Lesson 1

Grade Level: 5 **Subject:** Mathematics **Number of Students:** 23 **Date/Time:** 02/16/2021 11:35 AM – 12:15 PM

Lesson Goals

Central Focus of Lesson:
Subtraction of Mixed Numbers with Renaming

Standard(s) Addressed:
5.NF.A.1 Use equivalent fractions as a strategy to add and subtract fractions. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)

Lesson Objectives and Demands

Content Objectives:
Learners will be able to rename to find the difference of two mixed numbers.

Language Objectives:
Learners will recall and employ terms related to subtraction of mixed numbers with renaming to identify and describe and analyze mixed number expressions and word problems by explaining these concepts in our discussion of the algorithm and discussing answers in the practice problems.

Key Vocabulary in Lesson:
Renaming, Proper fractions, improper fractions, mixed fractions, simplified/reduced fraction, simplest form, denominator, common denominator, least common denominator, numerator, whole number, commutative property of multiplication.

Lesson Considerations
Materials: ActivInspire Board and Software – Must login at start of class and setup GoMath pages and Math Message pages. Google Classroom Student's GoMath Workbook Student's Math Message Book Graph Paper Teachers GoMath Teacher's Edition for Chapter 6: Add and Subtract Fractions with Unlike Denominators: Lesson 6.7 Subtraction with Renaming. **Prior Academic Learning and Prerequisite Skills:** 3.NF.A.3b Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. 4.NF.B.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. 4.NF.B.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. The learner must understand that a fraction a/b with a<b is a proper fraction. The learner must understand that a fraction a/b with a>=b is an improper fraction. The learner should understand how to convert improper fractions to mixed numbers. The learner should understand how to convert proper fractions to mixed numbers. The learner should understand how to simplify (i.e. reduce) fractions. **Misconceptions:** The learner may think that improper fractions are less than mixed numbers because the mixed number shows clearly a whole number and the learner may think that whole numbers are larger than fractions. The learner may think that fractions have to be less than a whole. The learner may think that the numerator is always less than the denominator. The learner may use 0/b instead of simplifying to 0.

Lesson Plan Details: *Write a <u>detailed outline</u> of your class session including instructional strategies, learning tasks, key questions, key transitions, student supports, assessment strategies, and conclusion. Your outline should be detailed enough that another teacher could understand them well enough to use them. Include what you will do as a teacher and what your students will be doing during each lesson phase. Include a few key time guidelines.* ***Note:*** *The italicized statements and scaffolding questions are meant to guide your thinking and planning. You do not need to answer them explicitly or address each one in your plan. Delete them before typing your lesson outline.*
Lesson Introduction/Anticipatory Set - "Before": ● Ask students to take out their GoMath Workbook and Math Message Book. ● Check for learner homework completion (GoMath pages 387 & 388 - all problems.) ● Review homework (GoMath pages 387 & 388 - all problems) as facilitated classroom discussion. ● Last week, we learned how to add and subtract mixed numbers. How can we use renaming to find the difference of two mixed numbers?
Learning Activities/Procedures - "During": ● I do – Teacher identifies the concept of subtracting two mixed numbers, using renaming, by completing the GoMath "Unlock the Problem" on page 389 to the class. The learners are asked to "Underline what you have to find and circle the important information" and to answer the question in the green box "What operation should you use to solve the problem?" The process being demonstrated is to: 1.) Look at the denominators. Find common denominators as needed, 2.) If the numerator of the minuend is smaller than the numerator of the subtrahend, we rename the minuend as a fraction greater than 1, 3.) Find the difference of the whole numbers and the difference of the fractions, 4.) Simplify, and 5.) Look Back. Learners are requested "no pencils, eyes on me." After demonstration, the teacher will write the process and answer in the GoMath solution box and students will do the same in their GoMath workbook. ● We do – Teacher solves the GoMath page 390 Share and Show problems with the class, using the renaming approach for problems #1 and #2, with the class in a facilitated discussion using Math Talk. ● You do – Learners complete the GoMath page 391 On Your Own practice problems for finding the difference, demonstrating learners' understanding of the demonstration and discussion. Problems are checked by instructor as problems #3-5 are completed before learners complete more.
Lesson Closure - "After": ● Assign GoMath pages 393-394 Practice and Homework Subtraction with Renaming. ● Remind students that they need to practice these new concepts tonight to make them stick. ● Voice of the Learner – How well did we understand multiplying fractions – very well (raise hands), meh (raise hands), I'm confused (raise hands.) What worked? What did not work?

Acknowledgements
Sources: GoMath Teacher's Manual Chapter 6 – Add and Subtract Fractions with Unlike Denominators. Houghton Mifflin Harcourt. 2015.

ASSESSMENT:

Evidence and Formative Assessment of Student Learning*: How will you know whether students are making progress toward your learning goal(s) and/or how will you assess the extent to which they have met your goal(s)? Use the chart below to describe and justify at least 2 formal or informal assessment strategies that occur in your detailed plan above. Add more rows if needed.*	
Assessment Strategy #1: Learners' understanding is checked through math talk as they discuss how to solve the sample problems in a facilitated discussion.	**Alignment with Objectives:** Subtraction of Mixed Numbers with Renaming
	Evidence of Student Understanding: Learner correctly identifies the process.
	Student Feedback: Share other learners' perspectives as misconceptions arise and give the learner the opportunity to revisit their answer. "Once you have this in your toolbelt, this will provide you with a powerful ability to subtract any fraction or mixed number."
Assessment Strategy #3: Learners' work is checked as they complete the On Your Own practice problems in GoMath.	**Alignment with Objectives:** Subtraction of Mixed Numbers with Renaming
	Evidence of Student Understanding: Learner correctly solves differences of mixed numbers. Learner correctly simplifies results.
	Student Feedback: Provide direct feedback to the learner regarding misconceptions as they complete the practice work. Reteach where needed.