

Topic 9 OVERVIEW

TOPIC FOCUS: As we continue to use representational models in this topic, we progress to understandings and skills of operations with fractions. Addition and subtraction of fractions connects with and builds on years of student experience with the operations of addition and subtraction involving whole numbers. It is important to know that these operations work the same whether whole numbers or fractions are involved in problems and context related to joining and separating. This topic will extend the use of representational models and help develop the “how” and “why” of the use of an algorithm.

ESSENTIAL QUESTION(S): How do you add and subtract fractions and mixed numbers with like denominators? How can fractions be added and subtracted on a number line?

STANDARDS: The Major focus standards for this topic are **4.NF.B.3** *Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.*

Topic 9 has a 3-Act Task that should be included into the lesson sequence after lesson 9-9.

ASSESSMENT: **4.NF.B.3** *Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$* standards are only assessed at the end of Topic 9, so the Topic 9 Assessment should be used summatively for those standards.

MANIPULATIVES: Fraction strips, digital math tools, (optional - Marilyn Burns Fraction kit), connecting cubes (unifix)

REQUIRED ASSESSMENTS

Resources for Formative and Summative Assessment from enVision Mathematics

Pre-Assessment: Review What you Know

- Use item analysis to identify MDIS lessons

Topic 9 Review

- Online Topic 9 Assessment (TE pg 378A): may be projected and used as a review.
- Topic 9 Performance Task (TE pg 379-380 #1): to be used as guided instruction with the whole group. Not to be used as an assessment at this time.

Topic 9 Assessment

- Topic 9 Assessment Practice (TE pg 377-378): Administer as a summative assessment for 4.NF.B.3.

STANDARDS The standards are clustered with Learning Intentions and Success Criteria (LI/SC) and are identified to provide coherence in teaching and learning. Students should spend the large majority of their time on the major work of the grade. Major clusters (□) address the most important standards at that grade level. Supporting clusters (△) are strongly connected to the content of the major clusters, and additional clusters (▢) address other content to be taught at that grade level.	LEARNING INTENTION LI Identified on Math Background: Focus pg 329 E	SUCCESS CRITERIA SC identified in Topic Planner - math objectives
 4.NF.B.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.  4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify the conclusions by using a visual fraction model and/or verbal reasoning.  4.NF.B.3c Add and subtract mixed numbers with like denominators by replacing the 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, including mixed numbers, with the same denominator. Justify the conclusions using a visual fraction model and/or verbal reasoning.	We are learning to understand adding and subtracting fractions and mixed numbers with like denominators.	9-1: I can use fraction strips and number lines to add fractions. 9-2: I can decompose a fraction or a mixed number into a sum of fractions in more than one way. 9-3: I can solve problems involving joining parts of the same whole by adding fractions with like denominators. 9-4: I can use tools such as fraction strips, area models, and number lines to subtract fractions. 9-5: I can solve problems involving separating parts of the same whole by subtracting fractions. 9-6: I can count forward or backward on a number line to add or subtract. 9-7: I can use models and equivalent fractions to add and subtract mixed numbers. 9-8: I can use equivalent fractions and properties of

Pocatello/Chubbuck School District #25

4th Grade

TOPIC 9: Understand Addition and Subtraction of Fractions

Pacing: 13 Days

		operations to add mixed numbers with like denominators. 9-9: I can use equivalent fractions, properties of fractions, and the relationship between addition and subtraction to subtract mixed numbers with like denominators. 9-10: I can use previously learned concepts and skills to represent and solve problems.
--	--	--