands, 30 ten thousands, 70 ten thousands, 700 ten thousands, 715 ten thousands, 347 ten thousands

Find the Difference (4 minutes)

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the subtraction algorithm.

T: (Write 735 – 203 =\_\_\_\_.) Write a subtraction sentence horizontally or vertically.

S: (Students write 735 – 203 = 532.)

Repeat process and sequence for 7,045 – 4,003; 845 – 18; 5,725 – 915; and 34,736 – 2,806.

Convert Units (4 minutes)

Note: Reviewing these unit conversions that were learned in third grade will help prepare the students to solve problems with metric measurement and its relationship to place value in Module 2.

T: (Write 1 m = \_\_\_ cm.) How many centimeters are in a meter?

S: 1 m = 100 cm.

Repeat process for 2 m, 3 m, 8 m, 8 m 50 cm, 7 m 50 cm, and 4 m 25 cm.

T: (Write 100 cm = \_\_\_ m.) Say the answer.

S: 100 m = 1 m.

T: (Write 150 cm = \_\_\_ m \_\_\_ cm.) Say the answer.

S: 150 cm = 1 m 50 cm.

Repeat process for 250 cm, 350 cm, 950 cm, and 725 cm.

Place Value (3 minutes)

Note: Practicing these skills in isolation will help lay a foundation for conceptually understanding this lesson’s content.

T: (Write 4,598.) Say the number.

S: 4,598.

T: What digit is in the tens place?

S: 9.

T: (Underline 9.) What’s the value of the 9?

S: 90.

T: State the value of the digit 4.

S: 4,000.

T: 5?

S: 500.

Repeat using the following possible sequence: 69,708; 398,504; and 8,253,967.

Find the Difference (4 minutes)

Materials: (S) Personal white boards

Note: Reviewing this mental math fluency will prepare students for understanding the importance of the subtraction algorithm.

T: (Write 846 – 304 =\_\_\_\_\_.) Write a subtraction sentence horizontally or vertically.

S: (Students write 846 – 304 = 542.)

Repeat process and sequence for 8,056 – 5,004; 935 – 17; 4,625 – 815; and 45,836 – 2,906.

Convert Units (4 minutes)

Note: Reviewing these unit conversions that were learned in Grade 3 will help prepare the students to solve problems with meters and centimeters in Module 2, Topic A.

Materials: (S) Personal white boards

T: Count by 20 centimeters. When you get to 100 centimeters, say 1 meter.

S: 20cm, 40 cm, 60 cm, 80 cm, 1 m, 120 cm, 140 cm, 160 cm, 180 cm, 2 m.

Repeat process, this time pulling out the meter (e.g., 1 m 20 cm, 1 m 40 cm, etc.).

T: (Write 130 cm = \_\_\_ m \_\_\_ cm.) On your boards, fill in the blanks.

S: (Students compose 130 centimeters into 1 meter 30 centimeters.)

Repeat process for 103 cm, 175 cm, 345 cm, and 708 cm for composing to meters.

Compare Numbers (4 minutes)

Materials: (S) Personal white boards

Note: Reviewing this fluency will help students work towards mastery of comparing numbers.

T: (Project 342,006 \_\_\_\_\_ 94,983.) On your boards, compare the numbers writing the greater than, less than, or equal symbol.

S: (Students write 342,006 > 94,893.)

Repeat for possible sequence: 7 thousands 5 hundreds 8 tens \_\_\_\_\_\_ 6 ten thousands 5 hundreds 8 ones, and 9 hundred thousands 8 thousands 9 hundreds 3 tens \_\_\_\_\_\_ 807,820

Change Place Value (5 minutes)

Materials: (S) Personal white board, place value chart to the millions

Note: Reviewing this fluency will help students work towards mastery of using place value skills to add and subtract different units.

T: (Project place value chart to the millions place. Write 4 hundred thousands, 6 ten thousands,
3 thousands, 2 hundreds, 6 tens, 5 ones.) On your personal white boards, write the number.

S: (Students do so.)

T: Show 100 more.

S: (Students write 463,365.)

Possible further sequence: 10,000 less, 100,000 more, 1 less, 10 more.

T: (Write 400 + 90 + 3 =\_\_\_\_). On your place value chart, write the number.

Possible further sequence: 7,000 + 300 + 80 + 5; 20,000 + 700,000 + 5 + 80; 30,000 + 600,000 + 3 + 20.

Convert Units (5 minutes)

Note: Reviewing these unit conversions that were learned in third grade will help prepare the students to solve problems with kilometers and meters in Topic A of Module 2.

T: (Write 1 km = \_\_\_ m.) How many meters are in a kilometer?

S: 1 km = 1,000 m

Repeat process for 2 km, 3 km, 8 km, 8 km 500 m, 7 km 500 m, and 4 km 250 m.

T: (Write 1,000 m = \_\_\_ km.) Say the answer.

S: 1,000 m = 1 km.

T: (Write 1,500 m = \_\_\_ km \_\_\_ m.) Say the answer.

S: 1,500 m = 1 km 500 m.

Repeat process for 2,500 m, 3,500 m, 9,500 m, and 7,250 m.

Number Patterns (5 minutes)

Materials: (S) Personal white boards

Note: This fluency bolsters students’ place value understanding and helps them apply these skills to a variety of concepts.

T: (Project 40,100 50,100 60,100 \_\_\_\_.) What is the place value of the digit that’s changing?

S: Ten thousand.

T: Count with me saying the value of the digit I’m pointing to.

S: (Point at the ten thousand digit as students count.) 40,000, 50,000, 60,000.

T: On your boards write what number would come after 60,100.

S: (Students write 70,100.)

Repeat with the following possible sequence: 82,030, 72,030, 62,030, \_\_\_ ; 215,003, 216,003, 217,003, \_\_\_ ; 943,612, 943,512, 943,412, \_\_\_ ; and 372,435, 382,435, 392,435, \_\_\_.

Convert Units (5 minutes)

Materials: (S) Personal white boards

Note: Reviewing these unit conversions that were learned in third grade will help prepare the students solve problems with kilometers and meters in Topic A of Module 2

T: Count by 200 meters, starting at 200 meters. When you get to 1000 meters, say 1 kilometer.

S: 200 m, 400 m, 600 m, 800 m, 1 km, 1,200 m, 1,400 m, 1,600 m, 1,800 m, and 2 km.

Repeat process, this time pulling out the kilometer (e.g., 1 km 200 m, 1 km 400 m).

T: (Write 1,300 m = \_\_\_ km \_\_\_ m.) On your boards, fill-in the blanks.

S: (Students regroup 1,300 m into 1 km 300 m.)

Repeat process for 1,003 m, 1,750 m, 3,450 m, and 7,030 m.

Convert Units (4 minutes)

Note: Reviewing unit conversions that were learned in third grade will help prepare the students solve problems with centimeters and meters in Topic A of Module 2.

Materials: (S) Personal white boards

T: (Write 1 m = \_\_\_ cm.) How many centimeters are in a meter?

S: 1 m = 100 cm.

Repeat process for 2 m, 3 m, 8 m, 8 m 50 cm, 7 m 50 cm, and 4 m 25 cm.

T: (Write 100 cm = \_\_\_ m.) Say the answer.

S: 100 m = 1 m.

T: (Write 150 cm = \_\_\_ m \_\_\_ cm.) Say the answer.

S: 150 cm = 1 m 50 cm. Repeat process for 250 cm, 350 cm, 950 cm, and 725 cm