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**Grade 4 Module 3**

**Lesson 1**

Fluency Practice (15 minutes)

⬛⬛ Perimeter and Area 4.5C (3 minutes)

⬛⬛ Multiply a Number by Itself 4.4D (5 minutes)

⬛⬛ Group Counting 3.4E (3 minutes)

⬛⬛ Find the Unknown Factor 4.4D (4 minutes)

**Perimeter and Area (3 minutes)**

Materials: (T) Grid paper (with ability to project or enlarge grid paper)

Note: This fluency activity prepares students for this lesson’s Concept Development.

T: (Project grid paper with a rectangle of 5 units by 2 units shaded.) What’s the length of the longest

side?

S: 5 units.

T: (Write 5 units. Point to the opposite side.) What’s the length of the opposite side?

S: 5 units.

T: (Write 5 units. ) What’s the sum of the rectangle’s two longest sides?

S: 10 units.

T: What’s the length of the shortest side?

S: 2 units.

T: (Write 2 units . Point to the unknown side.) What’s the length of the unknown side?

S: 2 units.

T: (Write 2 units .) What’s the sum of the rectangle’s two shortest sides?

S: 4 units.

T: What’s the perimeter?

S: 14 units.

T: How many square units are in one row?

S: 5 square units.

T: How many rows of 5 square units are there?

S: 2 rows.

T: Let’s find how many square units there are in the rectangle, counting by fives.

S: 5, 10.

T: What’s the area?

S: 10 square units.

Repeat the process for 3 X 4 and 7 X 3 rectangles.

**Multiply a Number by Itself (5 minutes)**

Note: Multiplying a number by itself helps students quickly compute the areas of squares.

T: (Project 1 X 1 = .) Say the complete multiplication equation.

S: 1 X 1 = 1.

Repeat the process for 2, 3, 4, 5, 6, 7, 8, 9, and 10.

T: I’m going to call out a number. You say the answer when it’s multiplied by itself. 2.

S: 4.

Repeat the process for this possible sequence: 1, 10, 5, 3, 6, 8, 4, 7, and 9.

**Group Counting (3 minutes)**

Note: Group counting helps review multiples and factors that students need to recall during the lesson.

Direct students to count forward and backward, occasionally changing the direction of the count, using the following sequence: threes to 24, fours to 24, and sixes to 24.

T: Count by threes. Ready? (Use a familiar signal to indicate counting up or counting down.)

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

**Find the Unknown Factor (4 minutes)**

Materials: (S) Personal white board

Note: Finding the unknown factor in isolation prepares students to solve unknown side problems when given the area.

T: (Project 3 X = 12.) On your personal white boards, write the unknown factor.

S: (Write 4.)

T: Say the multiplication sentence.

S: 3 X 4 = 12.

Repeat the process with the following possible sequence: 4 X = 12, 4 X = 24, 3 X = 24,

6 X = 12, 6 X = 24, and 3 X = 18.

**Lesson 2**

Fluency Practice (12 minutes)

⬛⬛ Multiply a Number by Itself 4.4D (2 minutes)

⬛⬛ Rename the Unit 3.2A (4 minutes)

⬛⬛ Find the Area and Perimeter 4.5C (6 minutes)

**Multiply a Number by Itself (2 minutes)**

Materials: (S) Personal white board

Note: Multiplying a number by itself helps students quickly compute the areas of squares.

Repeat the process from Lesson 1, using more choral response.

**Rename the Unit (4 minutes)**

Materials: (S) Personal white board

Note: Renaming units helps prepare students for Topic B.

T: (Project 7 tens = .) Fill in the blank to make a true number sentence using standard form.

S: 7 tens = 70.

Repeat the process for 9 tens, 10 tens, 11 tens, and 12 tens.

T: (Project 17 tens = .) Fill in the blank to make a true number sentence using standard form.

S: (Show 17 tens = 170.)

Repeat with the following possible sequence: 17 hundreds, 17 thousands, 13 tens, 13 hundreds, and

13 thousands.

**Find the Area and Perimeter (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 1.

T: (Project a rectangle with a length of 4 cm and a width of 3 cm.) On your personal white boards,

write a multiplication sentence to find the area.

S: (Write 4 cm X 3 cm = 12 square cm.)

T: Use the formula for perimeter to solve.

S: (Write 2 X (4 cm + 3 cm) = 14 cm.)

Repeat the process for a rectangle with dimensions of 6 cm X 4 cm.

T: (Project a square with a length of 2 m.) This is a square. Say the length of each side.

S: 2 meters.

T: On your boards, write a multiplication sentence to find the area.

S: (Write 2 m X 2 m = 4 square m.)

T: Write the perimeter.

S: 2 X 4m = 8 m.

Repeat the process for squares with lengths of 3 cm and 9 cm.

T: (Project a rectangle with an area of 12 square cm, length of 2 cm, and x for the width.) On your

boards, write a division sentence to find the width.

S: (Write 12 square cm ÷ 2 cm = 6 cm.)

Repeat the process for 12 square cm ÷ 4 cm, 18 square cm ÷ 3 cm, and 25 square cm ÷ 5 cm.

**Lesson 3**

Fluency Practice (12 minutes)

⬛⬛ Sprint: Squares and Unknown Factors 3.5D (8 minutes)

⬛⬛ Find the Area and Perimeter 4.5C (4 minutes)

**Sprint: Squares and Unknown Factors (8 minutes)**

Materials: (S) Squares and Unknown Factors Sprint

Note: This Sprint reviews skills that help students as they solve area problems.

**Find the Area and Perimeter (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews content from Lessons 1 and 2.

Repeat the process from Lesson 2 for the following possible sequence:

⬛⬛ Rectangles with dimensions of 5 cm X 2 cm, 7 cm X 2 cm, and 4 cm X 7 cm.

⬛⬛ Squares with lengths of 4 cm and 6 m.

⬛⬛ Rectangles with the following properties: area of 8 square cm, length 2 cm, width x ; area of

15 square cm, length 5 cm, width x ; and area of 42 square cm, width 6 cm, length x .

**Lesson 4**

Fluency Practice (12 minutes)

• Rename the Unit 3.2A (3 minutes)

• Group Count by Multiples of 10 and 100 3.2A, 3.4E (5 minutes)

• Find the Area and Perimeter 4.5C (4 minutes)

**Rename the Unit (3 minutes)**

Materials: (S) Personal white board

Note: Renaming units helps prepare students for the next fluency activity and for this lesson’s content.

Repeat the process from Lesson 2 using the following suggested sequence: 8 tens, 9 tens, 11 tens,

14 tens, 14 hundreds, 14 thousands, 18 tens, 28 tens, 28 hundreds, and 28 thousands.

**Group Count by Multiples of 10 and 100 (5 minutes)**

Note: Changing units helps prepare students to recognize patterns of place value in multiplication.

T: Count by threes to 30.

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

T: Now, count by 3 tens. When I raise my hand, stop counting.

S: 3 tens, 6 tens, 9 tens.

T: (Raise hand.) Say the number.

S: 90.

T: Continue.

S: 12 tens, 15 tens.

T: (Raise hand.) Say the number.

S: 150.

Repeat the process for 21 tens, 27 tens, and 30 tens.

