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TEKS Grade 3 Module 5 Fluencies

**Lesson 1**

Fluency Practice (12 minutes)

Group Counting 3.4E (6 minutes)

Multiplication by Four and Eight 3.4E (6 minutes)

**Group Counting (6 minutes)**

Materials: (S) Personal white board

Note: Group counting reviews interpreting multiplication as repeated addition. Count forward and backward by fours twice using personal white boards. Pause between each counting sequence so students see improvement on the second try. After doing the fours twice, have students underline multiples of 8 (e.g., 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 36, 32, 28, 24, 20, 16, 12, 8, 4, 0). Then, count forward and backward by eights twice, pausing between each counting sequence to analyze weak points.

**Multiplication by Four and Eight (6 minutes)**

Materials: (S) Personal white board (optional)

Note: Choose a mode of delivery (e.g., oral work, personal white boards). This activity reviews multiplication using units of four and eight.

Guide students to write and pair facts of 4 and 8 and uncover the doubling:

2 X 4 = 8 2 X 8 = 16

3 X 4 = 12 3 X 8 = 24

4 X 4 = 16 4 X 8 = 32

**Lesson 2**

Fluency Practice (12 minutes)

Group Counting 3.4E (6 minutes)

Multiplication by Three and Six 3.4E (6 minutes)

**Group Counting (6 minutes)**

Materials: (S) Personal white board

Note: Group counting reviews interpreting multiplication as repeated addition.

Count forward and backward by threes twice. Pause between each counting sequence so that students see improvement on the second try. After doing the threes twice, have students underline the multiples of 6 (e. g., 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 27, 24, 21, 18, 15, 12, 9, 6, 3, 0.) Then, count forward and backward by sixes twice, pausing between each counting sequence to analyze weak points.

**Multiplication by Three and Six (6 minutes)**

Materials: (S) Personal white board (optional)

Note: Choose a mode of delivery (e.g., oral work, personal white boards). This activity reviews multiplication using units of three and six.

Guide students to write and pair facts of 3 and 6 and uncover the doubling:

2 X 3 = 6 2 X 6 = 12

3 × 3 = 9 3 X 6 = 18

4 X 3 = 12 4 X 6 = 24

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**Lesson 3**

Fluency Practice (12 minutes)

Sprint: Multiply with Six 3.4F (10 minutes)

Group Counting 3.4E (2 minutes)

**Sprint: Multiply with Six (10 minutes)**

Materials: (S) Multiply with Six Sprint

Note: This Sprint supports fluency with multiplication using

units of 6.

**Group Counting (2 minutes)**

Note: Group counting reviews interpreting multiplication as repeated addition.

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

Sevens to 70

Eights to 80

Nines to 90

**Lesson 4**

Fluency Practice (11 minutes)

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

Group Counting 3.4E (2 minutes)

**Sprint: Multiply and Divide by Six (9 minutes)**

Materials: (S) Multiply and Divide by Six Sprint

Note: This Sprint supports fluency with multiplication and

division using units of 6.

**Group Counting (2 minutes)**

Note: Group counting reviews interpreting multiplication as

repeated addition.

Direct students to count forward and backward, occasionally

changing the direction of the count.

Sixes to 60

Eights to 80

Nines to 90

**Lesson 5**

Fluency Practice (10 minutes)

Model Multiplicative Comparisons 3.5C (5 minutes)

Write the Fractional Unit 3.3C (5 minutes)

**Model Multiplicative Comparisons (5 minutes)**

Materials: (S) Personal white board

Note: This fluency reviews multiplicative comparison from Module 3.

If students have difficulty with the number sentences, more generalized

language using contexts (as seen in the first example) may be used

throughout the fluency.

T: I will make a statement. You draw a strip diagram to match. Be

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sure to label it.

T: A blue string is 3 times as long as a red string. Draw a strip

diagram to show the comparison.

S: (Draw.)

T: (Write 3 X 4 = 12.) Twelve is 3 times as much as 4. Draw a strip

diagram to show the comparison.

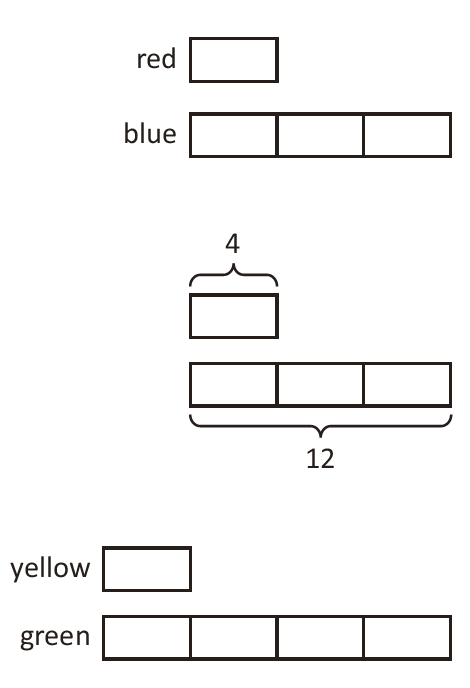
S: (Draw.)

T: Green is 4 times as long as yellow. Draw a model.

S: (Draw.)

T: (20 = 4 X 5.) Twenty is four times as many as 5.

Continue the sequence with: 2 × 4 = 8 (Eight is twice as much as four.); 3 × 2 = 6; 4 × 9 = 36; 5 × 2 = 10.



**Write the Fractional Unit (5 minutes)**

Materials: (S) Personal white board

Note: This activity reviews naming fractional units, as well as identifying shaded parts of a shape.

