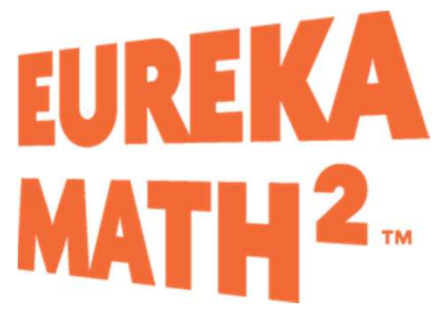


**Lesson**

**2**



---

## **Lesson 2:**

Interpret a fraction as division by writing remainders as fractions.

**CCSS Standard – 5.NF.B.3**

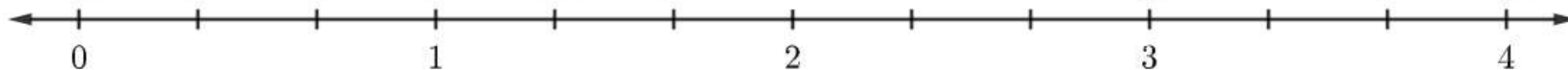
**FLUENCY** (10-min)

## Counting on the Numbers Line

What **FRACTIONAL UNIT** does the number line show? **Raise your hand when you know.**

# Thirds

Use the number line to count forward by thirds.



Now count forward by thirds again. This time rename the fractions as **whole numbers** when possible.

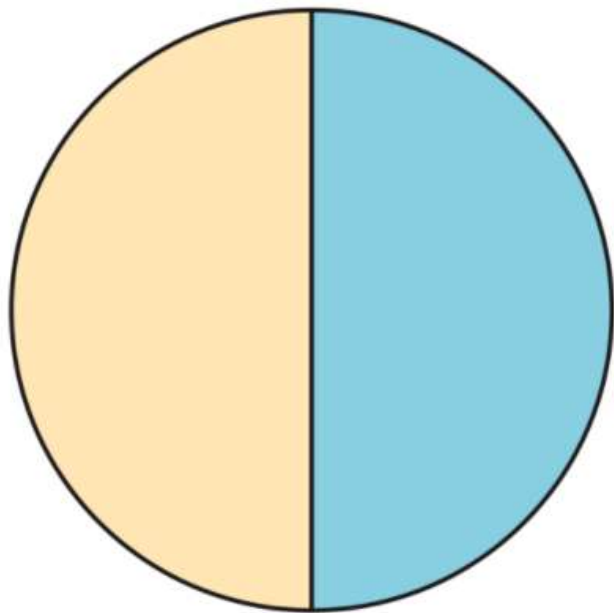


Now count forward by thirds again. This time rename the fractions as **whole numbers and mixed numbers** when possible.

**Notice:** Whole numbers and fractional units.

**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

2

What **FRACTIONAL UNIT** does the model show?

Halves

How many **HALVES** make 1 whole?

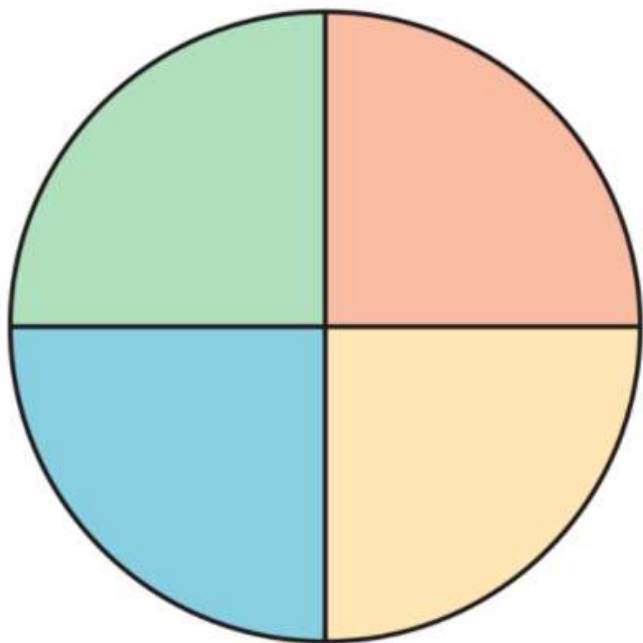
2 Halves

How many **HALVES** make 2 wholes?

4 Halves

**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

4

What **FRACTIONAL UNIT** does the model show?