Repeat the process, counting by 4 hundreds, stopping to convert at 12 hundreds, 20 hundreds, 32 hundreds, and 40 hundreds.

Repeat the process, counting by 6 hundreds, stopping to convert at 18 hundreds, 30 hundreds, 48 hundreds, and 60 hundreds.

**Find the Area and Perimeter (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews content from Lessons 1 and 2.

Repeat the process from Lesson 2 for the following possible suggestions:

⬛⬛ Rectangles with dimensions of 9 cm X 2 cm, 7 cm X 5 cm, and 3 cm X 8 cm.

⬛⬛ Squares with lengths of 7 cm and 8 m.

⬛⬛ Rectangles with the following properties: area of 10 square cm, length 2 cm, and width x ; area of

35 square cm, length 5 cm, and width x ; and area of 54 square m, width of 6 m, and length x .

**Lesson 5**

Fluency Practice (8 minutes)

⬛⬛ Group Count by Multiples of 10 and 100 3.2A, 3.4E (4 minutes)

⬛⬛ Multiply Units 4.4D (4 minutes)

**Group Count by Multiples of 10 and 100 (4 minutes)**

Note: Changing units helps to prepare students to recognize patterns of place value in multiplication.

Repeat the process from Lesson 4 using the following suggested sequence:

⬛⬛ Sevens, stopping to convert at 14 tens, 35 tens, 63 tens, and 70 tens.

⬛⬛ Eights, stopping to convert at 24 hundreds, 40 hundreds, 64 hundreds, and 80 hundreds.

⬛⬛ Nines, stopping to convert at 27 hundreds, 45 hundreds, 63 hundreds, and 90 hundreds.

**Multiply Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity gives students practice reviewing content from Lesson 4.

T: (Write 3 X 2 = .) Say the multiplication sentence in unit form.

S: 3 ones X 2 = 6 ones.

T: On your personal white boards, write the answer in standard form.

S: (Write 6.)

T: (Write 30 X 2 = .) Say the multiplication sentence in unit form.

S: 3 tens X 2 = 6 tens.

T: Write the answer in standard form.

S: (Write 60.)

Repeat for the following possible sequence: 3 hundreds X 2, 3 thousands X 2, 5 ones X 3, 5 tens X 3,

5 thousands X 3, 5 thousands X 4, 5 tens X 4, 5 ones X 8, 5 hundreds X 8, and 9 tens X 7.

**Lesson 6**

Fluency Practice (12 minutes)

⬛⬛ Multiply by Different Units 4.4D (4 minutes)

⬛⬛ Take Out the 10, 100, or 1,000 4.4B (2 minutes)

⬛⬛ Multiply by Multiples of 10, 100, and 1,000 4.4D (6 minutes)

**Multiply by Different Units (4 minutes)**

Note: This activity reviews concepts practiced in Lesson 5.

T: (Write 3 X 2 = .) Say the multiplication sentence in unit form.

S: 3 ones X 2 = 6 ones.

Repeat for the following possible sequence: 30 X 2, 300 X 2, 3,000 X 2, 3,000 X 3, 30 X 3, 300 X 5, 70 X 5,

400 X 8, 40 X 5, and 800 X 5.

**Take Out the 10, 100, or 1,000 (2 minutes)**

Note: This activity helps prepare students to multiply by multiples of 10, 100, or 1,000.

T: I’ll say a number. I want you to restate the number as a multiplication sentence, taking out the 10,

100, or 1,000. Ready. 20.

S: 2 X 10.

T: 200.

S: 2 X 100.

T: 2,000.

S: 2 X 1,000.

Repeat the process for the following possible sequence: 5,000, 30, 700, 8,000, and 90.

**Multiply by Multiples of 10, 100, and 1,000 (6 minutes)**

Materials: (S) Personal white board

Note: This activity reviews concepts practiced in Lesson 5.

T: (Write 5 X 300.) Say the multiplication expression.

S: 5 X 300.

T: Rewrite the multiplication sentence, taking out the 100, and solve.

S: (Write 5 X 3 X 100 = 1,500.)

Repeat the process for the following possible sequence: 70 X 3, 8 X 4,000, 6 X 200, and 50 X 8.

**Lesson 7**

Fluency Practice (12 minutes)

⬛⬛ Sprint: Multiply Multiples of 10, 100, and 1,000 4.4D (9 minutes)

⬛⬛ Multiply Mentally 4.4D (3 minutes)

**Sprint: Multiply Multiples of 10, 100, and 1,000 (9 minutes)**

Materials: (S) Multiply Multiples of 10, 100, and 1,000 Sprint

Note: This Sprint reinforces concepts taught and reviewed in Lessons 1–6.

**Multiply Mentally (3 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during the Concept Development.

T: (Write 3 X 2 = .) Say the multiplication sentence.

S: 3 X 2 = 6.

T: (Write 3 X 2 = 6. Below it, write 40 X 2 = \_\_\_\_.) Say the multiplication sentence.

S: 40 X 2 = 80.

T: (Write 40 X 2 = 80. Below it, write 43 X 2 = \_\_\_\_.) Say the multiplication sentence.

S: 43 X 2 = 86.

Repeat process for the following possible sequence: 32 X 3, 21 X 4, and 24 X 4, directing students to follow the format demonstrated for them.

**Lesson 8**

Fluency Practice (12 minutes)

⬛⬛ Expanded Form 4.2B (3 minutes)

⬛⬛ Multiply Mentally 4.4D (3 minutes)

⬛⬛ Multiply Using Disks 4.4D (6 minutes)

**Expanded Form (3 minutes)**

Materials: (S) Personal white board

Note: Reviewing standard form versus expanded form prepares students to decompose multi-digit

multiplication sentences into a series of multiplication sentences.

T: (Write 200 + 30 + 4.) Say the addition sentence with the answer in standard form.

S: 200 + 30 + 4 = 234.

Repeat the process for the following possible sequence: 3,000 + 500 + 60 + 8 and 400 + 7 + 90.

T: (Write 572.) Say the number.

S: 572.

T: On your personal white board, write 572 in expanded form.

S: (Write 572 = 500 + 70 + 2.)

Repeat the process using the following possible sequence: 8,463 and 9,075.

**Multiply Mentally (3 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during the Concept Development.

Repeat the process from Lesson 7 using the following possible sequence: 34 X 2, 31 X 3, 22 X 4, and 24 X 3.

**Multiply Using Disks (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 7’s content.

T: (Write 1 X 32.) On your personal white board, draw place value

disks to show this multiplication sentence.

S: (Draw 3 tens disks and 2 ones disks.)

T: (Write 1 X tens + 1 X ones.) Fill in the blanks, and write

the problem vertically.

S: (Write 1 X 3 tens + 1 X 2 ones, and write the problem vertically.)

Repeat the process using the following possible sequence: 2 X 32, 3 X 32, 4 X 32, 2 X 28, and 3 X 51.

**Lesson 9**

Fluency Practice (12 minutes)

⬛⬛ Expanded Form 4.2B (3 minutes)

⬛⬛ Multiply Mentally 4.4D (3 minutes)

⬛⬛ Multiply Using Disks 4.4D (6 minutes)

**Expanded Form (3 minutes)**

Materials: (S) Personal white board

Note: Reviewing standard form versus expanded form prepares students to decompose multi-digit

multiplication sentences into a series of multiplication sentences.