T: (Draw a shape with 2 units, 1 shaded in.) Write the fractional unit on your personal white board.

S: (Write halves.)

T: Blank halves are shaded. Write the number that goes in the blank.

S: (Write 1.)

Continue with the following possible sequence: 1 third, 2 thirds, 1 fourth, 3 fourths, 2 fifths, 3 fifths.

**Lesson 6**

Fluency Practice (15 minutes)

Count by Eight 3.4E (5 minutes)

Write the Fractional Unit 3.3C, 3.3E (5 minutes)

Partition Shapes 3.3A, 3.3C, 3.3E (5 minutes)

**Count by Eight (5 minutes)**

Materials: (S) Personal white board

Note: This activity supports fluency with multiplication using units of 8.

1. Students count by eight as high as they can for 90 seconds. 0, 8, 16, 24, 32, 40, 48, 56, etc.

2. Correct by reading the multiples. Students practice for an additional minute after correction.

3. Students count by eight once again. Quickly celebrate improvement.

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**Write the Fractional Unit (5 minutes)**

Materials: (S) Personal white board

Note: This activity reviews naming fractional units, as well as identifying shaded parts of a shape from

Topic A.

T: (Draw a shape with 3 units, 2 shaded in.) Write the fractional unit on your personal white board.

S: (Write thirds.)

T: Blank thirds are shaded. Write the number that goes in the blank.

S: (Write 2.)

Continue with the following possible sequence: 3 fourths, 2 fifths, 5 sixths, 7 tenths, and 5 eighths.

**Partition Shapes (5 minutes)**

Materials: (S) Personal white board

Note: This activity reviews partitioning shapes into equal parts from Topic A.

T: Draw a square.

S: (Draw.)

T: (Write halves.) Estimate to partition the square into equal halves.

S: (Partition.)

Continue with the following possible sequence: line, fifths; circle, fourths; circle, eighths; bar, tenths;

and bar, sixths.

**Lesson 7**

Fluency Practice (12 minutes)

Sprint: Multiply with Seven 3.4E , 3.4F (8 minutes)

Write the Unit Fraction 3.3C, 3.3E (2 minutes)Find the Whole 3.3H (2 minutes)

**Sprint: Multiply with Seven (8 minutes)**

Materials: (S) Multiply with Seven Sprint

Note: This Sprint supports fluency with multiplication using units of 7.

Write the Unit Fraction (2 minutes)

Materials: (S) Personal white board

Note: This activity reviews naming unit fractions from Lesson 6.

T: (Draw a shape with 1

2 shaded.) Write the unit fraction.

S: (Write 1

2 .)

Continue with the following possible sequence: 1

4 , 1

8 , 1

6 , 1

10 , and 1

5 .

**Write the Unit Fraction (2 minutes)**

Materials: (S) Personal white board

Note: This activity reviews naming unit fractions from Lesson 6.

T: (Draw a shape with 1

2 shaded.) Write the unit fraction.

S: (Write 1/2 .)

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Continue with the following possible sequence: 1/4, 1/8, 1/6, 1/10, and 1/5 .

**Find the Whole (2 minutes)**

Note: This activity prepares students for their work with non-unit fractions in this lesson.

T: (Project a number bond with parts 3

5 and 2

5 .) Say the bigger part.

S: 3 fifths.

T: Say the smaller part.

S: 2 fifths.

T: How many fifths are in the whole?

S: 5 fifths.

T: (Write 55

in the whole space.) Say the number sentence.

S: 3 fifths and 2 fifths equals 5 fifths.

Continue with the following possible sequence: 7/10 and 3/10 , 5/8 and 3/8 . Replace 8 eighths with 1 whole.

**Lesson 8**

Practice (12 minutes)

Group Counting 3.4E (2 minutes)

Sprint: Multiply and Divide by Seven 3.4E , 3.4F (8 minutes)

Skip-Count by Halves on the Clock 3.3C, 3.7C (2 minutes)

**Group Counting (2 minutes)**

Materials: (S) Personal white board

Note: Group counting reviews interpreting multiplication as repeated addition.

Direct students to count forward and backward by nine to 90 on their personal white boards.

T: Circle 27. How many nines did you count?

S: 3 nines.

T: What is 27 divided by 9?

S: 3.

Continue with the following possible sequence: 18, 81, 45, 36, 54, 72, 9, and 63.

**Sprint: Multiply and Divide by Seven (8 minutes)**

Materials: (S) Multiply and Divide by Seven Sprint

Note: This Sprint supports fluency with multiplication and division using units of 7.

**Skip-Count by Halves on the Clock (2 minutes)**

Materials: (T) Clock

Note: This activity reviews counting by halves on the clock from Module 2.

T: (Hold or project a clock.) Let’s skip-count by halves on the clock starting with 1 o’clock.

S: 1, half past 1, 2, half past 2, 3, half past 3, 4, (switch direction), half past 3, 3, half past 2, 2, half past

1, 1.

Continue counting up and down.

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**Lesson 9**

Fluency Practice (12 minutes)

Unit and Non-Unit Fractions of 1 Whole 3.3A, 3.3C, 3.3E (2 minutes)

Sprint: Identify Fractions 3.3C, 3.3E (10 minutes)

**Unit and Non-Unit Fractions of 1 Whole (2 minutes)**

Materials: (S) Personal white board

Note: This activity reviews naming the shaded and unshaded equal parts of a whole.

T: (Draw a shape partitioned in halves with 1 half shaded.) Write the fraction that is shaded.

S: (Write 1/2 .)

T: Write the fraction that is not shaded.

S: (Write 1/2 .)

