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**TEKS Grade 3 Module 3 Fluencies**

**Lesson 1**

Fluency Practice (12 minutes)

⬛ Multiply a Number by Itself 3.4F (4 minutes)

⬛ Commutative Property of Multiplication 3.4F (4 minutes)

⬛ Group Counting 3.4E (4 minutes)

**Multiply a Number by Itself (4 minutes)**

Materials: (S) Personal white board

Note: Students will review multiplying by 1 in anticipation of today’s lesson. Encourage students to say that multiplying by 1 means the number stays the same.

T: (Project an array with 1 group of 2 circles.) Say the multiplication equation.

S: 1 times 2 = 2

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

T: What can you say about multiplying any number by 1?

S: When you multiply a number by 1 it stays the same.  1 times any number is that number.

**Commutative Property of Multiplication (4 minutes)**

Note: This fluency reviews the commutative property of multiplication and anticipates its use

in today’s lesson.

T: (Project an array with the 4 groups of 3 circles.) Write 2 multiplication and two division

sentences for this array.

S: (Write 3 x 4 = 12, 4 x 3 = 12, 12 ÷ 4 = 3, and 12 ÷ 3 = 4.)

Continue with following suggested sequence: 3 groups of 5, 2 groups of 6, 7 groups of 3, and 4 groups of 6.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as

repeated addition. It reviews foundational strategies for

multiplication from Module 1 and anticipates Module 3.

Direct students to count forward and backward, occasionally

changing the direction of the count:

⬛ Threes to 30

⬛ Fours to 40

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⬛ Sixes to 60

⬛ Sevens to 70

⬛ Eights to 80

⬛ Nines to 90

As students’ fluency with skip-counting improves, help them make a connection to multiplication by tracking the number

of groups they count using their fingers.

**Lesson 2**

Fluency Practice (12 minutes)

⬛ Draw Strip Diagrams 3.4E (4 minutes)

⬛ Familiar Facts 3.4F (4 minutes)

⬛ Group Counting 3.4E (4 minutes)

**Draw Strip Diagrams (4 minutes)**

Materials: (S) Personal white board

Note: Students will review yesterday’s lesson.

T: (Project: A blue paper strip is 3 times as long as a red paper strip. The red paper strip is 1 unit long.

How long is the blue paper strip?) Draw this comparison on your personal white board.

S: (Draw.)

T: What multiplication equation can you use to find the length of the blue paper strip?

S: 1 x 3 = 3.

T: What is the length of the blue paper strip?

S: The blue paper strip is 3 units long.

Repeat the process with this possible sequence: A yellow paper strip is 4 times as long as a red paper strip.

If the red paper strip is 1 unit long, how long is the yellow paper strip?

A blue paper strip is 4 centimeters long. The blue paper strip is 5 times as long as a red paper strip. How long is the red paper strip?

**Familiar Facts (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the relationship between multiplication and division from

Module 1 in anticipation of today’s lesson.

T: (Write 5 x 3 = \_\_\_\_\_.) Say the multiplication sentence.

S: 5 x 3 = 15.

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T: (Write 5 x 3 = 15. To the right, write 15 ÷ 3 = \_\_\_\_\_.) On your personal white board, write the division

sentence.

S: (Write 15 ÷ 3 = 5.)

Repeat the process for and 5 x 6 and 8 x 10.

T: (Write \_\_\_\_\_ x 4 = 12.) Say the unknown factor.

S: 3.

T: (Write 12 ÷ 3 = \_\_\_\_\_.) On your board, write the division sentence.

S: (Write 12 ÷ 3 = 4.)

Repeat the process for \_\_\_ x 8 = 48.

T: (Write 90 ÷ 10 = \_\_\_\_\_.) On your personal white board, write the division sentence.

S: (Write 90 ÷ 10 = 9.)

Repeat the process for 70 ÷ 10 = \_\_\_\_\_.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. It reviews foundational

strategies for multiplication from Module 1 and anticipates Module 3.

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

⬛ Threes to 30

⬛ Fours to 40

⬛ Sixes to 60

⬛ Sevens to 70

⬛ Eights to 80

⬛ Nines to 90

As students’ fluency with skip-counting improves, help them make a connection to multiplication by tracking the number of groups they count using their fingers.

**Lesson 3**

Fluency Practice (12 minutes)

⬛ Find the Unknown Factor 3.4J (4 minutes)

⬛ Multiplication Facts as Comparisons 3.5C (4 minutes)

⬛ Group Counting 3.4E (4 minutes)

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

Materials: (S) Personal white board

Note: Finding the unknown factor allows students to practice division facts.

T: (Project 3 x \_\_\_ = 15.) On your personal white board, write the unknown factor.

S: (Write 5.)

T: Say the multiplication sentence.

S: 3 x 5 = 15.

Repeat the process with the following possible sequence: 5 x \_\_\_\_\_ = 15; 5 x \_\_\_\_\_ = 40; 8 x \_\_\_\_\_ = 40;

5 x \_\_\_\_\_ = 50; 10 x \_\_\_\_\_ = 50.

**Multiplication Facts as Comparisons (4 minutes)**

Materials: (S) Personal white board

T: (Project 4 x 6.)

T: Say the multiplication expression.

S: 4 times 6.

T: Another way to say this multiplication expression is 4 times as much as 6. Repeat that.

S: 4 times as much as 6.

Table

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T: On your personal white boards, draw that as a comparison.

T/S: (Draw.)

T: What is 4 times as much as 6?

S: 24.

Repeat the process with the following possible sequence: 5 times as much as 6; 4 times as much as 5; 5 times as much as 5; 4 times as much as 7 and 5 times as much as 7.

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**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. It reviews foundational

strategies for multiplication from Module 1 and anticipates Module 3.