Repeat the process from Lesson 8 for the following possible sequence: 300 + 40 + 3; 4,000 + 600 + 70 + 9; 500 + 8 + 20; 275; 4,638; and 9,705.

**Multiply Mentally (3 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during the Concept Development.

Repeat the process from Lesson 7, expanding to three-digits, for the following possible sequence: 432 X 2, 312 X 3, 212 X 4, and 124 X 3.

**Multiply Using Disks (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 8’s Concept Development. Repeat the process from Lesson 8,

expanding to three- and four-digit numbers, for the following possible sequence: 1 X 312, 2 X 312, 3 X 312, 2 X 2,154, 4 X 212, and 3 X 1,504.

**Lesson 10**

Fluency Practice (12 minutes)

⬛⬛ Represent Expanded Form 4.2B (3 minutes)

⬛⬛ Multiply Mentally 4.4D (3 minutes)

⬛⬛ Multiply Using Partial Products 4.4D (6 minutes)

**Represent Expanded Form (3 minutes)**

Materials: (S) Place value disks

Note: This activity incorporates expanded form fluency from

Lessons 8 and 9 while reviewing how to use place value disks.

T: (Write 532.) Say the number in expanded form.

S: 532 equals 500 plus 30 plus 2.

T: Say it in unit form.

S: 532 equals 5 hundreds 3 tens 2 ones.

T: Use your disks to show 5 hundreds 3 tens 2 ones.

Repeat the process for the following possible sequence: 415,

204, 3,241, and 2,053.

**Multiply Mentally (3 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during the Concept Development.

Repeat the process from Lesson 7 for the following possible sequence: 342 X 2, 132 X 3, 221 X 4, and 213 X 4.

**Multiply Using Partial Products (6 minutes)**

Materials: (S) Personal white board

Note: This activity serves as a review of the Concept Development in Lessons 7 and 8.

T: (Write 322 X 7.) Say the multiplication expression.

S: 322 X 7.

T: Say it as a three-product addition expression in unit form.

S: (3 hundreds X 7) + (2 tens x 7) + (2 ones X 7).

T: Write 322 X 7 vertically, and solve using the partial product strategy.

Repeat the process for the following possible sequence: 7 thousands 1 hundred 3 tens 5 ones X 5 and

3 X 7,413.

**Lesson 11**

Fluency Practice (12 minutes)

⬛⬛ Multiply Mentally 4.4D (4 minutes)

⬛⬛ Multiply in Three Different Ways 4.4D (8 minutes)

**Multiply Mentally (4 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during the Concept Development.

Repeat the process from Lesson 7, expanding to four-digits for the following possible sequence: 4,312 X 2,

2,032 X 3, 2,212 X 4, and 3,203 X 4.

**Multiply in Three Different Ways (8 minutes)**

Materials: (S) Place value disks

Note: This fluency activity reviews the Concept Development in Lessons 7–10.

T: (Write 43 X 2.) Say the multiplication expression in unit form.

S: 4 tens 3 ones X 2.

T: Show the multiplication expression using partial products.

S: (Write (40 X 2) + (3 X 2).)

T: Show the multiplication expression using place value disks.

S: (Show multiplication expression using place value disks.)

T: Write the multiplication expression using the standard algorithm.

T: (Students do so.)

Repeat the process using the following possible sequence: 54 X 2 and 63 X 3.

**Lesson 12**

Fluency Practice (12 minutes)

⬛⬛ Multiply Mentally 4.4D (4 minutes)

⬛⬛ Multiply in Three Different Ways 4.4D (8 minutes)

**Multiply Mentally (4 minutes)**

Note: Reviewing these mental multiplication strategies provides a foundation for students to succeed during

the Concept Development.

Repeat the process from Lesson 7 with the following possible sequence: 3,421 X 2, 2,302 X 3, 2,112 X 4, and 2,023 X 4.

**Multiply in Three Different Ways (8 minutes)**

Materials: (S) Place value disks

Note: This fluency activity reviews the concepts learned in Topic C.

Repeat the fluency activity from Lesson 11, expanding to three- and four-digit numbers for the following

possible sequence: 245 X 2, 301 X 5, and 5,241 X 2.

**Lesson 13**

Fluency Practice (12 minutes)

⬛⬛ Sprint: Mental Multiplication 4.4D (9 minutes)

⬛⬛ Multiply Using the Standard Algorithm 4.4D (3 minutes)

**Sprint: Mental Multiplication (9 minutes)**

Materials: (S) Mental Multiplication Sprint

Note: This Sprint reinforces partial product multiplication strategies.

**Multiply Using the Standard Algorithm (3 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the Concept Development from Lessons 10 and 11.

T: (Write 773 X 2.) On your personal white board, solve the expression using the standard algorithm.

Repeat the process for the following possible sequence: 147 X 3, 1,605 X 3, and 5,741 X 5.

**Lesson 14**

Fluency Practice (12 minutes)

⬛⬛ Group Count to Divide 3.5D (4 minutes)

⬛⬛ Number Sentences in an Array 4.4E (4 minutes)

⬛⬛ Divide with Remainders 4.4E, 4.4F (4 minutes)

**Group Count to Divide (4 minutes)**

Note: This fluency activity prepares students to divide with remainders during this lesson’s Concept

Development.

T: (Write 8 ÷ 2 = . ) Let’s find the quotient, counting by twos. Show a finger for each multiple you

count by.

S: 2 (show 1 finger), 4 (show 2 fingers), 6 (show 3 fingers), 8 (show 4 fingers).

T: What’s 8 ÷ 2?

S: 8 ÷ 2 = 4.

Continue with the following possible sequence: 12 ÷ 2, 18 ÷ 2, 14 ÷ 2, 15 ÷ 5, 25 ÷ 5, 40 ÷ 5, 30 ÷ 5, 9 ÷ 3,

15 ÷ 3, 27 ÷ 3, 21 ÷ 3, 16 ÷ 4, 24 ÷ 4, 32 ÷ 4, and 36 ÷ 4.

**Number Sentences in an Array (4 minutes)**

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Materials: (S) Personal white board

Note: This fluency activity prepares students for Lesson 15’s Concept Development.

T: (Project a 3 X 4 array.) How many boxes do you see altogether?

S: 12.

T: Let’s count by threes to check. (Point at columns as students count.)

S: 3, 6, 9, 12.

T: Let’s count by fours to check. (Point at rows as students count.)

S: 4, 8, 12.

T: On your personal white board, write two multiplication sentences

to show how many boxes are in this array.

S: (Write 3 X 4 = 12 and 4 X 3 = 12.)

T: (Write 12 ÷ = . Write 12 ÷ = .) Write two division sentences for this array.

S: (Write 12 ÷ 3 = 4 and 12 ÷ 4 = 3.)

Continue with the following possible sequence: 5 X 2 array and 7 X 3 array.

**Divide with Remainders (4 minutes)**

Note: This fluency activity prepares students for this lesson’s Concept Development.

T: How many groups of 2 are in 10?

S: 5.

T: Let’s prove it by counting by twos. Use your fingers as you count.

S: (Show one finger for each multiple.) 2, 4, 6, 8, 10.