Continue with the following possible sequence of shaded and non-shaded parts: 2/3 and 1/3 , 4/5 and 1/5 , 9/10 and 1/10 ,and 7/8 and 1/8 .

**Sprint: Identify Fractions (10 minutes)**

Materials: (S) Identify Fractions Sprint

Note: This Sprint supports fluency with identifying shaded parts of shapes. Have students keep Sprint B to use in the Concept Development.

**Lesson 10**

Fluency Practice (12 minutes)

Sprint: Multiply with Eight 3.4E , 3.4F (8 minutes)

Find the Unknown Part 3.3H (2 minutes)

Skip-Count by Halves on the Clock 3.3C, 3.7C (2 minutes)

Sprint: Multiply with Eight (8 minutes)

Materials: (S) Multiply with Eight Sprint

Note: This Sprint supports fluency with multiplication using units of 8.

**Find the Unknown Part (2 minutes)**

Note: This activity reviews representing parts of one whole as number bonds from Lesson 8.

T: (Project a number bond with 3/3

as the whole and 2/3 as a part.) Say the whole.

S: 3 thirds.

T: Say the known part.

S: 2 thirds.

T: Say the unknown part.

S: 1 third.

T: (Write 1

3 in the unknown part.)

Continue with the following possible sequence: 6/6

and 1/6 , 8/8 and 3

8 , 1 whole and 3/10 , and 1 whole and 7/12 .

**Skip-Count by Halves on the Clock (2 minutes)**

Materials: (T) Clock

Note: This activity reviews counting by halves on the clock from Module 2.

T: (Hold or project a clock.) Let’s skip-count by halves on the clock, starting with 5 o’clock.

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S: 5, half past 5, 6, half past 6, 7.

T: Stop. Skip-count by halves backward, starting with 7.

S: Half past 6, 6, half past 5, 5, half past 4, 4, half past 3, 3.

Continue counting up and down.

**Lesson 11**

Fluency Practice (12 minutes)

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

Skip-Count by Fourths on the Clock 3.3C, 3.7C (2 minutes)

Greater or Less Than 1 Whole 3.3B, 3.3C (1 minute)

**Sprint: Multiply and Divide by Eight (9 minutes)**

Materials: (S) Multiply and Divide by Eight Sprint

Note: This Sprint supports fluency with multiplication and division using units of 8.

**Skip-Count by Fourths on the Clock (2 minutes)**

Materials: (T) Clock

Note: This activity reviews counting by fourths on the clock from Module 2.

T: (Hold or project a clock.) Let’s skip-count by fourths on the clock starting with 1 o’clock.

S: 1, 1:15, 1:30, 1:45, 2, 2:15, 2:30, 2:45, 3.

Continue with the following possible sequences:

1, 1:15, half past 1, 1:45, 2, 2:15, half past 2, 2:45, 3.

1, quarter past 1, half past 1, quarter ’til 2, 2, quarter past 2, half past 2, quarter ’til 3, 3.

**Greater or Less Than 1 Whole (1 minute)**

Note: This activity reviews identifying fractions greater and less than 1 whole.

T: (Write 1/2

.) Greater or less than 1 whole?

S: Less!

Continue with the following possible sequence: 3/2, 5/4, 3/4, 3/7, 5/3, and 5/2. It may be appropriate for some classes to draw responses on personal white boards for extra support.

**Lesson 12**

Fluency Practice (8 minutes)

Skip-Count by Fourths on the Clock 3.3C, 3.7C (3 minutes)

Greater or Less Than 1 Whole 3.3B, 3.3C (2 minutes)

Write Fractions Greater Than 1 Whole 3.3C (3 minutes)

**Skip-Count by Fourths on the Clock (3 minutes)**

Materials: (T) Clock

Note: This activity reviews counting by fourths on the clock from Module 2.

T: (Hold or project a clock.) Let’s skip-count by fourths

on the clock, starting with 5 o’clock.

S: 5, 5:15, 5:30, 5:45, 6, 6:15, 6:30, 6:45, 7.

Continue with the following possible sequences:

5, 5:15, half past 5, 5:45, 6, 6:15, half past 6, 6:45, 7.

5, quarter past 5, half past 5, quarter ’til 6, 6, quarter

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past 6, half past 6, quarter ’til 7, 7.

**Greater or Less Than 1 Whole (2 minutes)**

Note: This activity reviews identifying fractions greater and less than 1 whole.

T: (Write 1/2.) Is this greater or less than 1 whole?

S: Less!

Continue with the following possible sequence: 1/2, 3/2, 1/3, 2/3, 4/3, 5/3, 3/4, 5/4, 11/10, 9/10, 11/8, 5/8, 11/6, 5/6, 11/12, and 13/12. It may be appropriate for some classes to draw responses on personal white boards for extra support.

**Write Fractions Greater Than 1 Whole (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews writing fractions greater than 1 whole from Lesson 10. As students build

confidence, omit the first 2 questions.

T: How many halves are in 1 whole?

S: 2 halves.

T: What’s 1 more half than 2 halves?

S: 3 halves.

T: Write a fraction on your personal white board that is 1 more half than 1 whole.

S: (Write 3/2.)

Continue with the following possible sequence: 1/3, 1/4, 1/5, 1/10, 1/6, and 1/8.

**Lesson 13**

Fluency Practice (12 minutes)

Sprint: Multiply with Nine 3.4E , 3.4F (6 minutes)

Unit and Non-Unit Fractions of 1 Whole 3.3A, 3.3C (3 minutes)

More Units Than 1 Whole 3.3C (3 minutes)

**Sprint: Multiply with Nine (6 minutes)**

Materials: (S) Multiply with Nine Sprint

Note: This Sprint supports fluency with multiplication using units of 9.