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

⬛ Threes to 30

⬛ Fours to 40

⬛ Sixes to 60

⬛ Sevens to 70

⬛ Eights to 80

⬛ Nines to 90

As students’ fluency with skip-counting improves, help them make a connection to multiplication by tracking the number of groups they count using their fingers.

**Lesson 4**

Fluency Practice (12 minutes)

⬛ Find the Unknown Factor 3.4J (4 minutes)

⬛ Multiplication Facts as Comparisons 3.5C (4 minutes)

⬛ Group Counting 3.4E (4 minutes)

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

Materials: (S) Personal white board

Note: Finding the unknown factor allows students to practice

division facts.

T: (Project 4 x \_\_\_ = 24.) On your personal white board, write

the unknown factor.

S: (Write 6.)

T: Say the multiplication sentence.

S: 4 x 6 =24.

Repeat the process with the following possible sequence:

6 x \_\_\_\_\_ = 24; 5 x \_\_\_\_\_ = 30; 6 x \_\_\_\_\_ = 30; 6 x \_\_\_\_\_ = 42;

7 x \_\_\_\_\_ = 42.

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**Multiplication Facts as Comparisons (4 minutes)**

Materials: (S) Personal white board

T: (Project 4 x 7.)

T: Say the multiplication expression.

S: 4 times 7.

T: Another way to say this multiplication expression is 4 times as much as

7. Repeat that.

S: 4 times as much as 7.

T: On your personal white boards, draw that as a comparison.

T/S: (Draw.)

T: What is 4 times as much as 7?

S: 28.

Table

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Repeat the process with the following possible sequence: 5 times as much as 7; 6 times as much as 7; 8 times as much as 8; 5 times as much as 8 and 6 times as much as 8.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated

addition. It reviews foundational strategies for multiplication from

Module 1 and anticipates Module 3.

Direct students to count forward and backward, occasionally changing

the direction of the count:

⬛ Threes to 30

⬛ Fours to 40

⬛ Sixes to 60

⬛ Sevens to 70

⬛ Eights to 80

⬛ Nines to 90

As students’ fluency with skip-counting improves, help them make

a connection to multiplication by tracking the number of groups they count using their fingers.

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**Lesson 5**

Fluency Practice (15 minutes)

⬛ Sprint: Mixed Multiplication 3.4E, 3.4F (9 minutes)

⬛ Group Counting 3.4E (3 minutes)

⬛ Commutative Property of Multiplication 3.4K (3 minutes)

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

Materials: (S) Mixed Multiplication Sprint

Note: This Sprint reviews familiar multiplication facts from Module 1 and prepares students for today’s

lesson on using commutativity with known facts to find unknown facts.

**Group Counting (3 minutes)**

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

**Commutative Property of Multiplication (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the commutative property from Module 1 and anticipates its use in today’s lesson.

T: (Project array with 3 groups of 2 circles.) Write two multiplication sentences and two division

sentences for this array.

S: (Write 3 x 2 = 6, 2 x 3 = 6, 6 ÷ 2 = 3, and 6 ÷ 3 = 2.)

Continue with the following suggested sequence: 2 groups of 9, 3 groups of 7, and 5 groups of 8.

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**Lesson 6**

Fluency Practice (15 minutes)

⬛ Sprint: Use the Commutative Property to Multiply 3.4F, 3.4K (9 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Make Ten 3.4K (2 minutes)

**Sprint: Use the Commutative Property to Multiply (9 minutes)**

Materials: (S) Use the Commutative Property to Multiply Sprint

Note: This Sprint reviews Lesson 5.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sixes, sevens, eights, and nines in this activity anticipates multiplication using those units later in the module. Focusing on the mentioned transitions bolsters student understanding of the distributive property of multiplication.

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

⬛ Sixes to 60, emphasizing the 30 to 36 transition

⬛ Sevens to 70, emphasizing the 35 to 42 transition

⬛ Eights to 80, emphasizing the 40 to 48 transition

⬛ Nines to 90, emphasizing the 45 to 54 transition

**Make Ten (2 minutes)**

Note: This fluency activity prepares students for the skip-counting strategies used to multiply units of 6 and 7 in Lessons 8 and 9.

T: (Write 9 + \_\_ = 10.) Say the unknown addend.

S: 1.

Continue with the following suggested sequence: 1 + \_\_ = 10, 5 + \_\_ = 10, 8 + \_\_ = 10, 2 + \_\_ = 10,

6 + \_\_ = 10, 7 + \_\_ = 10, 4 + \_\_ = 10, and 3 + \_\_ = 10.

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**Lesson 7**

Fluency Practice (14 minutes)

⬛ Multiply by 5 3.4E, 3.4F (7 minutes)

⬛ Multiply Using the Distributive Property 3.4K (5 minutes)

⬛ Make Ten 3.4K (2 minutes)

**Multiply by 5 (8 minutes)**

Materials: (S) Multiply by 5 (6–10) Pattern Sheet

Note: This activity builds fluency with multiplication facts using units of 5. It works toward students knowing from memory all products of two one-digit numbers.

T: (Write 7 × 5 = \_\_\_\_.) Let’s skip-count up by fives. I’ll raise a finger for each five. (Raise a finger for

each number to track the count.)

S: 5, 10, 15, 20, 25, 30, 35.

T: Let’s skip-count by fives starting at 25. Why is 25 a good place to start?

S: It’s a fact we already know, so we can use it to figure out a fact we don’t know.

T: (Track with fingers as students say the numbers.)

S: 25 (5 fingers), 30 (6 fingers), 35 (7 fingers).

T: Let’s see how we can skip-count down to find the answer, too. Start at 50 with 10 fingers, 1 for each

five. (Count down with fingers as students say the numbers.)