Fourths

How many **Fourths** make 1 whole?

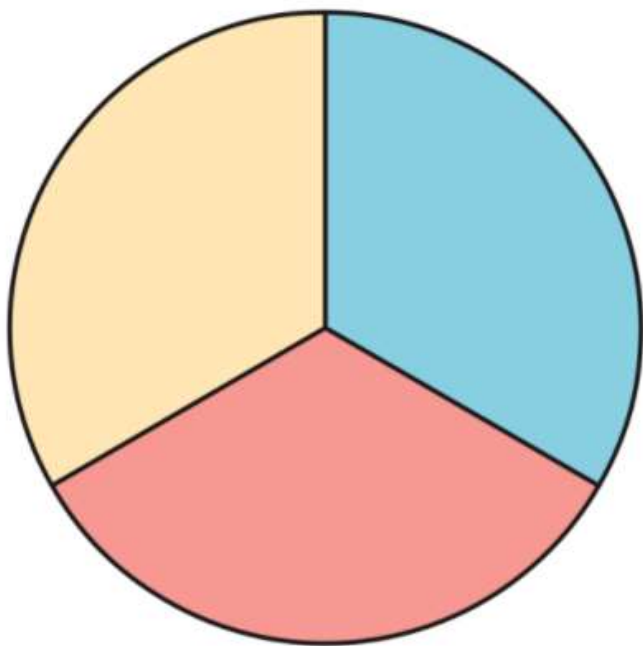
4 Fourths

How many **Fourths** make 2 wholes?

8 Fourths

**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

3

What **FRACTIONAL UNIT** does the model show?

Thirds

How many **THIRDS** make 1 whole?

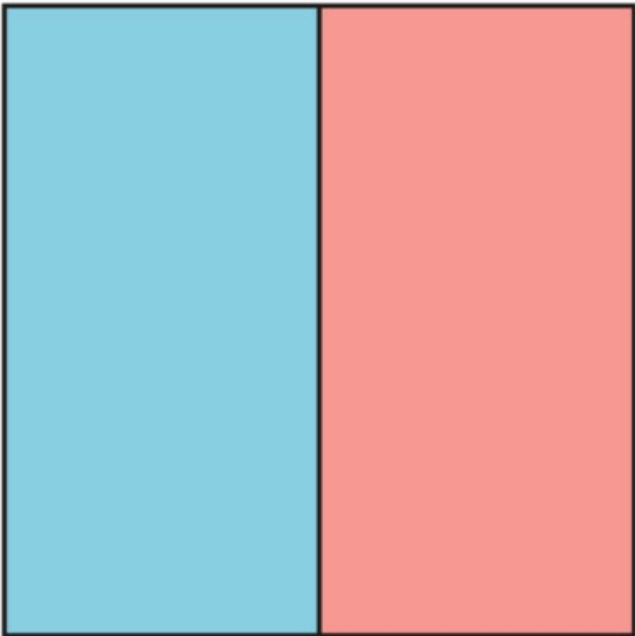
3 Thirds

How many **THIRDS** make 2 wholes?

6 Thirds

**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

2

What **FRACTIONAL UNIT** does the model show?

Halves

How many **HALVES** make 1 whole?

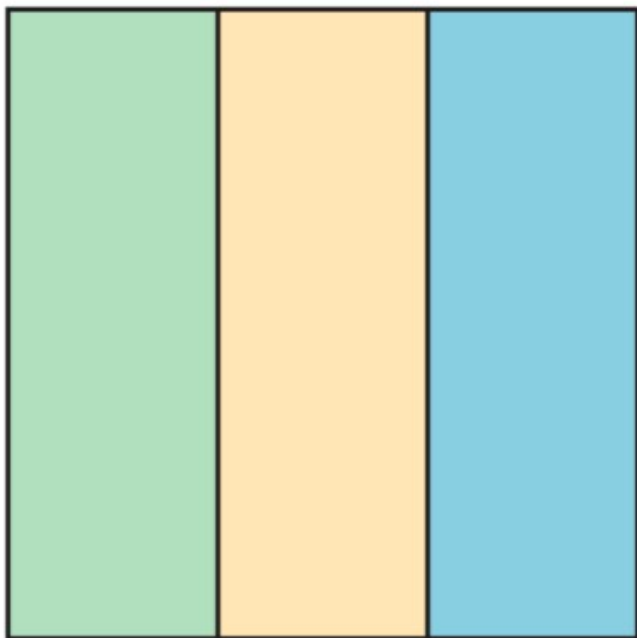
2 Halves

How many **HALVES** make 2 wholes?