T: Show and say how many groups of 2 are in 10.

S: (Show 5 fingers.) 5.

T: (Write 11 ÷ 2.) Let’s find out how many groups of 2 are in 11. Count with me.

S: (Show one finger for each multiple.) 2, 4, 6, 8, 10.

T: How many groups?

S: 5.

T: How many left?

S: 1.

Continue with the following possible sequence: 8 ÷ 4 and 9 ÷ 4, 12 ÷ 3 and 13 ÷ 3, 15 ÷ 5 and 17 ÷ 5, 20 ÷ 4 and 23 ÷ 4, and 50 ÷ 10 and 55 ÷ 10.

**Lesson 15**

Fluency Practice (12 minutes)

⬛⬛ Show Values with Place Value Disks 3.2A (4 minutes)

⬛⬛ Divide with Remainders 4.4E, 4.4F (4 minutes)

⬛⬛ Number Sentences in an Array 4.4E (4 minutes)

**Show Values with Place Value Disks (4 minutes)**

Materials: (T) Thousands place value chart (Lesson 4 Template) (S) Personal white board, thousands place value chart (Lesson 4 Template)

Note: This fluency activity prepares students for Lesson 16’s Concept Development.

T: (Project the place value chart with 2 tens disks and 4 ones disks.) On your personal white board,

write the number in standard form.

S: (Write 24.)

Repeat process for 5 tens and 3 ones, 4 tens and 1 one, 3 tens and 11 ones, and 3 tens and 17 ones.

T: (Write 32.) Say the number.

S: 32.

T: Show 32 using place value disks.

S: (Draw disks for 3 tens and 2 ones.)

Continue with the following possible sequence: 21 and 43.

**Divide with Remainders (4 minutes)**

Note: This fluency activity provides maintenance of the fluency introduced in Lesson 14.

Repeat the process from Lesson 14 for the following possible sequence: 6 ÷ 2 and 7 ÷ 2; 24 ÷ 3 and 25 ÷ 3, 12 ÷ 4 and 15 ÷ 4, 18 ÷ 6 and 21 ÷ 6, and 45 ÷ 5 and 49 ÷ 5.

**Number Sentences in an Array (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for this lesson’s Concept

Development.



T: (Project a 5 × 3 + 1 array.) How many boxes do you see altogether?

S: 16.

T: Let’s count by fives to check. (Point at columns as students count.)

S: 5, 10, 15.

T: Plus 1? (Point to the extra square outside of the rectangle.)

S: 16.

T: Count by threes to check.

S: 3, 6, 9, 12, 15.

T: Plus 1? (Point to the extra square outside of the rectangle.)

S: 16.

T: On your personal white board, write two multiplication number sentences to show how many boxes

are in this array.

S: (Write (5 × 3) + 1 = 16 and (3 × 5) + 1 = 16.)

T: Write two division sentences for this array.

S: (Write 16 ÷ 3 = 5 with a remainder of 1 and 16 ÷ 5 = 3 with a remainder of 1.)

Repeat using the following possible sequence: (3 × 6) + 1 and (3 × 4) + 2.

**Lesson 16**

Fluency Practice (8 minutes)

⬛⬛ Group Counting 3.4E (4 minutes)

⬛⬛ Divide with Remainders 4.4E, 4.4F (4 minutes)

Group Counting (4 minutes)

Note: This fluency activity prepares students to divide with remainders during today’s Concept Development.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Twos to 20

⬛⬛ Threes to 30

⬛⬛ Fours to 40

⬛⬛ Fives to 50

**Divide with Remainders (4 minutes)**

Note: This fluency activity prepares students for today’s

Concept Development.

Repeat the process from Lessons 14 and 15 using the following

possible sequence: 6 ÷ 2, 20 ÷ 5, 16 ÷ 4, 18 ÷ 3, 15 ÷ 2, 18 ÷ 5,

11 ÷ 3, 13 ÷ 4, and 33 ÷ 4.

**Lesson 17**

Fluency Practice (11 minutes)

⬛⬛ Group Counting 3.4E (2 minutes)

⬛⬛ Divide Mentally 4.4E, 4.4F (4 minutes)

⬛⬛ Divide Using the Standard Algorithm 4.4E, 4.4F (5 minutes)

Group Counting (2 minutes)

Note: This fluency activity prepares students to divide with remainders during the Concept Development.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Twos to 20

⬛⬛ Threes to 30

⬛⬛ Fours to 40

⬛⬛ Fives to 50

Divide Mentally (4 minutes)

Note: This fluency activity reviews Lesson 16’s content.



T: (Write 40 ÷ 2.) Say the completed division sentence in unit form.

S: 4 tens divided by 2 equals 2 tens.

T: (To the right, write 8 ÷ 2.) Say the completed division sentence

in unit form.

S: 8 ones divided by 2 equals 4 ones.

T: (Above both equations, write 48 ÷ 2. Draw a number bond to connect the two original problems to

this new problem.) Say the completed division sentence in unit form.

S: 4 tens 8 ones divided by 2 equals 2 tens 4 ones.

T: Say the division sentence in standard form.

S: 48 divided by 2 equals 24.

Continue with the following possible sequence: 93 ÷ 3 and 88 ÷ 4.

**Divide Using the Standard Algorithm (5 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 16’s content.

T: (Write 24 ÷ 2.) On your boards, solve the division problem using long division.

Continue with the following possible sequence: 36 ÷ 3, 37 ÷ 3, 55 ÷ 5, 57 ÷ 5, 88 ÷ 4, 87 ÷ 4, 96 ÷ 3,

and 95 ÷ 3.

**Lesson 18**

Fluency Practice (12 minutes)

⬛⬛ Group Counting 3.4E (4 minutes)

⬛⬛ Divide Mentally 4.4E, 4.4F (4 minutes)

⬛⬛ Divide Using the Standard Algorithm 4.4E, 4.4F (4 minutes)

**Group Counting (4 minutes)**

Note: This fluency activity prepares students to divide with remainders during this lesson’s Concept

Development.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Fours to 40

⬛⬛ Sixes to 60

**Divide Mentally (4 minutes)**

Note: This fluency activity reviews content from Lessons 16 and 17.

Repeat the process from Lesson 17 using the following possible sequence: 48 ÷ 2, 55 ÷ 5, 96 ÷ 3, and 84 ÷ 4.

**Divide Using the Standard Algorithm (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 17’s content.

Repeat the process from Lesson 17 using the following possible sequence: 20 ÷ 3, 50 ÷ 2, 43 ÷ 3, and 64 ÷ 5.

**Lesson 19**

Fluency Practice (12 minutes)

⬛⬛ Sprint: Mental Division 4.4E, 4.4F (8 minutes)

⬛⬛ Divide Using the Standard Algorithm 4.4E, 4.4F (4 minutes)

**Sprint: Mental Division (8 minutes)**

Materials: (S) Mental Division Sprint

Note: This Sprint reviews content from previous lessons and reinforces place value used in the division

algorithm.

**Divide Using the Standard Algorithm (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 17’s content.

Repeat the process from Lesson 17 using the following possible sequence: 37 ÷ 2, 45 ÷ 3, 26 ÷ 4, and 58 ÷ 3.