S: 50 (10 fingers), 45 (9 fingers), 40 (8 fingers), 35 (7 fingers).

Continue with the following possible sequence: 9 x 5, 6 x 5, and 8 x 5.

T: (Distribute the Multiply by 5 Pattern Sheet.) Let’s practice multiplying by 5. Be sure to work left to

right across the page.

**Multiply Using the Distributive Property (5 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the n + 1 strategy from

Lesson 6.

T: (Project a 6 x 9 array, covering the sixth row of 9.)

How many groups of 9 are there?

S: 5.

T: Let’s find how many are in the array counting by fives.

(Point as students count.)

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S: 5, 10, 15, 20, 25, 30, 35, 40, 45.

T: Let’s find how many are in the array counting by nines.

(Point as students count.)

S: 9, 18, 27, 36, 45.

T: Write two multiplication sentences for this array.

S: (Write 9 x 5 = 45 and 5 x 9 = 45.)

T: (Reveal the sixth row of 9.) How many groups of 9 are there now?

S: 6.

T: Add 1 more group of 9 to 45. (Write 45 + 9 = \_\_\_\_\_.) On your board, write the addition sentence.

S: (Write 45 + 9 = 54.)

T: On your board, write two multiplication sentences for this array.

S: (Write 9 x 6 = 54 and 6 x 9 = 54.)

Continue with the following suggested sequence: 5 × 8 → 6 × 8, 5 × 7 → 6 × 7, and 5 × 6 → 6 × 6.

**Make Ten (2 minutes)**

Note: This fluency activity prepares students for the skip-counting strategies used to multiply units of 6 and 7 in Lessons 8 and 9.

T: I’ll say a number between 0 and 10. You say the number that you add to it to make ten. 9.

S: 1.

Continue with the following suggested sequence: 8, 7, 6, 5, 9, 1, 8, 2, 7, 3, 6, 4, 8, 4, 7, 3, 6, 1, 2, 5, and 9.

**Lesson 8**

Fluency Practice (15 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Familiar Facts 3.5D (4 minutes)

⬛ Multiply Using the Distributive Property 3.4K (4 minutes)

⬛ Make Ten Game 3.4K (3 minutes)

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**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sixes and sevens

prepares students for multiplication using those units in this topic. Group counting by eights and nines

anticipates multiplication using those units later in the module. 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

**Familiar Facts (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the relationship between multiplication and division from Module 1 and

uses a box to represent the unknown from 7 in this module, Grade 3 Module 3.

T: (Write 6 × 2 = .) On your personal white board, write the value of the box .

S: (Write = 12.)

T: (Write 6 × 2 = 12. To the right, write 12 ÷ 6 = .) On your board, write the value of the box .

S: (Write = 2.)

Repeat the process for the following: 7 × 3= , 21 ÷ 7 = , × 4 = 24, 24 ÷ 4 = , × 2= 18, 18 ÷ 2 = ,

16 = × 2, 16 ÷ 8 = , 45 = 5 × , and 45 ÷ 9 = .

**Multiply Using the Distributive Property (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the n + 1 strategy from Lesson 6.

T: (Project a 6 x 6 array, covering the sixth row of 6.) How many groups of 6 are there?

S: 5.

T: Let’s find how many are in the array counting by fives. (Point as students count.)

S: 5, 10, 15, 20, 25, 30.

T: Let’s find how many are in the array counting by sixes. (Point as students count.)

S: 6, 12, 18, 24, 30.

T: Write two multiplication sentences for this array.

S: (Write 6 × 5 = 30 and 5 × 6 = 30.)

T: (Reveal the sixth row of 6.) How many groups of 6 are there now?

S: 6.

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T: Add 1 more group of 6 to 30. (Write 30 + 6 = \_\_\_\_.) On your board, write the addition sentence.

S: (Write 30 + 6 = 36.)

T: On your board, write a multiplication sentence for this array.

S: (Write 6 × 6 = 36.)

Continue with the following suggested sequence: 5 × 8 → 6 × 8, 5 × 7 → 6 × 7, and 5 × 9 → 6 × 9.

**Make Ten Game (3 minutes)**

Materials: (S) Set of playing cards numbered 1–9

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

Students play in pairs. Each pair has a set of 9 cards, each with a number 1–9.

T: (Write \_\_\_\_ + \_\_\_\_ = 10.) Spread the cards out in front of you.

T: Put your hands behind your back. I’ll write a number in the first blank. When you know the number

that belongs in the second blank, touch the card that shows the number. The first person to touch

the card keeps it. Whoever has the most cards at the end wins. (Write 8 + \_\_\_\_ = 10.)

S: (Touch the 2 card. The first to touch it keeps the card.)

Continue with the following suggested sequence: 5, 2, 7, 1, 4, 3, and 6; students replace cards: 1, 5, 3, 2, 4, 7, and 6; students replace cards: 4, 7, 3, 9, and 6.

**Lesson 9**

Fluency Practice (15 minutes)

⬛ Multiply by 6 3.4E, 3.4F (7 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Make Seven Game 3.4K (4 minutes)

**Multiply by 6 (7 minutes)**

Materials: (S) Multiply by 6 (1–5) (Pattern Sheet)

Note: This activity builds fluency with multiplication facts using units of six. It supports students knowing

from memory all products of two one-digit numbers.

T: (Write 5 × 6 = \_\_\_\_.) Let’s skip-count by sixes to find the answer. I’ll raise a finger for each six. (Count

with fingers to 5 as students count, and record the count-by sequence on the board.)

S: 6, 12, 18, 24, 30.

T: (Circle 30, and write 5 × 6 = 30 above it. Write 3 × 6 = \_\_\_\_.) Let’s skip-count up by sixes again. (Count

with fingers to 3 as students count.)