4 Halves

**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

3

What **FRACTIONAL UNIT** does the model show?

Thirds

How many **THIRDS** make 1 whole?

3 Thirds

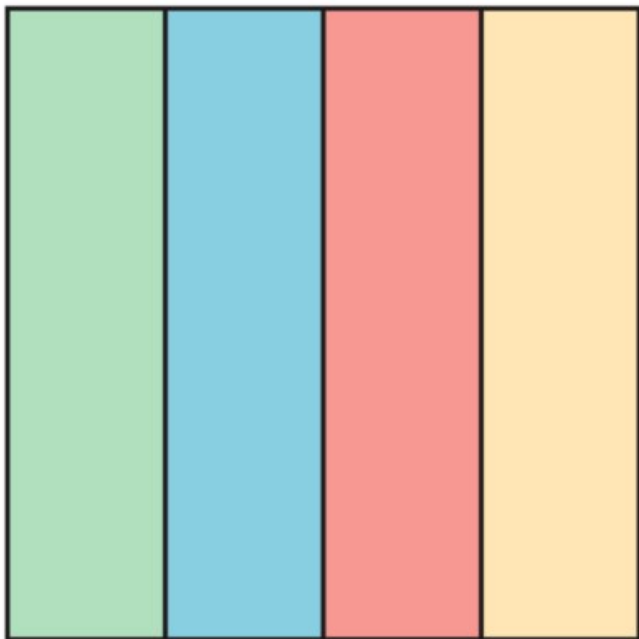
How many **THIRDS** make 2 wholes?

6 Thirds



**FLUENCY** (10-min)

**Choral Response: Equal Parts**



How many **EQUAL PARTS** is the model portioned into?

4

What **FRACTIONAL UNIT** does the model show?

Fourths

How many **Fourths** make 1 whole?

4 Fourths

How many **Fourths** make 2 wholes?

8 Fourths

**FLUENCY (10-min)****Whiteboard Exchange: Add Mix Numbers**

Write and complete the equation.

When possible, rename the sum as a **WHOLE** number.

$$1\frac{1}{4} + 1\frac{1}{4} = \underline{\hspace{2cm}}$$

$$1\frac{3}{5} + 2\frac{1}{5} = \underline{\hspace{2cm}}$$

$$2\frac{2}{6} + 2\frac{3}{6} = \underline{\hspace{2cm}}$$

$$2\frac{3}{8} + 3\frac{4}{8} = \underline{\hspace{2cm}}$$

$$1\frac{7}{10} + 2\frac{3}{10} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$2\frac{3}{12} + 4\frac{6}{12} = \underline{\hspace{2cm}}$$

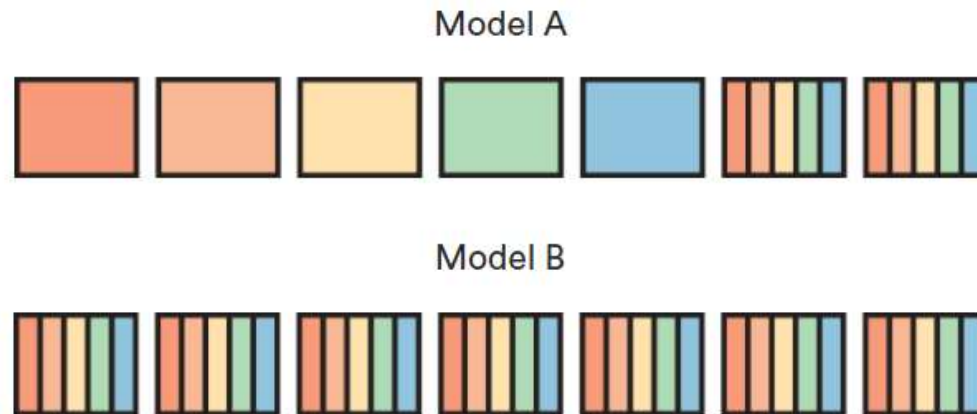
$$3\frac{20}{100} + 1\frac{80}{100} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

**LAUNCH** (10-min)

Students notice and wonder about models that represent the same equal sharing

What do you notice about these models?