**Unit and Non-Unit Fractions of 1 Whole (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews naming the shaded and unshaded equal parts of a whole, as well as drawing

number bonds to represent the fractional parts of 1 whole.

T: (Draw a shape partitioned in halves with 1 half shaded.) Write the fraction that is shaded.

S: (Write 1/2

.)

T: Write the fraction that is not shaded.

S: (Write 1/2.)

T: Draw the number bond.

S: (Draw a number bond showing that 1 half and 1 half equal 2 halves.)

Continue with the following possible sequence: 2/3 and 1/3, 4/5 and 1/5, 9/10

and 1/10, and 7/8 and 1/8.

**More Units Than 1 Whole (3 minutes)**

Materials: (S) Personal white board (optional)

Note: This activity reviews naming fractions greater than 1

whole from Lesson 10. It may be appropriate for some classes to

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draw responses on personal white boards for extra support.

T: What’s 1 more fifth than 1 whole?

S: 6 fifths.

T: 2 more fifths than 1 whole?

S: 7 fifths.

Continue with the following possible sequence: 4 fifths, 3 fifths, 1 tenth, 7 tenths, 1 third, 2 thirds, 1 eighth, 5 eighths, 1 sixth, and 5 sixths.

**Lesson 14**

Fluency Practice (9 minutes)

Skip-Count by Fourths on the Clock 3.3C, 3.7C (3 minutes)

Division 3.4J (3 minutes)

Draw a Whole 3.3D (3 minutes)

**Skip-Count by Fourths on the Clock (3 minutes)**

Materials: (T) Clock

Note: This activity reviews counting by fourths on the clock from Module 2.

T: (Hold or project a clock.) Let’s skip-count by fourths on the clock starting with 1 o’clock.

S: 1, quarter past 1, half past 1, quarter ’til 2, 2, quarter past 2, half past 2, quarter ’til 3, 3.

T: Stop. From 3:00, skip-count by fourths backward.

S: 3, quarter ’til 3, half past 2, quarter past 2, 2, quarter ’til 2, half past 1, quarter past 1, 1.

Continue counting up and down by fourths.

**Division (3 minutes)**

Note: This activity reviews division from Modules 1 and 3.

T: (Write 4 ÷ 2 = \_\_\_\_.) Say the number sentence and the answer.

S: 4 divided by 2 equals 2.

Continue with the following possible sequence: 6 ÷ 2, 6 ÷ 3, 8 ÷ 2, 8 ÷ 4, 10 ÷ 2, 10 ÷ 5, 12 ÷ 2, 12 ÷ 6, 12 ÷ 4, and 12 ÷ 3.

**Draw a Whole (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews representing the whole when given 1 equal part from Lesson 13.

T: Draw 1 unit on your personal white board.

S: (Draw 1 unit.)

T: Label the unit 1/3. (After students label.) Now draw a possible whole that corresponds to your unit

of 1/3.

Continue with the following possible sequence: 1/5, 1/6, 1/4, and 1/2.

**Lesson 15**

Fluency Practice (12 minutes)

Division 3.4J (8 minutes)

Counting by Fractional Units 3.3C, 3.3D (3 minutes)

Unit Fractions in 1 Whole 3.3A, 3.3C (1 minute)

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**Division (8 minutes)**

Materials: (T) Timer (S) Personal white board or paper

Note: This activity supports fluency with division facts.

T: Write as many different division facts as you can in the next three minutes. Take your mark, get set,

go!

S: (Work independently.)

T: (At three minutes.) Share your work with your partner. Check to see if your partner’s problems are

correct.

S: (Work with a partner.)

T: Try again for three minutes. Take your mark, get set, go!

S: (Work independently.)

T: (At three minutes.) Check your work with your partner. Tell your partner what division facts are

easy for you.

S: (Work with a partner.)

T: Who improved? How did you improve? What helped you do more problems correctly?

**Counting by Fractional Units (3 minutes)**

Note: This activity reviews counting by fractional units and

supports students as they work with fractions on the number

line in Topic D.

T: Count by eighths from 1 eighth to 8 eighths and back

to 0.

S: 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8, 8/8, 7/8, 6/8, 5/8, 4/8, 3/8, 2/8, 1/8 , 0.

Continue with the following possible sequence: fifths, thirds,

and fourths.

**Unit Fractions in 1 Whole (1 minute)**

Note: This activity reviews how many unit fractions are in 1

whole, which is a skill that the students use during the Concept

Development.

T: I’ll say a unit fraction. You say how many there are in 1 whole. 1 fifth.

S: 5. It takes 5 copies of 1 fifth to make 1 whole.

Continue with the following possible sequence: 1 tenth, 1 fourth, 1 third, 1 eighth, and 1 half.

**Lesson 16**

Fluency Practice (9 minutes)

**Counting by Fractional Units 3.3C, 3.3D (3 minutes)**

Division 3.4J (3 minutes)

Place Unit Fractions on a Number Line Between 0 and 1 3.3A (3 minutes)

Counting by Fractional Units (3 minutes)

Note: This activity reviews counting by fractional units and supports students as they work with fractions on the number line in Topic D.

T: Count by fourths from 1 fourth to 8 fourths and back to 0.

S: 1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 7/4, 6/4, 5/4, 4/4, 3/4, 2/4, 1/4 , 0. Continue with the following possible sequence: thirds, halves, and fifths.

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**Division (3 minutes)**

Note: This activity supports fluency with division facts.

T: (Write 4 ÷ 4 = .) Say the number sentence and answer.