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S: 6, 12, 18.

T: Let’s see how we can skip-count down to find the answer, too. Start at 30 with 5 fingers, 1 for each

six. (Count down with your fingers as students say numbers.)

S: 30 (5 fingers), 24 (4 fingers), 18 (3 fingers).

Repeat the process for 4 x 6.

T: Let’s practice multiplying by 6. Be sure to work left to right across the page.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sevens prepares students for multiplication using units of seven in this lesson. Group counting by eights and nines anticipates multiplication using those units later in the module. Direct students to count forward and backward, occasionally changing the direction of the count:

⬛ Sevens to 70

⬛ Eights to 80

⬛ Nines to 90

**Make Seven Game (4 minutes)**

Materials: (S) Set of playing cards numbered 1–6

Note: This activity prepares students for the skip-counting strategy used to multiply units of seven in today’s lesson.

Students play in pairs. Each pair has a set of six cards, each with a number 1–6.

T: (Write \_\_\_ + \_\_\_ = 7.) Spread the cards out in front of you.

T: Put your hands behind your back. I’ll write a number in the first blank. When you know the number

that belongs in the second blank, touch the card that shows the number. The first person to touch

the card keeps it. Whoever has the most cards at the end wins. (Write 5 + \_\_ = 7.)

S: (Touch the 2 card. The first to touch it keeps the card.)

Continue with the following suggested sequence: 1, 4, 2, 3, and 6.

**Lesson 10**

Fluency Practice (15 minutes)

⬛ Multiply by 6 3.4E, 3.4F (7 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Decompose the Multiplication Sentence 3.4K (4 minutes)

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**Multiply by 6 (7 minutes)**

Materials: (S) Multiply by 6 (6–10) (Pattern Sheet)

Note: This activity builds fluency with multiplication facts using

units of six. It supports students knowing from memory all products

of two one-digit numbers.

T: (Write 7 × 6 = \_\_\_\_.) Let’s skip-count up by sixes. I’ll raise

a finger for each six. (Count with fingers to 7 as students

count.)

S: 6, 12, 18, 24, 30, 36, 42.

T: Let’s skip-count by sixes starting at 30. Why is 30 a good place to start?

S: It’s a fact we already know, so we can use it to figure out a fact we don’t know.

T: Let’s see how we can skip-count down to find the answer, too. Start at 60 with 10 fingers, 1 for each

six. (Count down with your fingers as students say numbers.)

S: 60 (10 fingers), 54 (9 fingers), 48 (8 fingers), 42 (7 fingers).

Continue with the following suggested sequence: 9 x 6, 6 x 6, and 8 x 6.

T: Let’s practice multiplying by 6. Be sure to work left to right across the page.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sixes reviews multiplication using units of six in this topic and prepares students for today’s lesson. Group counting by eights and nines anticipates multiplication using those units later in the module. Direct students to count forward and backward, occasionally changing the direction of the count:

⬛ Sixes to 60

⬛ Eights to 80

⬛ Nines to 90

**Decompose the Multiplication Sentence (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews using the distributive property.

T: (Write 6 × 6 = (5 + \_\_) × 6.) On your personal white

board, copy and fill in the equation.

S: (Write (6 × 6) = (5 + 1) × 6.)

T: (Write = (\_\_ × 6) + (\_\_ × 6).) Copy and fill in the

equation.

S: (Write (5 x 6) + (1 x 6).)

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T: Write an addition equation. Below it, write your answer.

S: (Write 30 + 6 and 36 below it.)

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Continue with the following suggested sequence: 8 x 6, 7 x 6, and 9 x 6.

**Lesson 11**

Fluency Practice (15 minutes)

⬛ Multiply by 7 3.4E, 3.4F (6 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Add 6 and 7 Mentally 2.4A, 2.4B (5 minutes)

**Multiply by 7 (6 minutes)**

Materials: (S) Multiply by 7 (1–5) (Pattern Sheet)

Note: This activity builds fluency with multiplication facts using units of seven. It supports students knowing from memory all products of two one-digit numbers.

T: (Write 5 x 7 = \_\_\_\_.) Let’s skip-count by sevens to find the answer. I’ll raise a finger for each seven.

(Count with fingers to 5 as students count, and record the count-by sequence on the board.)

S: 7, 14, 21, 28, 35.

T: (Circle 35 and write 5 x 7 = 35 above it. Write 3 x 7 = \_\_\_\_.) Let’s skip-count up by sevens again.

(Count with fingers to 3 as students count.)

S: 7, 14, 21.

T: Let’s see how we can skip-count down to find the answer, too. Start at 35 with 5 fingers, 1 for each

seven. (Count down with fingers as students say numbers.)

S: 35 (5 fingers), 28 (4 fingers), 21 (3 fingers).

Repeat the process for 4 x 7.

T: Let’s practice multiplying by 7. Be sure to work left to right across the page.

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sixes reviews multiplication using units of six from Topic C. Group counting eights prepares students for multiplication in this topic. Group counting nines anticipates multiplication using units of nine later in the module.

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

⬛ Sixes to 60

⬛ Eights to 80

⬛ Nines to 90

**Add 6 and 7 Mentally (5 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the make ten strategy used for skip-counting by sixes and sevens in Lessons 8

and 9.

T: (Project 6 + 6 = \_\_\_.) Say the expression.

S: 6 + 6.

T: 6 and what make ten?

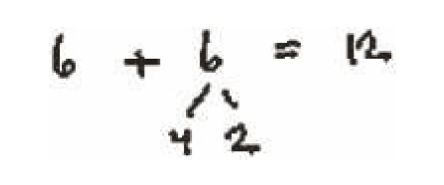
S: 4.

