Unit 2: Unit 2: Add and Subtract Fractions and Mixed Numbers

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

UNIT RATIONALE

This unit will focus on solving word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators,

e.g., by using visual fraction models or equations to represent the problem.

MA.5.NF.A.1	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.
MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

ESSENTIAL QUESTIONS

How can I use visual models to rename given fractions in addition and subtraction expressions as fractions with same-sized parts?

How can I use common denominators to find equivalent fractions?

How can I use equivalent fractions to add and subtract fractions with unlike denominators?

MA.5.NF.A.1	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.
MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

STANDARDS

NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

MATH.5.NF.A.1	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.
MATH.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS

TECH.9.4.5.CT.3	Describe how digital tools and technology may be used to solve problems.
TECH.9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
TECH.9.4.5.IML.2	Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).

NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING

CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
CS.3-5.8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.
CS.3-5.8.1.5.DA.5	Propose cause and effect relationships, predict outcomes, or communicate ideas using data.

PRE-ASSESSMENTS

Module 6: Understand Addition and Subtraction of Fractions with Unlike Denominators "Are You Ready?" (p. 128)
Module 7: Add and Subtract Fractions and Mixed Numbers with Unlike Denominators "Are You Ready?" (p. 148)

INSTRUCTIONAL PLAN

MODULE 6

MODULE 6: UNDERSTAND ADDITION AND SUBTRACTION OF FRACTIONS WITH UNLIKE DENOMINATORS

LESSON 6.1

Student Learning Intentions (SLI) WALT: (We are learning to…)	6.1 We are learning to represent fraction sums and differences.
Student Learning Strategies	Use different-sized fraction strips Use two types of visual models
Success Criteria	I can make a visual model to represent the addition or subtraction of fractions with different-sized parts.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 129, 130, & 131) Check for Understanding (p. 131)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 129B) & Spark Your Learning (p. 129) **Mini-lesson**: Build Understanding (p. 130-131) **Guided Practice:** Check Understanding (p. 131) **Independent Practice**: On Your Own (p. 132) & Exit Ticket (TM p. 132) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 129C)

MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

LESSON 6.2

Student Learning Intentions (SLI) WALT: (We are learning to…)	6.2 We are learning to represent addition with different-sized parts.
Student Learning Strategies	

	Use a visual model to find the sum Represent fractions using same-sized parts
Success Criteria	I can represent the sum of fractions with different-sized parts using a visual model.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 133 & 134) Check for Understanding (p. 135)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 133B) & Spark Your Learning (p. 133) **Mini-lesson**: Build Understanding (p. 134-135) **Guided Practice:** Check Understanding (p. 135) **Independent Practice**: On Your Own (p. 136) & Exit Ticket (TM p. 136) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 133C)

MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

LESSON 6.3

Student Learning Intentions (SLI) WALT: (We are learning to…)	6.3 We are learning to represent subtraction witl different-sized parts.
Student Learning Strategies	Use a visual model Use equivalent fractions
Success Criteria	I can represent the difference between fraction with different-sized parts using a visual model.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 1137 & 138)

	Check for Understanding (p. 139)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 137B) & Spark Your Learning (p. 137) **Mini-lesson**: Build Understanding (p. 138-139) **Guided Practice:** Check Understanding (p. 139) **Independent Practice**: On Your Own (p. 140) & Exit Ticket (TM p. 140) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 137C)

MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

LESSON 6.4

Student Learning Intentions (SLI) WALT: (We are learning to…)	6.4 We are learning to rewrite fractions with a common denominator.
Student Learning Strategies	Divide squares into equal parts Use fraction strips
Success Criteria	I can generate equivalent fractions for given fractions using a common denominator.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 141 & 142) Check for Understanding (p. 143)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 141B) & Spark Your Learning (p. 141) **Mini-lesson**: Build Understanding (p. 142) and Step it Out (p. 143) **Guided Practice:** Check Understanding (p. 143) **Independent Practice**: On Your Own (p. 144) & Exit Ticket (TM p. 144)

	Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 141C)

MA.5.NF.A.1	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.