What do you wonder?



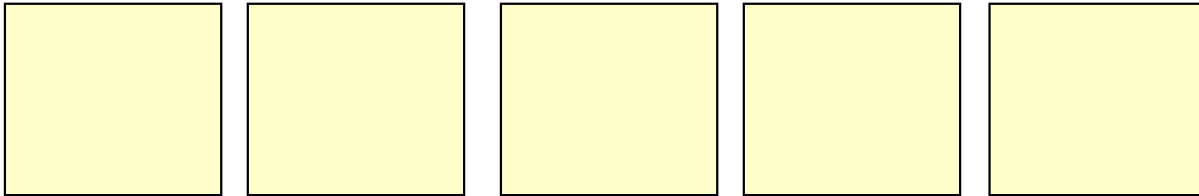
Some things to notice:

- Both models show 7 wholes.
- Model A has 2 wholes partitioned into fifths.
- Model B has all 7 wholes partitioned into fifths.
- Model A has 5 wholes that are not partitioned.
- Both represent  $7 \div 5$ .

The models show different ways to think about sharing units equally.  
Today, we will relate sharing units equally to division with remainders.

**LEARN** (30-min)

## Equate Mixed Numbers and Fractions Greater Than 1



Suppose 4 friends want to share 5 brownies equally. Does each friend get more or less than 1 brownie?

What division expression can we write to represent 4 friends sharing 5 brownies equally?

$$5 \div 4 \quad \text{or} \quad 5/4 = 1 \frac{1}{4}$$

How do we know the expression is  $5 \div 4$  and not  $4 \div 5$ ?

**TASK:**

Each sticky note represents ONE brownie.

Use your materials to show how 4 friends could share 5 brownies equally.

**LEARN** (30-min)

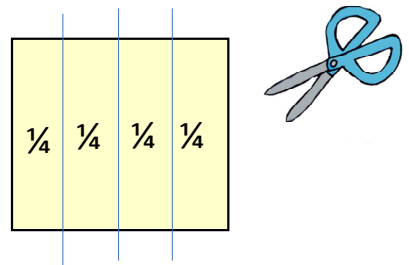
**Equate Mixed Numbers and Fractions Greater Than 1**

Friend 1

Friend 2

Friend 3

Friend 4



**$1 \frac{1}{4}$**

$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

**$\frac{5}{4}$**

Two handwritten long division problems are shown in a blue box. The first shows  $4 \overline{)5}$  with a subtraction line below the 5, resulting in a remainder of 1. The second shows  $4 \overline{)5}$  with a subtraction line below the 5, resulting in a remainder of 1 and a small fraction  $\frac{1}{4}$  written to the right of the remainder.

**LEARN** (30-min)

## Equate Mixed Numbers and Fractions Greater Than 1

**LEARN BOOK: Page 15**

Adesh is training for a 22-mile relay race. He will run the race on a 4-person team. Each team member runs the same number of miles. How many miles will each team member run?

How many members are on the team? **4**

What do we know about the 4 team members? **Each team member runs the same number of miles.**

What is the total number of miles in the race? **22**

What mathematically do we have to do to solve this? **Divide**

What division expression represents this situation?  **$22 \div 4$**

What are some strategies we can use to solve this problem?

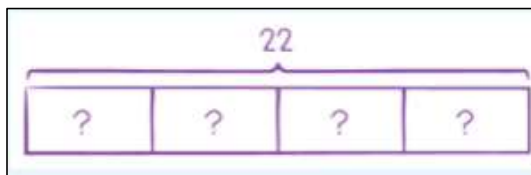
**LEARN** (30-min)

**Equate Mixed Numbers and Fractions Greater Than 1**

**LEARN BOOK: Page 15**

Adesh is training for a 22-mile relay race. He will run the race on a 4-person team. Each team member runs the same number of miles. How many miles will each team member run?

**Tape Diagram**



**5 2/4 or 5 1/2 miles**

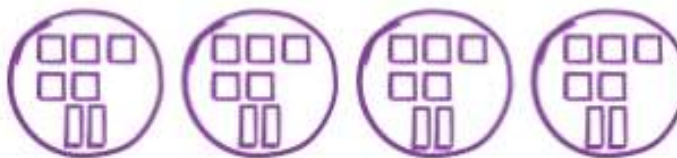
**Divide using partial products method –or– the standard algorithm**

$$\begin{array}{r} 5 \\ 4 \overline{) 22} \\ \underline{-20} \\ 2 \end{array}$$

The # of **WHOLE** miles each runner runs.