T: (Draw a number bond beneath the second 6.) On your personal white board, break apart the

second 6, taking out the 4.

S: (Write the number bond.)

T: Say the addition sentence.



S: 6 + 6 = 12.

Continue with the following possible sequence: 12 + 6, 18 + 6, 24 + 6, 30 + 6, 36 + 6, 42 + 6, 48 + 6, 54 + 6, 7 + 7, 14 + 7, 21 + 7, 28 + 7, 35 + 7, 42 + 7, 49 + 7, 56 + 7, and 63 + 7.

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**Lesson 12**

Fluency Practice (11 minutes)

⬛ Multiply by 7 3.4E, 3.4F (7 minutes)

⬛ Write In the Parentheses 3.4K (4 minutes)

**Multiply by 7 (7 minutes)**

Materials: (S) Multiply by 7 (6–10) (Pattern Sheet)

Note: This activity builds fluency with multiplication facts using

units of seven. It supports students knowing from memory all

products of two one-digit numbers.

T: (Write 6 x 7 = \_\_\_\_.) Let’s skip-count up by sevens to

solve. I’ll raise a finger for each seven.

(Count with fingers to 6 as students count.)

S: 7, 14, 21, 28, 35, 42.

T: Let’s skip-count down to find the answer, too.

Start at 70. (Count down with fingers as students

count.)

S: 70, 63, 56, 49, 42.

Continue with the following suggested sequence: 8 x 7, 7 x 7, and 9 x 7.

T: Let’s practice multiplying by 7. Be sure to work left to right across the page.

**Write In the Parentheses (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the use of parentheses taught in Lesson 11.

T: (Write 10 – 5 + 3 = 8.) On your board, copy the equation. Then, insert parentheses to make the

statement true.

S: (Write (10 – 5) + 3 = 8.)

Continue with the following suggested sequence: 10 – 5 + 3 = 2, 10 = 20 – 7 + 3, 16 = 20 – 7 + 3,

8 + 2 x 4 = 40, 8 + 2 x 4 = 40, 12 = 12 ÷ 2 x 2, 3 = 12 ÷ 2 x 2, 10 = 35 – 5 x 5, and 20 – 10 ÷ 5 = 2.

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**Lesson 13**

Fluency Practice (11 minutes)

⬛ Multiply by 8 3.4E, 3.4F (7 minutes)

⬛ Take from the Ten 3.4K (4 minutes)

**Multiply by 8 (7 minutes)**

Materials: (S) Multiply by 8 (1–5) (Pattern Sheet)

Note: This activity builds fluency with multiplication facts using units of 8. It supports students knowing from memory all products of two one-digit numbers.

T: (Write 5 x 8 = \_\_\_\_.) Let’s skip-count by eights to find the answer. I’ll raise a finger for each eight.

(Count with fingers to 5 as students count, and record the count-by sequence on the board.)

S: 8, 16, 24, 32, 40.

T: (Circle 40 and write 5 x 8 = 40 above it. Write 3 x 8 = \_\_\_\_.) Let’s skip-count up by eights again.

(Count with fingers to 3 as students count.)

S: 8, 16, 24.

T: Let’s see how we can skip-count down to find the answer, too. Start at 40 with 5 fingers, 1 for each

eight. (Count down with fingers as students say numbers.)

S: 40 (5 fingers), 32 (4 fingers), 24 (3 fingers).

Repeat the process for 4 x 8.

T: Let’s practice multiplying by 8. Be sure to work left to right across the page.

**Take from the Ten (4 minutes)**

Materials: (S) Personal white board

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

T: (Write 20 – 2 = \_\_\_\_.) Say the subtraction sentence in unit form.

S: 2 tens – 2 ones.

T: (Point to the 20.) Let’s break apart the 20, taking out 10 ones. How many tens are left?

S: 1 ten.

T: What’s 10 ones – 2 ones?

S: 8 ones.

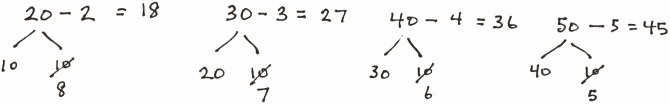
T: (Write 8.)

T: What’s 20 – 2?

S: 18.

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T: (Write 20 – 2 = 18.)



T: (Write 30 – 3 = \_\_\_\_.) After writing the equation, break apart the 30, taking out 10 ones.

S: (Break apart the 30 into 20 and 10.)

T: Take 3 ones from 10 ones and complete the equation.

S: (Take 3 from 10 to get 7; 30 – 3 = 27.)

Continue with the following possible sequence: 40 – 4, 50 – 5, 60 – 6, 70 – 7, 80 – 8, and 90 – 9.

**Lesson 14**

Fluency Practice (15 minutes)

⬛ Multiply by 8 3.4E, 3.4F (7 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Divide by 9 3.4J (4 minutes)

**Multiply by 8 (7 minutes)**

Materials: (S) Multiply by 8 (6–10) (Pattern Sheet)

Note: This activity builds fluency with respect to multiplication facts using units of 8. It supports students

knowing from memory all products of two one-digit numbers.

T: (Write 6 x 8 = \_\_\_\_.) Let’s skip-count up by eights to solve. (Count with fingers to 6 as students

count.)

S: 8, 16, 24, 32, 40, 48.

T: Let’s skip-count down to find the answer, too. Start at 80. (Count down from 10 fingers as students

count.)

S: 80, 72, 64, 56, 48.

T: Let’s skip-count up again to find the answer, but this time start at 40. (Count up from 5 fingers as

students count.)

S: 40, 48.

Continue with the following possible sequence: 8 x 8, 7 x 8, and 9 x 8.

T: Let’s practice multiplying by 8. Be sure to work left to right across the page.

