Mrs. Snure	6th Grade Math	October 3- October 26

Unit Title: Numerical Operations Addition and Subtraction of Fractions and Decimals

TEKS:

6.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to:

6.2A Model addition and subtraction situations involving fractions with objects, pictures, words, and numbers.
6.2B Use addition and subtraction to solve problems involving fractions and decimals.
6.2D Estimate and round to approximate reasonable results and to solve problems where exact answers are not required.

6.*11 Underlying processes and mathematical tools. The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to:*

6.11A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.
6.11B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.

6.13 Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:

6.13B Validate his/her conclusions using mathematical properties and relationships.

Guiding Questions Related to Key Understandings:

Objects, pictures, words, and numbers may be used to model and validate conclusions of addition, subtraction, and estimation of fractions with unlike denominators and mixed numbers.

Estimation is an effective strategy to check for reasonableness and validate conclusions when solving everyday situations requiring addition and subtraction of fractions and mixed numbers, including problems involving ranges of numbers.

Converting mixed numbers to improper fractions and generating equivalent fractions using a common denominator are effective strategies when solving problem situations involving addition and subtractions of mixed numbers.

Performance Indicators:
Estimate and solve addition and subtraction problems involving fractions and mixed numbers in problem situations. Create a graphic organizer describing, in words, the process for adding and subtracting fractions and mixed numbers with like and unlike denominators. Use the organizer to solve the problems, verifying each step of the process with the solution.

Lesson Activity 1: October 3rd Evaluate

Use the Performance Indicator to evaluate the student's knowledge/performance with order of operations.

Student Responsibility, October 3rd: Performance Indicator

Lesson Activity 2: October 3rd Engage

Students use logic and reasoning skills with fraction circles to determine if a fraction is less than, equal to or greater than $\frac{1}{2}$.

Student Responsibility, October 3rd: One Half Relations

Lesson Activity 3: October 4th Explore/Explain

Student review and practice ordering fractions on a number line with benchmarks.

Student Responsibility, October 4th: None

Lesson Activity 4: October 5th Explore/Explain 1

Students use a number line to explore the relationship between $\frac{1}{2}$ and a given fraction.

Student Responsibility, October 5th: Number Line Relations

Lesson Activity 5: October 5th Explore/Explain 2

Students use fraction circles to develop an understanding of estimating the sums and differences of fractions. Students use this understanding to estimate the sums and differences of fractions without the models. Students validate their estimations with an explanation.

Student Responsibility, October 5th: Reason It Out Sums, Reason it Out Differences

Lesson Activity 6: October 6th Review

Student review how to get fractions with like denominators using the LCM.

Student Responsibility, October 6th: None

Lesson Activity 7: October 7th Explore/Explain

Students use virtual manipulatives to discover creating equivalent fractions with like denominators and adding and subtracting fractions.

Student Responsibility, October 7th: Adding and Subtracting Fractions with Unlike Denominators Gizmo Assessment

Lesson Activity 8: October 11th, Evaluate

Students review LCM, GCF and Order of Operations for Unit 2 Test.

Student Responsibility, October 11th: Unit 2 Study Guide

Lesson Activity 9: October 12th, Evaluate

Evaluate students using the Unit 2 Test.

Student Responsibility, October 12th: Unit 2 Test

Lesson Activity 9: October 13th Practice

Students practice adding and subtracting fractions and converting between improper and proper fractions.

Student Responsibility, October 13th: Pizzazz

Lesson Activity 8: October 14th Engage 2

Students use experience and reasoning skills to add and subtract fractions with unlike denominators using fraction circles and pictorial models.

Student Responsibility, October 14th: Is This Wrong?

Lesson Activity 9: October 14th Explore/Explain 3

Students use fraction circles and pictorial models to make conclusions about adding and subtracting fractions and connect their findings to the algorithms for adding and subtracting fractions.

Student Responsibility, October 14th: Pie Sums and Differences

Lesson Activity 10: October 17th Explore/Explain 4

Students use fraction circles and pictorial models to round mixed numbers. Students explore the connections between the relationships of rounding mixed numbers to placing mixed numbers on a number line.

Student Responsibility, October 17th: What's Your Name

Lesson Activity 11: October 17th Explore/Explain 5

Students use fraction circles and pictorial models to make conclusions about estimating the sums and differences of mixed numbers and connect their findings to estimate the sums and differences of mixed numbers without models.

Student Responsibility, October 17th: Estimated Sums and Differences

Lesson Activity 12: October 18th

Practice with adding and subtracting fractions with word problems

Student Responsibility, October 18th: Fraction Word Problems

Lesson Activity 13: October 19th Explore/Explain 6

Students use fractions circles to find the sums and differences for mixed numbers and connect their findings to the algorithms for adding and subtracting mixed numbers.