**Lesson 20**

Fluency Practice (12 minutes)

⬛⬛ Divide Using the Standard Algorithm 4.4E, 4.4F (4 minutes)

⬛⬛ Find the Unknown Factor 3.5D (5 minutes)

⬛⬛ Mental Multiplication 4.4C, 4.4D (3 minutes)

**Divide Using the Standard Algorithm (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 17’s content.

Repeat the process from Lesson 17 using the following possible sequence: 67 ÷ 2, 60 ÷ 4,

29 ÷ 3, and 77 ÷ 4.

**Find the Unknown Factor (5 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for Lesson 22’s Concept Development

T: (Write 5 X = 15.) Say the unknown factor.

S: 3.

T: (Write 15 ÷ 5.) On your personal white board, write the division problem.

S: (Write 15 ÷ 5 = 3.)

Continue with the following possible sequence: 3 X = 12, 4 X = 12, 5 X = 35, 6 X = 36,

7 X = 49, 9 X = 81, 6 X = 48, 7 X = 42, and 9 X = 54.

**Mental Multiplication (3 minutes)**

Note: This fluency activity reviews content taught earlier in the

module.

T: (Write 3 X 2 = .) Say the complete multiplication

sentence in unit form.

S: 3 ones X 2 = 6 ones.

T: (Write 3 X 2 = 6. To the right, write 30 X 2 = .) Say

the complete multiplication sentence in unit form.

S: 3 tens X 2 = 6 tens.

T: (Write 30 X 2 = 60. To the right, write 30 X 20 = .)

Say the complete multiplication sentence in unit form.

S: 3 tens X 2 tens = 6 hundreds.

T: (Write 30 X 20 = 600.)

Continue with the following possible sequence: 4 X 2, 40 X 2, 40 X 20,

5 X 3, 50 X 3, and 50 X 30.

**Lesson 21**

Fluency Practice (12 minutes)

⬛⬛ Sprint: Division with Remainders 4.4E, 4.4F (8 minutes)

⬛⬛ Find the Unknown Factor 3.5E (4 minutes)

**Sprint: Division with Remainders (8 minutes)**

Materials: (S) Division with Remainders Sprint

Note: This Sprint reviews content from Topic E, including division with and without remainders.

**Find the Unknown Factor (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for Lesson 22’s Concept Development

T: (Write 6 X = 18.) Say the unknown factor.

S: 3.

T: (Write 18 ÷ 6.) On your personal white board, complete the division sentence.

S: (Write 18 ÷ 6 = 3.)

Continue with the following possible sequence: 3 X = 21, 4 X = 20, 5 X = 25, 6 X = 42,

7 X = 56, 9 X = 72, 6 X = 54, 7 X = 63, and 9 X = 63.

**Lesson 22**

Fluency Practice (12 minutes)

⬛⬛ Show Values with Place Value Disks 3.2A (4 minutes)

⬛⬛ Group Counting 3.4E (2 minutes)

⬛⬛ Mental Multiplication 4.4C, 4.4D (3 minutes)

⬛⬛ Divide Using the Area Model 4.4E, 4.4F (3 minutes)

**Show Values with Place Value Disks (4 minutes)**

Materials: (T) Thousands place value chart (Lesson 4 Template) (S) Personal white board, thousands place value chart (Lesson 4 Template)

Note: This fluency activity prepares students for this lesson’s Concept Development.

Repeat the process from Lesson 15 with the following possible sequence (projected or drawn).

⬛⬛ 1 hundreds disk, 2 tens disks, and 3 ones disks

⬛⬛ 4 hundreds disks, 1 tens disk, and 3 ones disks

⬛⬛ 3 hundreds disks, 15 tens disks, and 2 ones disks

⬛⬛ 2 hundreds disks, 15 tens disks, and 3 ones disks

Follow by having students draw disks for 524, 231, and 513.

**Group Counting (2 minutes)**

Note: Group counting reviews factors and multiples.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Threes to 30

⬛⬛ Fours to 40

⬛⬛ Sixes to 60

⬛⬛ Eights to 80

**Mental Multiplication (3 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews content taught earlier in the module.

Repeat the process from Lesson 20 with the following possible sequence: 4 X 2, 4 X 20, 2 X 40, 20 X 40, 3 X 3,

3 X 30, 30 X 30, 3 X 4, 3 X 40, and 30 X 40.

**Divide Using the Area Model (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews content from Lesson 20.



T: (Project an area model that shows 68 ÷ 2.) Write a

division expression for this area model.

S: (Write 68 ÷ 2.)

T: Label the length of each rectangle in the area model.

S: (Write 30 above the 60 and 4 above the 8.)

T: Solve using the standard algorithm or the distributive

property with a number bond.

Continue with the following possible sequence: 96 ÷ 3, 72 ÷ 3, and 72 ÷ 4.

**Lesson 23**

Fluency Practice (12 minutes)

⬛⬛ Group Counting 3.4E (6 minutes)

⬛⬛ Divide with Place Value Disks 4.4E (6 minutes)

**Group Counting (6 minutes)**

Note: Group counting reviews factors and patterns that students use during the Concept Development. Direct students to count forward and backward, occasionally changing the direction of the count.

• Twos to 20

• Threes to 30

• Fours to 40

• Fives to 50

• Sixes to 60

• Tens to 100

**Divide with Place Value Disks (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 22’s Concept Development and strengthens students’

understanding of place value’s role in the long division algorithm.

T: (Display 6 ÷ 2.) On your personal white board, draw place value disks to represent the expression.

S: (Draw 6 ones disks and divide them into 2 groups of 3.)

T: Say the division sentence in unit form.

S: 6 ones ÷ 2 = 3 ones.



Repeat the process using the following possible sequence: 60 ÷ 2; 600 ÷ 2; 6,000 ÷ 2; 80 ÷ 2; 1,200 ÷ 3, and 1,200 ÷ 4.

**Lesson 24**

Fluency Practice (15 minutes)

⬛⬛ Multiply by Units 4.4C, 4.4D (4 minutes)

⬛⬛ Divide Different Units 4.4E, 4.4F (4 minutes)

⬛⬛ Group Counting 3.4E (3 minutes)

⬛⬛ Divide Three-Digit Numbers by 2 4.4E, 4.4F (4 minutes)

**Multiply by Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 4.



T: (Project area model of 3 tens X 1.

Beneath it, write 3 tens X 1.) Say the

number sentence in unit form.

S: 3 tens X 1 = 3 tens.

T: (Write 3 tens X 1 = 3 tens.) Write the

number sentence in standard form.

S: (Write 30 X 1 = 30.)

T: (Beneath 3 tens X 1 = 3 tens, write 30 X 1 = 30. Project area model of 3 tens X 1 ten. Beneath it, write 3 tens X 1 ten.) Say the number sentence in unit form.

S: (Write 3 tens X 1 ten.) 3 tens X 1 ten = 3 hundreds.

T: (Write 3 tens X 1 ten = 3 hundreds.) Write the number sentence in standard form.

S: (Write 30 X 10 = 300.)

T: (Beneath 3 tens X 1 ten = 3 hundreds, write 30 X 10 = 300. Project area model of 3 tens X 2 tens.

Beneath it, write 3 tens X 2 tens.) Say the number sentence in unit form.

