Eureka Math

4th Grade
Module 5
Lesson 33

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Icons

RDW — Read, Draw, Write

(target) — Learning Target

(whiteboard) — Personal White Board

Problem Set 1 2 3 4 5 — Problem Set

(dice, shapes) — Manipulatives Needed

+ − × ÷ — Fluency

(speech bubbles) — Think Pair Share

(people) — Whole Class

(person) — Individual
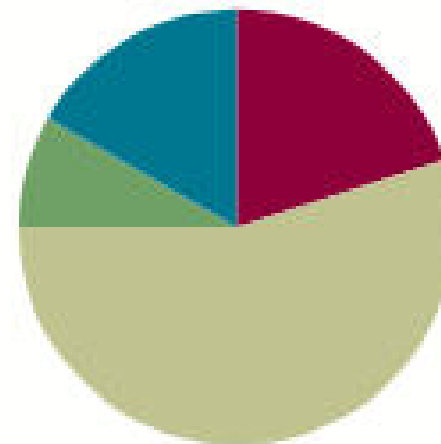
(two people) — Partner

(three people) — Small Group

(clock/group) — Small Group Time

Lesson 33

Objective: Subtract a mixed number from a mixed number.

Suggested Lesson Structure

■ Fluency Practice	(12 minutes)	
■ Application Problem	(5 minutes)	
■ Concept Development	(33 minutes)	
■ Student Debrief	(10 minutes)	
Total Time	**(60 minutes)**	

Subtract a mixed number from a mixed number.

Sprints!!!

Subtract fractions from whole numbers

3 - $\frac{2}{5}$

5 - $\frac{3}{4}$

9 - 7/10

Application Problem

Jeannie's pumpkin had a weight of 3 kg 250 g in August and 4 kg 125 g in October. What was the difference in weight from August to October?

Subtracting mixed numbers!

$4 \frac{3}{8} - 2 \frac{5}{8}$

We are going to use a number to help us solve this problem.

STOP!!! DO THIS PROBLEM UNDER THE DOCUMENT CAMERA!!!!

Subtracting mixed numbers!

4 ⅜ - 2 ⅝

We are now going to look at how someone solved this problem using arrow way.

$$2 \frac{5}{8} \xrightarrow{+\frac{3}{8}} 3 \xrightarrow{+1} 4 \xrightarrow{+\frac{3}{8}} 4 \frac{3}{8}$$

Why did they start at 2 ⅝ and add when the problem is asking them to subtract.

Subtracting mixed numbers!

Practice TIME!!!

Group problem: 2 5/12 - 1 8/12

Partner problem: 9 2/6 - 3 $\frac{5}{6}$

Subtracting mixed numbers!

11 ⅕ + 2 ⅗

When we add mixed numbers we can add like units. We could start with the ones first and then the fifths.

11 ⅕ - 2 ⅗

When we subtract mixed numbers, we can subtract the ones first. What subtraction expression remains?

9 ⅕ - ⅗

We can use yesterday's learning and solve this problem! Work with a partner and solve.

Subtracting mixed numbers!

Practice TIME!!!

Group problem: 4 ⅛-1 ⅞

Partner Problem: 7 5/12 - 3 9/12

Individual problem: 6 ⅖ - ⅘

Subtracting mixed numbers!

11 ⅕ - 2 ⅗

Let's solve this problem using a NEW strategy!!

Subtract the whole numbers 11-2=

That leaves us with 9 ⅕-⅗

Now, decompose 9 ⅕ by taking out a 1.

We now subtract the ⅗ from the one and we get…

Our expression is now 8 ⅕ + ⅖

We add those and get 8 ⅗

Let's take a look at someone's work.

$$11\frac{1}{5} - 2\frac{3}{5} = 9\frac{1}{5} - \frac{3}{5} = 8\frac{1}{5} + \frac{2}{5} = 8\frac{3}{5}$$

$8\frac{1}{5}\qquad 1$
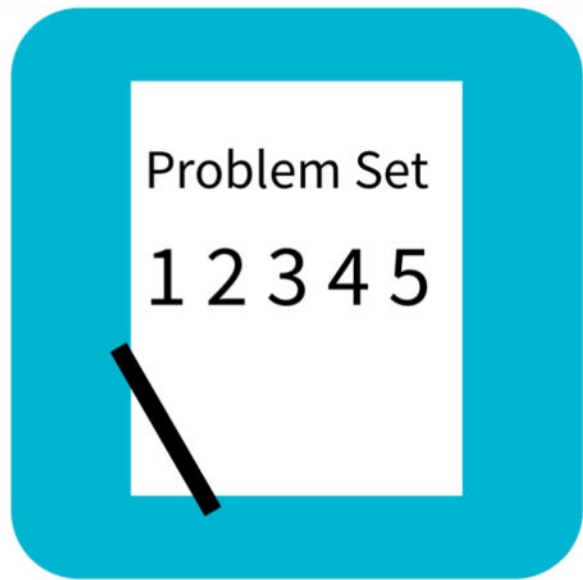
Problem Set

Name _____   Date _____

1. Write a related addition sentence. Subtract by counting on. Use a number line or the arrow way to help. The first one has been partially done for you.

    a. $3\frac{1}{3} - 1\frac{2}{3} =$ _____

        $1\frac{2}{3} +$ _____ $= 3\frac{1}{3}$

    b. $5\frac{1}{4} - 2\frac{3}{4} =$ _____

Debrief

- Can you accurately subtract mixed numbers by subtracting the fraction first, or must you always subtract the whole numbers first? Give an example to explain.

- When subtracting mixed numbers, what is the advantage of subtracting the whole numbers first?

- Which strategy do you prefer to use, decomposing the number we are subtracting as we did in Problem 2 of the Concept Development or taking from 1, as we did in Problem 3? Discuss the advantages of the strategy as you explain your preference.

- Which strategies did you choose to solve Problem 4(a–d) of the Problem Set? Explain how you decided which strategy to use.

- What learning from Lesson 32 was used in this lesson? How can subtracting a mixed number from a mixed number be similar to subtracting a fraction from a mixed number?

- How did our Application Problem relate to today's lesson?

Exit Ticket

Name _____   Date _____

Solve using any strategy.

1. $4\frac{2}{3} - 2\frac{1}{3}$