Student Responsibility, October 19th : Activity C and E

Lesson Activity 14: October 19th Explore/Explain 7

Students formalize and apply the algorithms for adding and subtracting fractions and mixed numbers.

Student Responsibility, October 19th: Pie Eating Contest

Lesson Activity 15: October 20th

Reteach of prime factorization, GCF and LCM

Student Responsibility, October 20th: None

Lesson Activity 16: October 21st

Retake of the Prime Factorization, GCF and LCM.

Student Responsibility, October 21st: None

Lesson Activity 16: October 24st Elaborate 1

Students solve real-life problems involving adding and subtracting fractions and mixed numbers.

Student Responsibility, October 24st: Operating with Fractions

Lesson Activity 15: October 25th

Adding and subtracting fractions and mixed numbers with algorithms.

Student Responsibility, October 25th: Glencoe +/- Fraction Practice

Lesson Activity 17: October 26st Evaluate

Assess the students using the performance indicator.

Student Responsibility, October 26st: Performance Indicator

Lesson Activity 18: October 26th Engage

Students use experience and reasoning skills to rewrite a set of given fractions to an equivalent decimal and fraction with a denominator of 100. Students use a hundredths grid to model equivalence and represent the sum of a problem situation.

Student Responsibility, October 26th: Flower Garden

Lesson Activity 19: October 27th Explore/Explain 1

Students use benchmark fractions, models, and number lines to estimate the sums and differences of decimals.

Student Responsibility, October 27th Decimal Sums and Differences

Lesson Activity 20: October 28th Explore/Explain 2

Students use place value charts to find the sums and differences of decimals and formalize the algorithm for adding and subtracting decimals.

Student Responsibility, October 28th: Operating with Decimals, Decimals Place Value Chart

Lesson Activity 21: October 28th Elaborate 1

Students solve real-life problems involving adding and subtracting fractions and decimals

Student Responsibility, October 28th: Decimals and Fractions

Lesson Activity 23: November 1st: Evaluate

Assess students with the performance indicator.

Student Responsibility: November 1st: Performance Indicator

Lesson Activity 24: November 2nd: Evaluate

Students complete the Unit 3 Test.

Student Responsibility: November 2nd: Unit 3 Test

Mrs. Snure	6th Grade Math	October 26- October 28

Unit Title: Proportionality- Representations and Applications

TEKS:

6.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to:

6.2C Use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates.

6.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships. The student is expected to:

6.3A Use ratios to describe proportional situations.
6.3B Represent ratios and percents with concrete models, fractions, and decimals.
6.3C Use ratios to make predictions in proportional situations.

6.4 Patterns, relationships, and algebraic thinking. The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes. The student is expected to:

6.4A Use tables and symbols to represent and describe proportional and other relationships such as those

involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area.

6.*11 Underlying processes and mathematical tools. The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to:*

6.11A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.
6.11C Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.

6.11D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.

6.13 Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:

6.13A Make conjectures from patterns or sets of examples and nonexamples.
6.13B Validate his/her conclusions using mathematical properties and relationships.

Guiding Questions Related to Key Understandings:

Ratios are a multiplicative comparison of two quantities or measures which can be represented as part-to-part, part-to-whole, or whole-to-part.

Proportional relationships, which are multiplicative in nature, can be created using equivalent ratios.

Percents are part-to-whole relationships where the whole is 100.

Real-life situations involving ratios, rates and percents can be validated using a variety of models and solved using a problem-solving strategy.

Tables should be seen as a useful tool to represent, predict, and describe proportional relationships such as rate or measurement conversions.

Performance Indicators:
Generate a table of values related to a real-life problem situation that involves at least one unit conversion and display them in an organizer. Use the proportional relationship found in the table to validate a prediction within the problem situation.

Lesson Activity 1: October 31th: Engage

Students use logic and reasoning skills to compare the length of their neck to the length of their wrist.

Student Responsibility, October 31th: None

Lesson Activity 3: October 31th: Explore/Explain 1

Students define a ratio and explore the different ways to represent a ratio.

Student Responsibility, October 31th: Juice Models, Ways to Write a Ratio

Lesson Activity 4: November 2nd: Explore/Explain 2

Students use pictorial models to explore the relationships between part-to-part and part-to-whole ratios.

Student Responsibility, November 2nd: Part to Part, Part to Whole
Lesson Activity 7: November 3rd Student Responsibility, November 3rd:
Lesson Activity 6: November 4th: Explore/Explain 3 Students use pictorial models to model equivalent ratios and explore proportions. Student Responsibility, November 4th: Jake's Proportion Portions
Lesson Activity 8: November 4th: Explore/Explain 4 Students explore percents with proportions and equivalent ratios. Student Responsibility, November 4th: Jake's Jamba Juice Jugs: Percents, Jake's Jamba Juice Jugs: Percents Explained