S: 3 tens X 2 tens = 6 hundreds.

T: (Write 3 tens X 2 tens = 6 hundreds.) Write the number sentence in standard form.

S: (Write 30 X 20 = 600.)

T: Beneath 3 tens X 2 tens = 6 hundreds, write 30 X 20 = 600.

Continue with the following possible sequence: 3 tens X 3 tens, 3 tens X 5 tens, 2 tens X 1, 2 tens X 1 ten,

2 tens X 2 tens, 2 tens X 4 tens, and 3 tens X 4 tens.

**Divide Different Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 22’s Concept Development.

8 ÷ 2 = 4 80 ÷ 2 = 40 800 ÷ 2 = 400 8,000 ÷ 2 = 4,000

T: (Write 8 ÷ 2 = .) Say the division sentence in unit form.

S: 8 ones ÷ 2 = 4 ones.

T: (Write 8 ÷ 2 = 4. To the right, write 80 ÷ 2 = .) Say the division sentence in unit form.

S: 8 tens ÷ 2 = 4 tens.

T: (Write 80 ÷ 2 = 40. To the right, write 800 ÷ 2 = .) Say the division sentence in unit form.

S: 8 hundreds ÷ 2 = 4 hundreds.

T (Write 800 ÷ 2 = 400. To the right, write 8,000 ÷ 2 = .) Say the division sentence in unit form.

S: 8 thousands ÷ 2 = 4 thousands.

T: (Write 8,000 ÷ 2 = 4,000.)

T: (Write 6 tens ÷ 2 = .) On your personal white board, write the division sentence in standard

form.

S: (Write 60 ÷ 2 = 30.)

Continue with the following possible sequence: 15 tens ÷ 5, 12 hundreds ÷ 3, 28 hundreds ÷ 4, 21 tens ÷ 3, 36 tens ÷ 4, 20 tens ÷ 5, and 30 hundreds ÷ 5.

**Group Counting (3 minutes)**

Note: This fluency activity prepares students to divide with remainders during Lesson 26’s Concept

Development.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Sixes to 60

⬛⬛ Sevens to 70

⬛⬛ Eights to 80

⬛⬛ Nines to 90

**Divide Three-Digit Numbers by 2 (4 minutes)**

Materials: (S) Personal white board, thousands place value chart for dividing (Lesson 22 Template)

Note: This fluency activity reviews Lesson 23’s Concept Development.

T: (Write 546 ÷ 2.) Show 546 ÷ 2 by drawing place value disks in two different groups.

S: (Draw place value disks.)

T: Solve the same problem using the algorithm.

S: (Solve.)

Repeat the process using the following possible sequence: 368 ÷ 2 and 846 ÷ 2.

**Lesson 25**

Fluency Practice (12 minutes)

⬛⬛ Multiply by Units 4.4D (4 minutes)

⬛⬛ Divide Different Units 4.4E, 4.4F (4 minutes)

⬛⬛ Divide to Find Half 4.4E, 4.4F (4 minutes)

**Multiply by Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 4.

T: (Write 2 X 4 = .) Say the multiplication sentence in unit form.

S: 2 ones X 4 = 8 ones.

T: Write the equation in standard form.

S: (Write 2 X 4 = 8.)

T: (Write 20 X 4 = .) Say the multiplication sentence in unit form.

S: 2 tens X 4 = 8 tens.

T: Write the equation in standard form.

S: (Write 20 X 4 = 80.)

T: (Write 2 tens X 4 tens = .) Say the multiplication sentence in unit form.

S: 2 tens X 4 tens = 8 hundreds.

T: Write the equation in standard form.

S: (Write 20 X 40 = 800.)

Continue with the following possible sequence: 3 X 3, 30 X 3, 30 X 30, 30 X 40, 5 X 3, 50 X 3, 50 X 30, 50 X 50, 5 X 8, 50 X 8, and 50 X 80.

**Divide Different Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 22’s Concept Development and strengthens students’

understanding of place value’s role in the long division algorithm.

Repeat the process from Lesson 24 using the following possible sequence: 9 ones ÷ 3, 9 tens ÷ 3,

9 hundreds ÷ 3, 9 thousands ÷ 3, 16 tens ÷ 4, 15 hundreds ÷ 5, 27 hundreds ÷ 3, 24 tens ÷ 3, 32 tens ÷ 4,

40 tens ÷ 5, and 20 hundreds ÷ 5.

**Divide to Find Half (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 24’s Concept Development.

T: Find half of 38 using long division.

S: 19.

T: Find half of 386.

S: 193.

Continue with the following possible sequence: half of 56, 562, 74, and 744.

**Lesson 26**

Fluency Practice (12 minutes)

⬛⬛ Multiply Using the Standard Algorithm 4.4D (4 minutes)

⬛⬛ Divide Different Units 4.4E, 4.4F (4 minutes)

⬛⬛ Find the Quotient and Remainder 4.4E, 4.4F (4 minutes)

**Multiply Using the Standard Algorithm (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the Concept Development from Lessons 10 and 11, in anticipation

of Topic G.

T: (Write 773 X 2 = .) On your personal white board, find the product using the standard algorithm.

S: (Solve.)

Repeat the process for the following possible sequence: 147 X 3, 1,605 X 3, and 5,741 X 5.

**Divide Different Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 22’s Concept Development and strengthens students’

understanding of place value’s role in the long division algorithm.

Repeat the process from Lesson 24 using the following possible sequence: 15 ones ÷ 3, 15 tens ÷ 3,

25 hundreds ÷ 5, 21 hundreds ÷ 3, 28 tens ÷ 4, 30 tens ÷ 5, and 40 hundreds ÷ 5.

**Find the Quotient and Remainder (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 25’s Concept Development.

T: (Write 4,768 ÷ 2.) On your personal white board, find the quotient and remainder.

S: (Solve.)

Continue with the following possible sequence: 6,851 ÷ 5, 1,264 ÷ 4, and 1,375 ÷ 4.

**Lesson 27**

Fluency Practice (11 minutes)

⬛⬛ Sprint: Divide Different Units 4.4E, 4.4F (9 minutes)

⬛⬛ Group Size or Number of Groups Unknown 4.4E (2 minutes)

**Sprint: Divide Different Units (9 minutes)**

Materials: (S) Divide Different Units Sprint

Note: This Sprint reviews Lesson 22’s Concept Development and strengthens students’ understanding of

place value’s role in the long division algorithm.

**Group Size or Number of Groups Unknown (2 minutes)**

Note: This fluency activity prepares students for today’s Concept Development.

T: (Draw or project the 8 ÷ 2 = 4 strip diagrams shown on

the right.) Here are two strip diagrams representing

8 ÷ 2 = 4. (Point to the model on the left.) What does

the 2 represent, the size of the group or the number

of groups?

S: The size of the group!

T: (Point to the second model.) In the model to the

right?

S: The number of groups.

Repeat with 12 ÷ 3 = 4.

**Lesson 28**

Fluency Practice (12 minutes)

⬛⬛ Quadrilaterals 3.6B (4 minutes)

⬛⬛ Multiply Units 4.4D (4 minutes)

⬛⬛ Group Counting 3.4E (4 minutes)

**Quadrilaterals (4 minutes)**

Materials: (T) Shapes (Fluency Template)

Note: This fluency activity reviews Grade 3

geometry concepts in anticipation of Module 4

content. The sheet can be duplicated for

students, if you prefer.