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**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. Counting by sixes, sevens, and

eights reviews multiplication taught previously in the module. Direct students to count forward and backward,

occasionally changing the direction of the count:

⬛ Sixes to 60

⬛ Sevens to 70

⬛ Eights to 80

**Divide by 9 (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews using a box to represent the unknown, which was first taught in

Lesson 7.

T: (Write x 9 = 18.) On your personal white board, write the value of .

S: (Write = 2.)

T: (Write 18 ÷ 9 = \_\_\_.) Say the division sentence.

S: 18 ÷ 9 = 2.

Continue with the following possible sequence: x 9 = 45, x 9 = 36, x 9 = 54, x 9 = 27, x 9 = 90,

x 9 = 81, and x 9 = 72.

**Lesson 15**

Fluency Practice (9 minutes)

⬛ Sprint: Multiply or Divide by 8 3.4E, 3.4F (9 minutes)

**Sprint: Multiply or Divide by 8 (8 minutes)**

Materials: (S) Multiply or Divide by 8 Sprint

Note: This Sprint reviews Lessons 11 and 12, focusing on the relationship between multiplying and dividing using units of 8.

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**Lesson 16**

Fluency Practice (11 minutes)

⬛ Multiply with 10 3.4F, 3.4G (3 minutes)

⬛ Multiply or Divide 3.4F (4 minutes)

⬛ Complete the Number Sentence 3.5D (4 minutes)

**Multiply with 10 (3 minutes)**

Note: This fluency activity anticipates Lesson 18, which involves multiplying by multiples of 10 using the place value chart.

T: I’ll say a fact. You say the whole equation. 10 x 1.

S: 10 x 1 = 10.

Continue with the following possible sequence: 10 × 2, 10 × 3, 10 × 8, and 10 × 5.

T: I’ll say a product that is a multiple of 10. You say the multiplication fact starting with 10. 20.

S: 10 x 2 = 20.

Continue with the following possible sequence: 30, 40, 90, 50, and 10.

**Multiply or Divide (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews multiplication and division facts within 100.

T: (Write 6 x 1 = \_\_\_.) Say the multiplication sentence.

S: 6 x 1 = 6.

Continue with the following possible sequence: 6 x 2 and 6 x 3.

T: On your personal white board, show the answer to 6 x 7. If you need to, skip-count.

S: (Write 42.)

Continue with the following possible sequence, asking students to write answers to the harder problems on their personal white boards, while asking them to orally answer the easier problems: 30 ÷ 6, 24 ÷ 6, 60 ÷ 6,

54 ÷ 6, 7 × 1, 7 × 2, 7 × 3, 7 × 8, 35 ÷ 7, 28 ÷ 7, 70 ÷ 7, 63 ÷ 7, 49 ÷ 7, 8 × 1, 8 × 2, 8 × 3, 8 × 9, 40 ÷ 8, 48 ÷ 8, 32 ÷ 8, 80 ÷ 8, 64 ÷ 8, 9 × 1, 9 × 2, 9 × 3, 9 × 8, 45 ÷ 9, 36 ÷ 9, 54 ÷ 9, 90 ÷ 9, 81 ÷ 9, and 63 ÷ 9.

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**Complete the Number Sentence (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews multiplication and division using units of 0 and 1.

T: (Write \_\_\_ x 1 = 6.) On your personal white board, complete the equation.

S: (Write 6 x 1 = 6.)

Continue with the following possible sequence: \_\_ × 1 = 7, 9 × \_\_ = 9, 8 × \_\_ = 8, 7 ÷ \_\_ = 7, 9 ÷ \_\_ = 9,

7 ÷ \_\_ = 1, 9 ÷ \_\_ = 1, 8 × \_\_ = 0, 6 × \_\_ = 0, 0 ÷ 7 = \_\_, 0 ÷ 9 = \_\_, \_\_ ÷ 8 = 0, \_\_ ÷ 6 = 0, \_\_ × 1 = 8, 7 × \_\_ = 7,

6 ÷ \_\_ = 6, 9 x \_\_ = 0, 6 ÷ \_\_ = 1, 0 ÷ 6 = \_\_, \_\_ ÷ 9 = 0, and 9 ÷ \_\_ = 1.

**Lesson 17**

Fluency Practice (15 minutes)

⬛ Sprint: Multiply and Divide with 1 and 0 3.4F, 3.5D (8 minutes)

⬛ Multiply with 10 3.4F, 3.4G (3 minutes)

⬛ Group Counting 3.4E (4 minutes)

**Sprint: Multiply and Divide with 1 and 0 (8 minutes)**

Materials: (S) Multiply and divide with 1 and 0 Sprint

Note: This Sprint reviews Lesson 15, which involves rules and properties when multiplying and dividing with 1 and 0.

**Multiply with 10 (3 minutes)**

Note: This fluency activity anticipates Lesson 18, which involves multiplying by multiples of 10 using the place value chart.

T: I ’ll say a fact. You say the whole equation. 10 x 1.

S: 10 x 1 = 10.

Continue with the following possible sequence: 10 x 2, 10 x 3, 10 x 9, and 10 x 7.

T: I’ll say a product that is a multiple of 10. You say the multiplication fact starting with 10. 20.

S: 10 x 2 = 20.

Continue with the following possible sequence: 30, 40, 80, and 60.

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**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. These counts review

multiplication taught previously in the module. 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 18**

Fluency Practice (15 minutes)

⬛ Group Counting 3.4E (4 minutes)

⬛ Multiply with 10 3.4F, 3.4G (3 minutes)

⬛ Multiply by Different Units 3.4F, 3.4G (4 minutes)

⬛ Exchange Place Value Disks 3.4F, 3.4G (4 minutes)

**Group Counting (4 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. These counts review the

multiplication taught previously in the module. 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 with 10 (3 minutes)**

Note: This fluency activity prepares students for this lesson.