S: 4 divided by 4 equals 1.

Continue with the following possible sequence: 4 ÷ 2, 4 ÷ 1, 10 ÷ 10, 10 ÷ 5, 10 ÷ 2, 10 ÷ 1, 6 ÷ 6, 6 ÷ 3,

6 ÷ 1,

8 ÷ 8, 8 ÷ 4, 8 ÷ 2, 8 ÷ 1, 15 ÷ 15, 15 ÷ 5, 15 ÷ 3, 15 ÷ 1, 12 ÷ 12, 12 ÷ 6, 12 ÷ 4, 12 ÷ 3, 12 ÷ 2, 12 ÷ 1, 16 ÷ 16,

16 ÷ 8, 16 ÷ 4, 16 ÷ 2, and 16 ÷ 1.

**Place Unit Fractions on a Number Line Between 0 and 1 (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of placing unit fractions

on a number line from Lesson 15.

T: (Draw a number line with endpoints 0 and 1.) Draw my

number line on your personal white board.

S: (Draw.)

T: Estimate to show and label 1 half.

S: (Estimate the halfway point between 0 and 1, and

write 1/2.)

Continue with the following possible sequence: 1/10, 1/4, 1/8, 1/3, 1/5, and 1/6.

**Lesson 17**

Fluency Practice (12 minutes)

Sprint: Multiply and Divide by Nine 3.4F, 3.4J (7 minutes)

Counting by Fractional Units 3.3C, 3.3D (2 minutes)

Place Fractions on a Number Line Between 0 and 1 3.3A (3 minutes)

**Sprint: Multiply and Divide by Nine (7 minutes)**

Materials: (S) Multiply and Divide by Nine Sprint

Note: This Sprint supports fluency with multiplication and division using units of 9.

**Counting by Fractional Units (2 minutes)**

Note: This activity reviews counting by fractional units and supports students as they work with fractions on the number line in Topic D.

T: Count by halves from 1 half to 6 halves and back to 0.

S: 1/2, 2/2, 3/2, 4/2, 5/2, 6/2, 7/4, 5/2, 4/2, 3/2, 2/2, ½, 0.

Continue with the following possible sequence: thirds, fifths, and fourths.

**Place Fractions on a Number Line Between 0 and 1 (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of placing fractions on a number line from Lesson 16.

T: (Draw a number line with endpoints 0 and 1.) Draw

my number line on your personal white board.

S: (Draw.)

T: Estimate to mark and label 1 fifth.

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S: (Estimate 1 fifth of the distance between 0 and 1, and

write 1

5.)

T: Estimate to mark and label 4 fifths.

S: (Estimate 4 fifths of the distance between 0 and 1, and

write 4

5.)

Continue with the following possible sequence:1/8, 7/8, 3/8, 5/8, ¾, and ¼.

**Lesson 18**

Fluency Practice (12 minutes)

Sprint: Division 3.4F, 3.4J (8 minutes)

Place Fractions on a Number Line 3.3A (3 minutes)

Compare Unit Fractions 3.3H (1 minutes)

**Sprint: Division (8 minutes)**

Materials: (S) Division Sprint

Note: This Sprint supports fluency with division using various units.

**Place Fractions on a Number Line (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of placing fractions on a number line from Lesson 17.

T: (Draw a number line marked at 0, 1, 2, and 3.) Draw my number line on your personal white board.

S: (Draw.)

T: Estimate to mark and label 1 half within the interval 0 to 1.

S: (Estimate the halfway point between 0 and 1 and write 1/2 .)

T: Estimate to mark 2 halves. Label 2 halves as a fraction.

S: (Write 2/2 above the 1 on the number line.)

Continue with the following possible sequence, drawing a new number line for the different fractional units: 4/2, 6/2, 1/5, 5/5, 10/5, 15/5, 1/3, 3/3, 9/3, 6/3, ¼, 8/4, 12/4, and 4/4.

**Compare Unit Fractions (1 minute)**

Note: This activity reviews the concept of comparing unit fractions from Topic C.

T: (Write 1

2 and 1

10.) Both fractions refer to the same whole. Say the largest fraction.

S: 1 half.

Continue with the following possible sequence: 1/2 and 1/3, 1/3 and 1/4, 1/4 and 1/6, 1/4 and 1/2, 1/6 and 1/8, 1/6 and 1/5, and 1/5 and 1/10.

**Lesson 19**

Fluency Practice (8 minutes)

Draw Number Bonds of 1 Whole 3.3D (4 minutes)

Place Fractions on the Number Line 3.3A (4 minutes)

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**Draw Number Bonds of 1 Whole (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of making copies of a unit fraction to build a whole.

T: On your personal white board, draw a number bond to

partition 1 whole into halves.

S: (Draw a number bond.)

T: How many copies of 1 half did you draw to make 1 whole?

S: 2 copies.

Continue with the following possible sequence: thirds, fourths, fifths, sixths, sevenths, and eighths.

Have students draw the models side by side and compare to notice patterns at the end.

**Place Fractions on the Number Line (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of placing fractions on a number line from Topic D.

T: (Project a number line marked at 0, 1, 2, and 3.) Draw my number line on your board.

S: (Draw.)

T: Estimate to mark and label 1 third in the interval 0 to 1.

S: (Estimate the point between 0 and 1 and write 1/3.)

T: Write 3 thirds on your number line. Label the point as a fraction.

S: (Write 3/3 above the 1 on the number line.)

Continue with the following possible sequence: 6/3, 9/3, 4/3, 7/3, 2/3, and 8/3.