T: (Project the shapes template and the list

of attributes.) Take one minute to

discuss the attributes of the shapes you

see. You can use the list to help.

S: Some have right angles. All have

straight sides. They all have 4 sides.

 B and G and maybe H and K have all

equal sides. I’m not really sure.

T: If we wanted to verify whether the sides

are equal, what would we do?

S: Measure!

T: What about the angles? How could you verify that they’re right angles?

S: I could compare it to something that I know is a right angle.

****

T: (Post the shape names.) Now, look at the shape names. Determine, to the best of your ability,

which shapes might fall into each category.

S: B and G might be squares.  All of them are quadrilaterals.  H and K might be rhombuses.

It’s hard to know if their sides are equal.  D and I are rectangles. Oh yeah, and B and G are, too.

 L and A look like trapezoids.

T: Which are quadrilaterals?

S: All of them.

T: Which shapes appear to be rectangles?

S: B, D, G, and I.

T: Which appear to have opposite sides of equal length but are not rectangles?

S: C, H, K.  A and L have one pair of opposite sides that look the same.

T: Squares are rhombuses with right angles. Do you see any other shapes that might have four equal

sides without right angles?

S: H and K.

Multiply Units (4 minutes)

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 4’s content.

T: (Write 2 X 4 = .) Say the multiplication sentence in unit form.

S: 2 ones X 4 = 8 ones.

T: Write the answer in standard form.

S: (Write 8.)

T: (Write 20 X 4 = .) Say the multiplication sentence in unit form.

S: 2 tens X 4 = 8 tens.

T: Write the answer in standard form.

S: (Write 80.)

Continue with the following possible sequence: 2 hundreds X 4, 2 thousands X 4, 3 ones X 5, 3 tens X 5,

3 thousands X 5, 3 thousands X 4, 5 tens X 6, 5 ones X 4, 5 thousands X 8, and 9 tens X 6.

Group Counting (4 minutes)

Note: This fluency activity prepares students for this lesson’s Concept Development.

Direct students to count forward and backward, occasionally changing the direction of the count.

⬛⬛ Sixes to 60

⬛⬛ Sevens to 70

⬛⬛ Eights to 80

⬛⬛ Nines to 90

**Lesson 29**

Fluency Practice (12 minutes)

⬛⬛ Quadrilaterals 3.6B (4 minutes)

⬛⬛ Group Counting 3.4E (4 minutes)

⬛⬛ Multiply Units 4.4D (4 minutes)

**Quadrilaterals (4 minutes)**

Materials: (T) Shapes (Lesson 28 Fluency Template) (S) Personal white board

Note: This fluency activity reviews Grade 3 geometry concepts in

anticipation of Module 4 content.

T: (Project the shapes template which includes the following:

a square; a rhombus that is not a square; a rectangle that is

not a square; and several quadrilaterals that are not

squares, rhombuses, or rectangles.) How many sides does

each polygon have?

S: 4.

T: On your personal white board, write the name for any foursided

polygon.

S: (Write quadrilateral .)

T: (Point to the square.) This quadrilateral has four equal

sides and four right angles. On your board, write what type

of quadrilateral it is.

S: (Write square .)



T: Rhombuses are quadrilaterals with four equal sides. Is this polygon a rhombus?

S: Yes.

T: Is it a rectangle?

S: Yes.

T: (Point to the rhombus that is not a square.) This polygon has four equal sides, but the angles are not

the same. Write the name of this quadrilateral.

S: (Write rhombus .)

T: Is the square also a rhombus?

S: Yes!

T: (Point to the rectangle that is not a square.) This polygon has four equal angles, but the sides are not

equal. Write the name of this quadrilateral.

S: (Write rectangle .)

T: Draw a quadrilateral that is not a square, rhombus, or rectangle.

**Group Counting (4 minutes)**

Note: This fluency activity prepares students to divide with

remainders.

Direct students to count forward and backward, occasionally

changing the direction of the count.

⬛⬛ Sixes to 60

⬛⬛ Sevens to 70

⬛⬛ Eights to 80

⬛⬛ Nines to 90

**Multiply Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 4’s content.

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

S: 3 ones X 3 = 9 ones.

T: Write the answer in standard form.

S: (Write 9.)

T: (Write 30 X 3 = .) Say the multiplication sentence in unit form.

S: 3 tens X 3 = 9 tens.

T: Write the answer in standard form.

S: (Write 90.)

Continue with the following possible sequence: 3 hundreds X 3, 3 thousands X 3, 4 ones X 3, 4 tens X 3, 4 thousands X 3, 5 thousands X 2, 5 tens X 4, 5 hundreds X 8, and 8 tens X 6.

**Lesson 30**

Fluency Practice (12 minutes)

⬛⬛ Draw a Unit Fraction 3.3C (4 minutes)

⬛⬛ Divide Three Different Ways 4.4E, 4.4F (4 minutes)

⬛⬛ Multiply Units 4.4C, 4.4D (4 minutes)

**Draw a Unit Fraction (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Grade 3 geometry and fraction concepts in anticipation of Modules 4 and 5.

Accept reasonable drawings. Using rulers and protractors is not necessary to review the concept and takes too long.

T: On your personal white boards, draw a quadrilateral with 4 equal sides and 4 right angles.

S: (Draw.)

T: What’s the name of a quadrilateral with 4 equal sides and 4 right angles?

S: Square.

T: Partition the square into 3 equal parts.

S: (Partition.)

T: Shade in 1 part of 3.

S: (Shade.)

T: Write the fraction of the square that’s shaded.

S: (Write 1/3.)

Repeat the process, partitioning a rhombus into fourths, a rectangle into fifths, and a rectangle into eighths.

**Divide Three Different Ways (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews content from Lessons 28 and 29.

T: (Write 732 ÷ 6.) Solve this problem by drawing place value disks.

S: (Solve.)

T: Solve 732 ÷ 6 using the area model.

S: (Solve.)

T: Solve 732 ÷ 6 using the standard algorithm.

S: (Solve.)

Continue with this possible suggestion: 970 ÷ 8.

**Multiply Units (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 4.

T: (Write 4 ones X 3.) Solve. Say the multiplication sentence in unit form.

S: 4 ones X 3 = 12 ones.

T: Write the equation in standard form.

S: (Write 4 X 3 = 12.)

T: (Write 4 tens X 3.) Solve. Write the equation in standard form.

S: (Write 40 X 3 = 120.)

T: (Write 4 tens X 3 tens.) Solve. Write the equation in standard form.

S: (Write 40 X 30 = 1,200.)

T: (Write 3 X 2.) Solve. Say the multiplication sentence.

S: 3 X 2 = 6.

T: Write the equation in unit form.

S: (Write 3 ones X 2 = 6 ones.)

T: (Write 30 X 2.) Solve. Write the equation in unit form.

S: (Write 3 tens X 2 = 6 tens.)

T: (Write 30 X 20.) Solve. Write the equation in unit form.

S: (Write 3 tens X 2 tens = 6 hundreds.)

Continue with the following possible sequence: 30 X 5, 30 X 50, 3 tens X 6, 3 tens X 6 tens, 50 X 4,

5 tens X 8 tens, and 60 X 50.