T: I’ll say a multiplication problem. You say the whole equation. 10 x 1.

S: 10 x 1 = 10.

Continue with the following possible sequence: 10 x 2, 10 x 3, 10 x 8, and 10 x 6.

T: I’ll say a multiple of 10. You say the multiplication fact starting with 10. 20.

S: 10 x 2 = 20.

Continue with the following possible sequence: 30, 40, 90, 70, and 50.

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

Materials: (S) Personal white board

Note: This fluency activity prepares students for this lesson.

T: (Write 2 x 3 = \_\_\_.) Say the multiplication equation in unit form.

S: 2 x 3 ones = 6 ones.

T: (Write 2 X3 cats = \_\_\_.) On your personal white board, write the multiplication equation.

Continue with the following possible sequence: 3 x 4, 3 x 4 dogs; 4 x 5, 4 x 5 pencils; 5 x 6, 5 x 6 books;

6 x 7, 6 x 7 cars; 7 x 8, 7 x 8 turtles; 8 x 9, 8 x 9 chairs; and 9 x 7, 9 x 7 flowers.

**Exchange Place Value Disks (4 minutes)**

Materials: (S) Place value disks

Note: This fluency activity prepares students for this lesson.

T: Make an array showing 3 by 2 ones. As a multiplication equation, say how many ones you have.

S: 3 x 2 ones = 6 ones.

Continue with the following possible sequence: 3 by 3 ones, 4 by 2 ones, and 5 by 2 ones.

T: 10 ones can be exchanged for 1 of what unit?

S: 1 ten.

T: Exchange 10 ones for 1 ten.

T: Make an array showing 4 by 5 ones.

T: Say how many ones you have as a multiplication equation.

S: 4 x 5 ones = 20 ones.

T: Say the multiplication equation again; this time, say the answer in units of 10.

S: 4 x 5 ones = 2 tens.

T: Exchange 20 ones for 2 tens.

**Lesson 19**

Fluency Practice (15 minutes)

⬛ Multiply by 9 3.4E, 3.4F (7 minutes)

⬛ Multiply by Different Units 3.4F, 3.4G (4 minutes)

⬛ Write in the Parentheses 3.4E (4 minutes)

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**Multiply by 9 (7 minutes)**

Materials: (S) Multiply by 9 (1–5) (Pattern Sheet)

Note: This activity builds fluency with respect to multiplication facts using units of 9. It supports students

knowing from memory all products of two one-digit numbers.

T: (Write 5 x 9 = \_\_\_\_.) Let’s skip-count by nines to find the answer. (Count with fingers to 5 as students

count and record the count-by sequence on the board.)

S: 9, 18, 27, 36, 45.

T: (Circle 45 and write 5 x 9 = 45 above it. Write 3 x 9 = \_\_\_\_.) Let’s skip-count up by nines again.

(Count with fingers to 3 as students count.)

S: 9, 18, 27.

T: (Circle 27 and write 3 x 9 = 27 above it.) Let’s see how we can skip-count down to find the answer, too.

Start at 45 with 5 fingers, 1 for each nine. (Count down with your fingers as students say numbers.)

S: 45 (5 fingers), 36 (4 fingers), 27 (3 fingers).

Repeat the process for 4 x 9.

T: (Distribute the Multiply By 9 Pattern Sheet.) Let’s practice multiplying by 9. Be sure to work left to

right across the page.

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

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 18.

T: (Write 2 x 3 = \_\_\_\_.) Say the multiplication equation in unit form.

S: 2 ones x 3 = 6 ones.

T: Say it in standard form.

S: 2 x 3 = 6.

T: (Write 2 tens x 3 = \_\_\_\_.) On your personal white board, write the multiplication equation in unit

form.

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

T: Below your equation, write a second multiplication equation in standard form.

S: (Write 20 x 3 = 60.)

Continue with the following possible sequence: 4 x2, 4 tens x 2, 5 x 3, 5 x 3 tens, 6 x 4, and 6 x 4 tens.

T: (Write 7 x 6 = \_\_\_\_.) Say the multiplication equation.

S: 7 x 6 = 42.

T: (Write 70 x 6 = \_\_\_\_.) Write the multiplication equation.

S: (Write 70 x 6 = 420.)

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Continue with the following possible sequence: 8 x 8, 8 x 80; 9 x 8, 90 x 8; 6 x 6, 60 x 6; 8 x 7, 8 x 70; 4 x 9,

40 x 9; and 9 x 6, 90 x 6.

**Write in the Parentheses (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the use of parentheses and prepares students for today’s lesson.

T: (Write 4 x 5 = 2 x 2 x 5.) What’s 4 x 5?

S: 20.

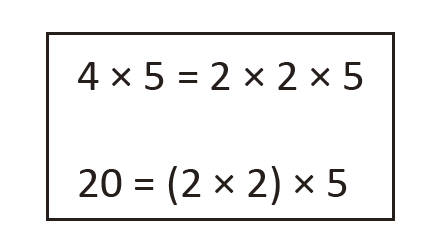
T: On your personal white board, copy the equation. Then, underneath the

equation, write in parentheses and solve.

S: (Write 4 x 5 = 2 x 2 X5. Beneath it, write 20 = (2 x 2) x 5.)