**Lesson 20**

Fluency Practice (12 minutes)

Sprint: Express Fractions as Whole Numbers 3.3G (9 minutes)

Place Fractions on the Number Line 3.3A (3 minutes)

**Sprint: Express Fractions as Whole Numbers (9 minutes)**

Materials: (S) Express Fractions as Whole Numbers Sprint

Note: This Sprint reviews representing whole number fractions as whole numbers.

**Place Fractions on the Number Line (3 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of placing fractions on a number line from Topic D.

T: (Draw a number line marked at 0, 1, 2, and 3.) Draw my number line on your personal white board.

S: (Draw.)

T: Estimate to mark and label 1 third on the interval 0 to 1.

S: (Estimate the point between 0 and 1, and write 1/3.)

T: Write 3 thirds on your number line. Label the point as a fraction.

S: (Write 3/3 above the 1 on the number line.)

Continue with the following possible sequence, drawing a new number line for the different fractional units: 6/3, 9/3, 4/3, 7/3, 2/3, 8/3, ½, 2/2, 4/2, 3/2, 5/2, and 6/2.

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**Lesson 21**

Fluency Practice (9 minutes)

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

**Multiply by 7 (9 minutes)**

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

Note: This Pattern Sheet supports fluency with multiplication using units of 7.

T: Skip-count by sevens. (Write multiples horizontally as students count.)

S: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

T: (Write 5 x 7 = \_\_\_\_.) Let’s skip-count by sevens to find the answer. (Count with fingers to 5 as

students count.)

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.

(As students count, show fingers to count with them.)

S: 7, 14, 21.

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

as students say numbers.)

S: 35, 28, 21.

T: (Write 9 x 7 = \_\_\_\_.) Let’s skip-count up by sevens. (Count with fingers to 9 as students count.)

S: 7, 14, 21, 28, 35, 42, 49, 56, 63.

T: Let’s see how we can skip-count down to find the answer, too. Start at 70. (Count down with fingers

as student say numbers.)

S: 70, 63.

Continue with the following possible sequence: 6 x 7, 8 x 7, and 4 x 7.

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

**Lesson 22**

Fluency Practice (12 minutes)

Whole Number Division 3.4J (8 minutes)

1 Whole Expressed as Unit Fractions 3.3D (4 minutes)

**Whole Number Division (8 minutes)**

Materials: (S) Blank paper

Note: This activity supports fluency with division. Steps 1 and 2 are timed for two minutes. Step 3 is timed for 1 minute of testing for each partner. Step 4 is timed for two minutes.

1. Students self-select a number and write a set of multiples up to that number’s multiple of 10

vertically down the left-hand side of the page (e.g., 6, 12, 18, 24, 30, 36, 42, 48, 54, 60).

2. Select a multiple, and divide it by the original number (e.g., 24 ÷ 6 = 4).

3. Change papers and test a partner by selecting multiples out of order (e.g., “What is 24 ÷ 6?” “What

is 54 ÷ 6?” “What is 12 ÷ 6?”).

4. Redo Steps 1 and 2 to see improvement.

Let students know that the same activity will be done the next day, so they have a chance to practice and improve further, possibly advancing to the next number, which might further challenge them.

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**1 Whole Expressed as Unit Fractions (4 minutes)**

Materials: (S) Personal white board

Note: This problem reviews the concept of using a number bond to decompose 1 whole into unit fractions from Topic A.

T: Draw a number bond that partitions a whole into 3 equal parts.

S: (Draw a number bond.)

T: What is the unit fraction?

S: 1 third.

Continue with the following possible sequence: halves, fourths, fifths, sixths, and eighths.

**Lesson 23**

Fluency Practice (12 minutes)

Whole Number Division 3.4J (8 minutes)

Counting by Fractions Equal to Whole Numbers on the Number Line 3.3A, 3.3C (4 minutes)

**Whole Number Division (8 minutes)**

Materials: (S) Blank paper

Note: This activity supports fluency with division. Steps 1 and 2 are timed for two minutes each. Step 3 is

timed for one minute of testing for each partner. Step 4 is timed for two minutes.

1. Students self-select a number and write a set of multiples up to that number’s multiple of 10

vertically down the left-hand side of the page (e.g., 6, 12, 18, 24, 30, 36, 42, 48, 54, 60).

2. Select a multiple, and divide it by the original number (e.g., 24 ÷ 6 = 4).

3. Change papers and test a partner by selecting multiples out of order (e.g., “What is 24 ÷ 6?” “What

is 54 ÷ 6?” “What is 12 ÷ 6?”).

4. Redo Steps 1 and 2 to see improvement.

**Counting by Fractions Equal to Whole Numbers on the Number Line (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of naming equivalent fractions on the number line from Lesson 22.

T: (Project a number line partitioned into 12 thirds.) Count by thirds. (Write fractions as students

count.)

S: 1 third, 2 thirds, 3 thirds, 4 thirds, 5 thirds, 6 thirds, 7 thirds, 8 thirds, 9 thirds, 10 thirds, 11 thirds,

12 thirds.

T: On your personal white board, write the fractions equal to whole numbers in order from least to

greatest. Continue beyond those shown on our number line if you finish early.

S: (Write 3/3 , 6/3 , 9/3 , and 12/3 .)

Continue with the following possible sequence: halves and fourths.

**Lesson 24**

Fluency Practice (12 minutes)

Sprint: Add by Six 2.4A (8 minutes)

Find the Equivalent Fraction 3.3F (4 minutes)

**Sprint: Add by Six (8 minutes)**

Materials: (S) Add by Six Sprint

Note: This Sprint supports fluency with addition by 6.