MODULE 7

MODULE 7: ADD AND SUBTRACT FRACTIONS AND MIXED NUMBERS WITH UNLIKE DENOMINATORS

LESSON 7.4

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.4 We are learning to rename mixed numbers to subtract.
Student Learning Strategies	Subtract fractions with like denominator Subtract fractions greater than 1
Success Criteria	I can subtract mixed numbers by renaming.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 161 & 162) Check for Understanding (p. 163)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 161B) **Mini-lesson**: Step it Out (p. 161-163) **Guided Practice:** Check Understanding (p. 163) **Independent Practice**: On Your Own (p. 164 -166) & Exit Ticket (TM p. 166) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources

Suggested Modifications	Plan for Differentiated Instruction (TM p. 161C)

MA.5.NF.A.1	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.

LESSON 7.3

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.3 We are learning to assess reasonableness of mixed number sums and differences.
Student Learning Strategies	Find an equivalent fraction Rename a mixed numbers
Success Criteria	I can add and subtract mixed numbers with unlike denominators and assess reasonableness.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 157 & 158) Check for Understanding (p. 158)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 157B) **Mini-lesson**: Step it Out (p. 157) **Guided Practice:** Check Understanding (p. 158) **Independent Practice**: On Your Own (p. 159 & 160) & Exit Ticket (TM p. 160) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 157C)

MA.5.NF.A.1	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.
MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

LESSON 7.2

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.2 We are learning to assess reasonableness of fraction sums and differences.
Student Learning Strategies	Find an equivalent fraction Use a common denominator
Success Criteria	I can add and subtract fractions with unlike denominators using a common denominator and assess reasonableness.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 153 & 154) Check for Understanding (p. 154)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 153B) **Mini-lesson**: Step it Out (p. 153 & 154) **Guided Practice:** Check Understanding (p. 154) **Independent Practice**: On Your Own (p. 155 & 156) & Exit Ticket (TM p. 156) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 153C)

MA.5.NF.A.1	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.

LESSON 7.1

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.1 We are learning to use benchmarks and number sense to estimate.
Student Learning Strategies	Use a visual model Use multiple visual models
Success Criteria	I can use benchmarks to estimate a sum or

	difference of fractions with unlike denominators.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 149 & 150) Check for Understanding (p. 151)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 149B) & Spark Your Learning (p. 149) **Mini-lesson**: Build Understanding (p. 150) and Step it Out (p 151) **Guided Practice:** Check Understanding (p. 151) **Independent Practice**: On Your Own (p. 152) & Exit Ticket (TM p. 152) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 149C)

MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

LESSON 7.5

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.5 We are learning to apply properties of addition.
Student Learning Strategies	Add denominators Find a common denominator
Success Criteria	I can apply the properties of addition to add fractions and mixed numbers.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 167 & 168) Check for Understanding (p. 168)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 167B) **Mini-lesson**: Step it Out (p. 167 & 168) **Guided Practice:** Check Understanding (p. 168)

	Independent Practice: On Your Own (p. 169-170) & Exit Ticket (TM p. 170) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 167C)

MA.5.NF.A.1	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.

LESSON 7.6

Student Learning Intentions (SLI) WALT: (We are learning to…)	7.6 We are learning to practice addition and subtraction using equations.
Student Learning Strategies	Understand the problem Add the mixed numbers
Success Criteria	I can solve an addition or subtraction word problems by using an equation to model the problem.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 171) Check for Understanding (p. 172)
Activities and Resources	**Warm-up:** Activate Prior Knowledge (TM p. 171B) **Mini-lesson**: Step it Out (p. 171 & 172) **Guided Practice:** Check Understanding (p. 172) **Independent Practice**: On Your Own (p. 174-175) & Exit Ticket (TM p. 174) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 171C)

MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of

fractions to estimate mentally and assess the reasonableness of answers.

REFLECTIONS

INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS

LA.SL.5.2	Summarize a written text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).
LA.L.5.4.B	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., photograph, photosynthesis).
LA.L.5.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).