

Math6.org Activities for Fractions

Vocabulary Studies

- ___1) On-Line Word Search
- ___2) 3 Column Notes
- ___3) Flash Cards
- ___4) Crossword Puzzle
- ___5) Matching Practice
- ___6) Vocabulary Millionaire!

Tests and Games

- ___78) Mid Chapter Quiz
- ___79) Quiz Bowl
- ___80) Practice Test
- ___81) Fractions Millionaire

Activities by Lesson

5.1 Multiply Fractions

- ___1) Review Worksheet
- ___2) Multiplying Fractions Lesson
- ___3) Multiply Fractions (GP)
- ___4) Standard Style (GP)
- ___5) Simplify First (GP)
- ___6) Lesson Quiz
- ___7) **Measuring Madness

5.2 Multiply Mixed Numbers

- ___8) Review Worksheet
- ___9) Improper Fractions (GP)
- ___10) Multiplying Mixed Numbers Lesson
- ___11) Multiply Mixed Numbers (GP)
- ___12) Lesson Quiz
- ___13) **Area and Perimeter

5.3 Dividing Fractions

- ___14) Review Worksheet
- ___15) Improper Fractions (GP)
- ___16) Dividing Fractions Lesson
- ___17) Dividing Fractions (GP)
- ___18) Dividing Mixed Numbers Lesson
- ___19) Dividing Mixed Numbers (GP)
- ___20) Lesson Quiz
- ___21) **Splitting the Treasures

5.4 Equations with Multiplication and Division

- ___22) Review Worksheet
- ___23) Equations with Fractions Lesson
- ___24) Equations with Fractions (GP)
- ___25) Equations with Mixed Numbers Lesson
- ___26) Equations with Mixed Numbers (GP)
- ___27) Lesson Quiz
- ___28) **AR Points

5.5 Least Common Multiple

- ___29) Review Worksheet
- ___30) Least Common Multiple Lesson
- ___31) LCM (GP)
- ___32) Lesson Quiz
- ___33) **When will it Happen?

5.6 Estimating Sums and Differences

- ___34) Review Worksheet
- ___35) Estimation (GP)
- ___36) Lesson Quiz
- ___37) **EOG Estimation

5.7 Add and Subtract Fractions

- ___38) Review Worksheet
- ___39) Adding Fractions Lesson
- ___40) Adding Fractions (GP)
- ___41) Across, Up, Up (GP)
- ___42) Easy LCD (GP)
- ___43) Like Denominators (GP)
- ___44) Adding Fractions Drill
- ___45) Subtracting Fractions Lesson
- ___46) Subtracting Fractions (GP)
- ___47) Across, Up, Up (GP)
- ___48) Easy LCD (GP)
- ___49) Like Denominators (GP)
- ___50) Subtracting Fractions Drill
- ___51) Lesson Quiz
- ___52) **Great Weight

5.8 Add and Subtract Mixed Numbers

- ___53) Review Worksheet
- ___54) Adding Mixed Numbers Lesson
- ___55) Adding Mixed Numbers (GP)
- ___56) Adding Mixed Numbers Drill
- ___57) Subtracting Mixed Numbers Lesson
- ___58) Subtracting Mixed Numbers (GP)
- ___59) Subtracting Mixed Numbers Drill
- ___60) Lesson Quiz
- ___61) **Practical Perimeters

5.9 Regrouping to Subtract

- ___62) Regrouping Mixed Numbers
- ___63) Regrouping Mixed Numbers Lesson
- ___64) Regrouping Mixed Numbers (GP)
- ___65) Regrouping Mixed Numbers Drill
- ___66) Subtracting Mixed Numbers Lesson
- ___67) Subtracting Mixed Numbers (GP)
- ___68) Subtracting Mixed Numbers Drill
- ___69) Lesson Quiz
- ___70) **Olympic Champions

5.10 Equations with Addition and Subtraction

- ___71) Review Worksheet
- ___72) Equations with Fractions Lesson
- ___73) Equations with Fractions (GP)
- ___74) Equations with Mixed Numbers Lesson
- ___75) Equations with Mixed Numbers (GP)
- ___76) Lesson Quiz
- ___77) **Ready for the EOG

Word List – 3 Column Notes

Word	Definition	Example
Denominator	The bottom of a fraction...the divisor	In $\frac{3}{4}$, the 4 is the denominator.
Dividend		
Divisor		
Equivalent		
Factor		
Improper		
LCD		
LCM		
Minuend		
Mixed Number		
Multiple		
Numerator		
Product		
Proper		
Quotient		
Reciprocal		
Simplest Form		
Subtrahend		

Math Journal - Chapter 5 - Computation with Fractions

- 5.01 Write a "How To" paragraph to explain how to multiply three fifths by two thirds using one of the 3 methods that you were shown today. Make sure to identify which method you are modeling.
- 5.02 Multiplying mixed numbers is easy - but not as easy as some students try to make it. Create a poster to remind your peers that you must convert mixed numbers into improper fractions before you multiply.
- 5.03 Create a flow map (with examples) to show the steps required to "divide" fractions.
- 5.04 No Entry - Use this time to make a final product for journal entry 5.2 or 5.3
- 5.05 Create a double bubble map to compare and contrast the list method with the prime factorization method for finding LCM. Write a "persuasion" paragraph to try to convince your peers that your favorite method is the best.
- 5.06 Create 2 models using problems 25 and 28 from text pages 238 and 239. Make sure to show the "rounded" version in a clear manner.
- 5.07 Create a demonstration (using fraction strips) to model the addition of four fifths and three sevenths.
- 5.08 No Entry - Complete Workbook page 5.8
- 5.09 When regrouping fractions, you need to pay special attention to the denominator. Use fraction strips (or pies) to show why $7\frac{1}{4}$ is regrouped as $6\frac{5}{4}$ rather than $6\frac{11}{4}$.
- 5.10 Cheerleading: Keeping the problem balanced while using inverse operations is the part of the process that most students fail to maintain. Create a (or improve your previous) poem, song or cheer to encourage your classmates to consider keeping a problem balanced. Come on students - think *High School Musical* or *Even Stevens - Influenza!*