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**Find the Equivalent Fraction (4 minutes)**

Materials: (T) Prepared fraction images (S) Personal white board

Note: This activity reviews finding equivalent fractions from Lesson 21.

T: (Project a square partitioned into 2 parts with 1 part

shaded in.) Say the shaded fraction.

S: 1 half.

T: (Write 1

2 underneath the square.) Copy my picture and

fraction on your personal white board.

S: (Copy the image and fraction on the board.)

T: (Project an identical square to the right of the first

square.) On your board, draw a second identical

square.

S: (Draw a second identical square.)

T: (Below the squares, write ½= /4.) On your board, partition your second square to make fourths, and

fill in the number sentence.

S: (Draw a horizontal line to show 2 parts of 4 shaded, and write ½ = 2/4.)

Continue with the following possible sequence: 1/2 = /6, 2/8 = /4, and 5/10 = /20.

**Lesson 25**

Fluency Practice (12 minutes)

Sprint: Add by Seven 2.4A (8 minutes)

Write Equal Fractions 3.3F (4 minutes)

**Sprint: Add by Seven (8 minutes)**

Materials: (S) Add by Seven Sprint

Note: This Sprint supports fluency with addition by 7.

**Write Equal Fractions (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the skill of finding equivalent fractions on the number line.

T: (Project number line with endpoints 0 and 1 partitioned into 2 equal parts by a dotted line.) Say the

unit fraction represented by the dotted line.

S: 1 half.

T: (Write 1/2 below the dotted line. To the right of the number line, write 1/2 = /4.) On your personal

white board, write the number sentence, and fill in the blank.

S: (Write 1/2 = 2/4.)

T: (Write 2/4 below 1/2 on the number line.)

Continue with the following possible sequence, drawing a new number line for each example: 1/3

= 2/ and 1/4 = /8 .

**Lesson 26**

Fluency Practice (12 minutes)

Sprint: Subtract by Six 2.4A (8 minutes)

Express Whole Numbers as Different Fractions 3.3F (4 minutes)

**Sprint: Subtract by Six (8 minutes)**

Materials: (S) Subtract by Six Sprint

Note: This Sprint supports fluency with subtraction by 6.

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**Express Whole Numbers as Different Fractions (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of naming whole numbers as fractions from Lesson 25.

T: (Draw or project a number line from 0–4. Below the 0, write 0 = /5 .) 0 is how many fifths?

S: 0 fifths.

T: (Write 0/5 below the 0 on the number line. Below the 1, write 1 = /5 .) 1 is how many fifths?

S: 5 fifths.

T: (Write 5/5 below the 1 on the number line. Below the 2, write 2 = /5 .) On your personal white board,

copy and fill in the number sentence.

S: (Write 2 = 10/5 .)

T: (Write 10/5 below the 2 on the number line. Write 3 = /5 .) On your board, copy and fill in the number

sentence.

S: (Write 3 = 15/5 .)

T: (Write 15/5 below the 3 on the number line. Write 4 = /5 .) On your board, copy and fill in the number

sentence.

S: (Write 4 = 20/5 .)

T: (Write 20/5 below the 4 on the number line.)

Continue the process for fourths.

**Lesson 27**

Fluency Practice (14 minutes)

Sprint: Add by Eight 2.4A (8 minutes)

Write Equal Fractions 3.3F (6 minutes)

**Sprint: Add by Eight (8 minutes)**

Materials: (S) Add by Eight Sprint

Note: This Sprint supports fluency with addition by 8.

**Write Equal Fractions (6 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the skill of finding equivalent fractions with pictorial models from Lesson 21.

T: (Project 1/2 .) Say the fraction.

S: 1 half.

T: Draw a shape, shade 1 half, and write the fraction below it.

S: (Draw a shape partitioned into 2 equal parts with one part shaded. Write 1/2 below the shape.)

T: (Write 1/2 =. /4.) Draw the same shape, and partition it into fourths. Shade the fourths to show a

fraction equivalent to 1/2 , and complete the number sentence.

S: (Draw the same shape partitioned into 4 equal parts with 2 parts shaded. Write 1/2 = 2/4 below the

shape.)

Repeat with the following possible sequence: 1/3=. / 6, 1/4 = /8, and 1/5 = 2/ .

**Lesson 28**

Fluency Practice (12 minutes)

Sprint: Subtract by Seven 2.4A (8 minutes)

Recognize the Fraction 3.3C, 3.3D (4 minutes)

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**Sprint: Subtract by Seven (8 minutes)**

Materials: (S) Subtract by Seven Sprint

Note: This Sprint supports fluency with subtraction by 7.

**Recognize the Fraction (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concept of naming various

fractions, depending on the designation of the whole.

T: (Project or draw a shaded rectangular model.) This

equals 1 whole. (Project or draw 1 whole partitioned

into 3 equal shaded units.) On your personal white

board, write the fraction.

S: (Write 3/3 .)

T: (Project or draw 2 wholes, each partitioned into 3

equal shaded units.) On your board, write the fraction.

S: (Write 6/3 .)

T: (Project or draw 3 wholes, each partitioned into 3 shaded parts.) On your board, write the fraction.

S: (Write 9/3 .)

T: (Project or draw 3 wholes, each partitioned into 3 parts. 3 parts in the first 2 wholes are shaded.

1 part of the third whole is shaded.) On your board, write the fraction.

S: (Write 7/3 .)

Continue with the following possible sequence: 4/4 , 8/4 , 12/4 , 9/4, 6/5 , and 9/8.