The part of the race that must be **SHARED**. 2 miles. These two miles need to be shared by 4 runners, so 2/4 or 1/2 mile each. Each runner needs to run 5 1/2 miles.

**Draw or use models to represent the solution.**

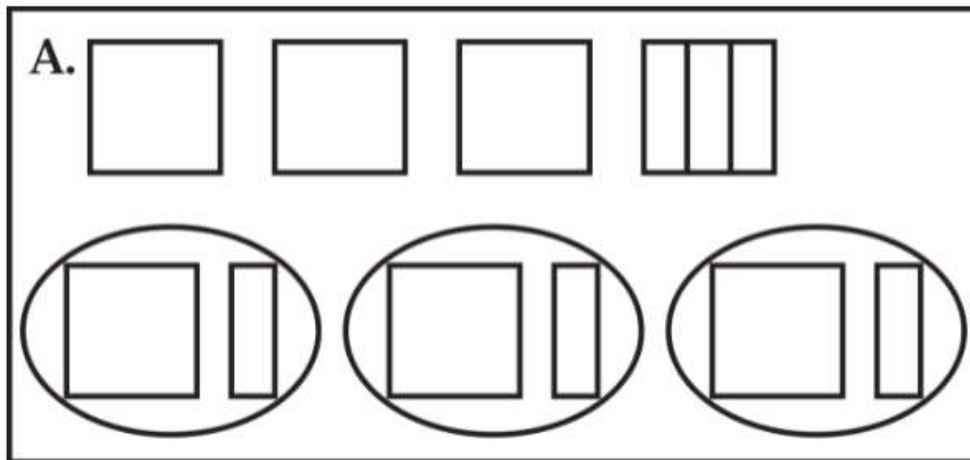


**LAND** (10-min)

Debrief

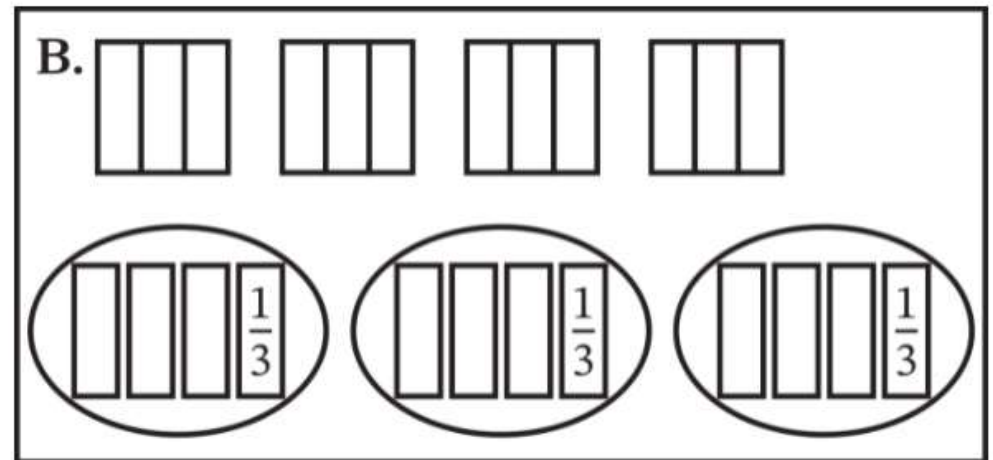
Look at Models A and B below.

What is an expression that matches each model?



$$4 \div 3 = 1 \frac{1}{3}$$

$$1 \frac{1}{3} = \frac{4}{3}$$



$$4 \div 3 \text{ or } \frac{4}{3}$$



**LAND** (10-min)

## Exit Ticket



1. Divide. Express any remainder as a fraction.

$$5 \div 2 = \underline{\hspace{2cm}}$$

2. A cook pours 9 gallons of soup equally into 4 pots. How many gallons of soup does the cook pour into each pot? Express the number of gallons as a fraction and a mixed number.

Exit Ticket – PAGE 21

**Small Group Time:**

Problem Set Pages 17 -18

**Homework:**

Page 15 APPLY BOOK