**Lesson 31**

Fluency Practice (12 minutes)

⬛⬛ Draw and Label Unit Fractions 3.3C (4 minutes)

⬛⬛ Divide Three Different Ways 4.4E, 4.4F (4 minutes)

⬛⬛ Multiply by Multiples of 10 4.4B (4 minutes)

**Draw and Label Unit Fractions (4 minutes)**

Materials: (S) Personal white board

Notes: This fluency activity reviews Grade 3 geometry and fraction concepts in anticipation of Modules 4 and 5. Accept reasonable drawings. Using rulers and protractors is not necessary to review the concept and takes too long.

T: On your personal white boards, write the name for any four-sided figure.

S: (Write quadrilateral .)

T: Draw a quadrilateral that has 4 right angles but not 4 equal sides.

S: (Draw a rectangle that is not a square.)

T: Partition the rectangle into 3 equal parts.

S: (Partition.)

T: Label the whole rectangle as 1. Write the unit fraction in each part.



Continue partitioning and labeling with the following possible sequence: a square as 4 fourths, a rhombus as 2 halves, a square as 5 fifths, and a rectangle as 6 sixths.

**Divide Three Different Ways (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews content from Lessons 28 and 29.

T: (Write 348 ÷ 6.) Find the quotient using place value disks.

S: (Solve.)

T: Find the quotient using the area model.

S: (Solve.)

T: Find the quotient using the standard algorithm.

S: (Solve.)

Continue for 2,816 ÷ 8.

**Multiply by Multiples of 10 (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 30’s content.

T: (Write 40 X 22 = 22 X 10 X \_\_\_\_.) On your personal

white boards, fill in the unknown factor to create a

multiplication sentence.

S: (Write 40 X 22 = 22 X 10 X 4.)

T: What’s 22 X 10?

S: 22 X 10 = 220.

T: (Write 220 X 4 = \_\_\_\_.) On your boards, write the answer.

S: (Write 220 X 4 = 880.)

Continue with the following possible sequence: 30 X 21, 30 X 43, and 50 X 39.

**Lesson 32**

Fluency Practice (12 minutes)

⬛⬛ Draw a Unit Fraction 3.3C (4 minutes)

⬛⬛ Divide Three Different Ways 4.4E, 4.4F (4 minutes)

⬛⬛ Multiply by Multiples of 10 Written Vertically 4.4C, 4.4D (4 minutes)

**Draw a Unit Fraction (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Grade 3 geometry and fraction concepts in anticipation of Modules 4 and 5. Accept reasonable drawings. Using rulers is not necessary to review the concept and takes too long.

T: On your personal white boards, write the name for any four-sided figure.

S: (Write quadrilateral .)

T: Draw a quadrilateral that has 4 right angles and 4 equal sides.

S: (Draw a square.)

T: Partition the square into 4 equal parts.

S: (Partition.)

T: Shade in 1 of the parts.

S: (Shade.)

T: Write the fraction of the square that you shaded.

S: (Write 1/4 .)

Continue with the following possible sequence: Partition a rectangle into 5 equal parts, shading 1/5 ; partition a rhombus into 2 equal parts, shading 1/2; partition a square into 12 equal parts, shading 1/12; and partition a rectangle into 8 equal parts, shading 1/8.

**Divide Three Different Ways (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lessons 28 and 29.

T: (Write 406 ÷ 7.) Find the quotient using place value disks.

T: Find the quotient using the area model.

T: Find the quotient using the standard algorithm.

Repeat using 3,168 ÷ 9.

Multiply by Multiples of 10 Written Vertically (4 minutes)

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 31’s content.

T: (Write 30 X 23 vertically.) When I write 30 X 23, you say “3 tens times 3 ones plus 3 tens times 2

tens.” (Point to the corresponding expressions as students speak.)

S: 3 tens times 3 ones + 3 tens times 2 tens.

T: Write and solve the entire equation vertically.

T: What is 30 times 23?

S: 690.

Continue with the following possible sequence: 30 X 29, 40 X 34, and 50 X 45.

**Lesson 33**

Fluency Practice (10 minutes)

⬛⬛ Decompose 90 and 180 4.7E (4 minutes)

⬛⬛ Multiply by Multiples of 10 Written Vertically 4.4C, 4.4D (6 minutes)

**Decompose 90 and 180 (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for composing and decomposing benchmark angles of 90 and 180 degrees in Module 4.

T: (Project a number bond with a whole of 90 and a part of 10.) On your personal white boards, fill in

the unknown part in the number bond.

S: (Fill in 80.)

T: (Write 90 – 10 = \_\_\_\_.) Say the subtraction sentence.

S: 90 – 10 = 80.

Continue decomposing 90, taking away the following possible suggested parts: 20, 30, 85, 40, 45, 25, 35,

and 15.

Using the same process, take away the following possible suggested parts from 180: 10, 100, 90, 70, 150, 60, 5, 15, 75, 65, and 45.

**Multiply by Multiples of 10 Written Vertically (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 31’s content.

T: Solve 30 X 23 vertically as you say the unit form: 3 tens times 3 ones plus 3 tens times 2 tens. You

have one minute. If you finish early, go on to 40 X 23.

T: (Allow students a minute to work.) 3 tens times 3 ones is… ?

S: 9 tens. (Write 90.)

T: 3 tens times 2 tens is… ?

S: 6 hundreds. (Write 600.)

T: The sum of 90 and 600 is… ?

S: 690.

T: 30 groups of 23 is… ?

S: 690.

Continue with the following possible sequence: 40 X 23, 40 X 34, 50 X 45, and 60 X 39.

**Lesson 34**

Fluency Practice (10 minutes)

⬛⬛ Decompose 90 and 180 4.7E (4 minutes)

⬛⬛ Multiply by Multiples of 10 Written Vertically 4.4C, 4.4D (6 minutes)

**Decompose 90 and 180 (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for composing and decomposing benchmark angles of 90 and 180 degrees in Module 4.

T: (Project a number bond with a whole of 90 and a part of 10.) On your personal white boards, fill in

the unknown part in the number bond.

S: (Fill in 80.)

T: (Write 90 – 10 = .) Say the subtraction sentence.

S: 90 – 10 = 80.

Continue decomposing 90, taking away the following possible suggested parts:

20, 30, 85, 40, 45, 25, 35, and 15.

Repeat the process, taking away the following possible suggested parts from 180:

10, 100, 90, 70, 150, 60, 5, 15, 75, 65, and 45.

**Multiply by Multiples of 10 Written Vertically (6 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 31’s content.

T: Solve 20 X 67 vertically as you say the unit form: 2 tens times 7 ones plus 2 tens times 6 tens. You

have one minute. If you finish early, go on to 20 X 78.

T: (Allow students a minute to work.) 2 tens times 7 ones is… ?

S: 14 tens. (Write 140.)

T: 2 tens times 6 tens is… ?

S: 12 hundreds. (Write 1,200.)

T: The sum of 140 and 1,200 is… ?

S: 1,340.

T: 20 groups of 67 is… ?

S: 1,340.

Continue with the following possible sequence: 20 X 78, 30 X 45, 30 X 67, and 40 X 75.