**Lesson 29**

Fluency Practice (12 minutes)

Sprint: Subtract by Eight 2.4A (8 minutes)

Recognize Equal Fractions 3.3F (4 minutes)

**Sprint: Subtract by Eight (8 minutes)**

Materials: (S) Subtract by Eight Sprint

Note: This Sprint supports fluency with subtraction by 8.

**Recognize Equal Fractions (4 minutes)**

Materials: (S) Personal white board

Note: This activity reviews the concepts of representing and naming equivalent fractions.

T: (Project or draw a rectangle partitioned into 2 equal units with the first unit shaded.) Say the

fraction that’s shaded.

S: 1 half.

T: (Write 1/2 to the side of the rectangle. Project or draw a rectangle partitioned into 4 equal, unshaded

units directly below the first rectangle.) Say the fractional unit of this shape.

S: Fourths.

T: I’m going to start shading in fourths. Tell me to stop when I’ve shaded enough fourths to equal

1 half. (Shade 2 fourths.)

S: Stop!

T: (Write 1/1 = /4 to the side of the rectangle.) 1 half is the same as how many fourths?

S: 2 fourths.

T: (Write ½ = 2/4.)

Continue with the following possible sequence: 1/3 = /9 and 6/8. = /4.

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**Lesson 30**

Fluency Practice (12 minutes)

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

Compare Fractions with the Same Numerator 3.3H (4 minutes)

**Multiply by 8 (8 minutes)**

Materials: (S) Multiply by 8 (5–9) Pattern Sheet

Note: This Pattern Sheet supports fluency with multiplication using units of 8.

T: Skip-count by eights. (Write multiples horizontally as students count.)

S: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80.

T: (Write 5 × 8 = \_\_\_\_.) Let’s skip-count by eights to find the answer. (Count with fingers to 5 as

students count.)

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

T: (Circle 40, and write 5 × 8 = 40 above it. Write 3 × 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. (Count down with your

fingers as students say numbers.)

S: 40, 32, 24.

T: (Write 7 × 8 = \_\_\_\_.) Let’s skip-count up by eights. (Count with fingers to 7 as students count.)

S: 8, 16, 24, 32, 40, 48, 56.

T: (Write 9 × 8 = \_\_\_\_.) Let’s skip-count up by eights. (Count with fingers to 9 as students count.)

S: 8, 16, 24, 32, 40, 48, 56, 64, 72.

T: Let’s see how we can skip-count down to find the answer, too. Start at 80. (Count down with your

fingers as students say the numbers.)

S: 80, 72.

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

**Compare Fractions with the Same Numerator (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the concept of pictorially comparing fractions with the same numerators from Lesson 29.

T: (Project or draw a rectangle partitioned into 3 equal units with the first 2 units shaded.) Say the

fraction that is shaded.

S: 2 thirds.

T: (Write 2/3 to the left of the rectangle. Project or draw a rectangle of 6 equal, unshaded units directly

below the first rectangle. Next to the second rectangle, write 2/6.) How many units should I shade to

show 2 sixths?

S: 2.

T: (Shade the first 2 units in the second rectangle.) On your personal white board, write the larger

fraction.

S: (Write 2/3.)

Continue with the following possible sequence: 3 tenths and 3 fourths, 5 sixths and 5 eighths, and 7 eighths and 7 tenths.

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**Lesson 31**

Fluency Practice (12 minutes)

Multiply by 9 3.4E , 3.4F (8 minutes)

Compare Fractions with the Same Numerator 3.3H (4 minutes)

**Multiply by 9 (8 minutes)**

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

Note: This Pattern Sheet supports fluency with multiplication using units of 9.

T: Skip-count by nines. (Write multiples horizontally as students count.)

S: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90.

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

students count.)

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

T: (Circle 45, and write 5 × 9 = 45 above it. Write 4 × 9 = \_\_\_\_\_.) Skip-count by nines. (Count with

fingers to 4 as students count.)

S: 9, 18, 27, 36.

T: Let’s arrive at the answer by skip-counting down, starting at 45. (Hold up 5 fingers as students say

45, and take away 1 finger as students count.)

S: 45, 36.

T: (Write 7 × 9 = \_\_\_\_\_.) Skip-count by nines. (Count with fingers to 7 as students count.)

S: 9, 18, 27, 36, 45, 54, 63.

T: Let’s skip-count, starting at 45. (Hold up 5 fingers as students say 45, and count up with fingers as

students count.)

S: 45, 54, 63.

T: (Write 9 × 9 = \_\_\_\_\_.) Skip-count by nines. (Count with fingers to 9 as students count.)

S: 9, 18, 27, 36, 45, 54, 63, 72, 81.

T: Let’s skip-count down starting at 90. (Hold up 10 fingers as students say 90 and remove 1 finger as

students count.)

S: 90, 81.

T: Let’s practice multiplying by 9. Be sure to work left to right across the page.

**Compare Fractions with the Same Numerator (4 minutes)**

Materials: (S) Personal white board

Note: This fluency activity reviews the concept of pictorially comparing fractions with the same numerators from Lessons 29 and 30.

T: (Project a figure showing 3 fourths shaded.) Say the fraction of the figure that is shaded.

S: 3 fourths.

T: (Write ¾ directly below the figure. To the right of the

first figure, project one that is the same size and shape

that is 3 eighths shaded.) Say the fraction of the figure

that is shaded.

S: 3 eighths.

T: (Write 3/8 directly below the second figure.) On your

personal white board, write each fraction. Between

the fractions, use the greater than or less than symbol

(write > and < ) to show which fraction is larger.

S: (Write 3/4 > 3/8.)

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Continue with the following possible sequence: 5/10 and 5/8, 2/5 and 2/3, and 4/5 and 4/6.