Continue with the following possible sequence: 6 x 4 = 6 x 2 x 2, 6 x 6 = 6 x 2 x 3, 4 X 7 = 2 X 2 X 7,

7 X 8 = 7 X 4 X 2, 8 X4 = 8 X 2 X 2, 8 X6 = 8 X 3 X 2, 9 X 6 = 9 X 3 X 2, and 9 X 8 = 9 X 4 X 2.

 A

**Lesson 20**

Fluency Practice (12 minutes)

⬛ Sprint: Multiply by Multiples of 10 3.4F (9 minutes)

⬛ Exchange Number Disks 3.2A (3 minutes)

**Sprint: Multiply by Multiples of 10 (9 minutes)**

Materials: (S) Multiply by Multiples of 10 Sprint

Note: This Sprint reviews Lesson 18, which involved multiplying single-digit numbers by multiples of 10.

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**Exchange Place Value Disks (3 minutes)**

Materials: (S) Place value disks

Note: This fluency activity prepares students for this lesson.

T: Make an array showing 4 by 2 ones. As a multiplication equation, say how many ones you have.

S: 4 X2 ones = 8 ones.

Repeat with 5 by 2 ones.

T: 10 ones can be exchanged for 1 of what unit?

S: 1 ten.

T: Exchange 10 ones for 1 ten.

T: Make an array showing 6 by 5 ones.

T: Say how many ones you have as a multiplication equation.

S: 6 X5 ones = 30 ones.

T: Say the multiplication equation again; this time, say the answer in units of 10.

S: 6 X5 ones = 3 tens.

T: Exchange 30 ones for 3 tens.

**Lesson 21**

Fluency Practice (12 minutes)

⬛ Multiply by 9 3.4E, 3.4F (7 minutes)

⬛ Multiply by Different Units 3.4F (5 minutes)

**Multiply by 9 (7 minutes)**

Materials: (S) Multiply by 9 (6–10) (Pattern Sheet)

Note: This activity builds fluency with respect to multiplication facts using units of 9. It supports students

knowing from memory all products of two one-digit numbers.

T: (Write 6 X9 = \_\_\_\_.) Let’s skip-count up by nine to solve. (Count with fingers to 6 as students

count.)

S: 9, 18, 27, 36, 45, 54.

T: Let’s skip-count down to find the answer, too. Start at 90. (Starting with 10 fingers, count down as

students count.)

S: 90, 81, 72, 63, 54.

T: Let’s skip-count up again to find the answer, but this time start at 45. (Starting with 5 fingers, count

up as students count.)

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S: 45, 54.

Continue with the following possible suggestions: 8 X9, 7 X9, and 9 X9.

T: (Distribute the Multiply by 9 Pattern Sheet.) Let’s practice multiplying by 9. Be sure to work left to

right across the page.

**Multiply by Different Units (5 minutes)**

Materials: (S) Personal white board

Note: This fluency activity prepares students for this lesson.

T: (Write 3 X 2 = \_\_\_.) Say the multiplication equation in unit

form.

S: 3 X 2 ones = 6 ones.

T: (Write 6 on the line. Underneath 3 X 2 = 6 write

3 X 2 tens = \_\_\_ tens.) Say the multiplication equation

in unit form.

S: 3 X2 tens = 6 tens.

T: Now say the equation in standard form.

S: 3 X 20 = 60.

T: (Write 60 on the line.)

Continue with the following possible sequence: 4 X 3, 4 X 3 tens; 3 X 6, 3 X 6 tens; 8 X 5, 8 X 5 tens;

6 X 7, 6 X 7 tens; 7 X 7; 7 X 7 tens; 8 X 8, 8 X 8 tens; 9 X 4, 9 X 4 tens; and 9 X 7, 9 X 7 tens.

**Lesson 22**

Fluency Practice (12 minutes)

⬛ Sprint: Multiply and Divide by 9 3.4F (9 minutes)

⬛ Expanded Notation 3.2A (3 minutes)

**Sprint: Multiply or Divide by 9 (9 minutes)**

Materials: (S) Multiply or Divide by 9 Sprint

Note: This Sprint reviews Lessons 13–14, focusing on the

relationship between multiplication and division using

units of 9.

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**Expanded Notation (3 minutes)**

Materials: (S) Personal white board

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

multiplication sentences into a series of multiplication sentences.

T: (Write 20 + 3.) Say the addition sentence with the answer in standard form.

S: 20 + 3 = 23.

T: Write the number in expanded notation.

S: (2 X10) + (3 X1).

Repeat the process for the following sequence: 80 + 7 and 90 + 4.

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

S: 200 + 30 + 4 = 234.

T: Write the number in expanded notation.

S: (2 X100) + ( 3 X10) + (4 X1).

Repeat the process for the following possible sequence: 300 + 50 + 8 and 400 + 7 + 90.

T: (Write 57.) Say the number.

S: Fifty-seven.

T: On your personal white board, write 57 in expanded notation.

S: (Write 57 = (5 X10) + (7 X1).)

Repeat the process for the following possible sequence: 32 and 78.

T: (Write 572.) Say the number.

S: Five hundred, seventy-two.

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

S: (Write 572 = (5 X100) + (7 X10) + (2 X1).)

Repeat the process using the following possible sequence: 427, 831 and 2,370.

**Lesson 23**

Fluency Practice (7 minutes)

⬛ Group Counting 3.4E (3 minutes)

⬛ Write in the Parentheses 3.4E (4 minutes)

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**Group Counting (3 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition. These counts review

multiplication taught previously in the module. 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

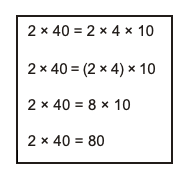
**Write in the Parentheses (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews Lesson 19.

T: (Write 2 x 40 = 2 x 4 x 10.) What’s 2 x 40?

S: 80.



T: On your personal white board, copy the number sentence. Then, write in parentheses and solve.

S: (Write as shown in the box.)

Continue with the following possible sequence: 3 x 30 = 3 x 3 x 10 and 2 x 50 = 2 x 5 x 10.

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