General Scoring Rubric:

- 0 No Response
- 1 Wrong response
- 2 Weak response
- 3 Showed understanding
- 4 Showed understanding and cited an example
- 5 Showed understanding, cited examples and communicated effectively enough to enable others to understand.

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Multiplying Fractions

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.04a, 1.04b, 1.07 Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Examine student performance on multiplying fractions by whole numbers.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
To multiply fractions you need to multiply the numerators. Then multiply the denominators and then simplify. We will examine the "Best Method" and then I will teach you the "simplify first" method.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling			✓
Presentation	✓	Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators	Movement	
Technology Integration	✓	Storytelling	Humor	
Use of visuals	✓	Field Trips(Virtual)	Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching	Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play	Other: Math6.org	✓

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Write a "How To" paragraph to explain how to multiply three fifths by two thirds using one of the 3 methods that you were shown today. Make sure to identify which method you are modeling.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Multiplying Fractions

Essential Question: During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers: **1.04a, 1.04b, 1.07**
Outcomes: Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 210-215
Anticipatory Set: Today we will learn about multiplying fractions.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (how to)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: To multiply fractions you need to multiply the numerators. Then multiply the denominators and then simplify. We will examine the "Best Method" and then I will teach you the "simplify first" method.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Demonstrate Best Method using $\{1/3 * 1/5 ; 3/8 * 2/9 \text{ and } 5/8 n \text{ when } n = 1/3\}$
Demonstrate the simplify first method using $\{3/4 * 4/5 ; 2/7 * 3/6 \text{ and } 4/5 * 6/15\}$

After the Lesson

Independent Practice Text page 214-215 {1–6, 10–18, 25–31 odd, 39–45}
AIG: {2–18 even, 19–45}
Assign workbook page 5.1

Closure / Assessment: Write a "How To" paragraph to explain how to multiply three fifths by two thirds using one of the 3 methods that you were shown today. Make sure to identify which method you are modeling.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **9** activities connected with this lesson

[Multiplying Fractions Lesson](#)

[Multiply Fractions GP](#)

[Standard Style GP](#)

[Simplify First Guided Practice](#)

****Measuring Madness**

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Multiplying Mixed Numbers

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.04a, 1.04b, 1.07 Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Examine student performance on multiplying fractions.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Share the Best in Class from yesterday's paragraphs. Today we will learn about multiplying fractions and mixed numbers.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓		
Hands-on experiences	✓	Direct Instruction	✓	Modeling	✓		
Presentation	✓	Testing		Other: Math6.org	✓		

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps	✓	Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other: Math6.org

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Multiplying mixed numbers is easy - but not as easy as some students try to make it. Create a poster to remind your peers that you must convert mixed numbers into improper fractions before you multiply.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Multiplying Mixed Numbers

Essential Question:	During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	1.04a, 1.04b, 1.07 Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 216-219
Anticipatory Set:	Today we will learn about multiplying fractions and mixed numbers.
Presentation of Information:	
Integration of Other Subjects:	Writing (presentation/display) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Multiplying Mixed Numbers is not as easy as it looks. You must turn each factor into an improper fraction before you multiply.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Demonstrate Multiplying Mixed Numbers using $\{2 \frac{1}{2} * 1 \frac{1}{3} ; 1 \frac{1}{4} * 3 \frac{4}{5} ; 3 \frac{4}{4} * 2 \frac{1}{3} ; 5 * 3 \frac{2}{11}\}$

After the Lesson

Independent Practice	Text page 218-219 {1–24, 37–42, 52–55} AIG: {22–55} Assign workbook page 5.2
Closure / Assessment:	Multiplying mixed numbers is easy - but not as easy as some students try to make it. Create a poster to remind your peers that you must convert mixed numbers into improper fractions before you multiply.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **8** activities connected with this lesson

[Improper Fractions Guided Practice](#)

[Multiplying Mixed Numbers Lesson](#)

[Multiply Mixed Numbers Guided Practice](#)

**Area and Perimeter

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Dividing Fractions and Mixed Numbers

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.04a, 1.04b, 1.07 Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Examine student performance on multiplying fractions and mixed numbers.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Share the Posters from yesterday's lesson. "Don't let dividing fractions flip you out!" Today we learn how to divide fractions and mixed numbers.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling			✓
Presentation	✓	Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators	Movement	
Technology Integration	✓	Storytelling	Humor	
Use of visuals	✓	Field Trips(Virtual)	Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching	Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play	Other: Math6.org	✓

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Create a flow map (with examples) to show the steps required to "divide" fractions.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Dividing Fractions and Mixed Numbers

Essential Question:

During the couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers: Outcomes:

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials:

Textbook pages 222-225

Anticipatory Set:

Today we learn how to divide fractions and mixed numbers.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Writing (sequencing)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling:

The only way to divide fractions is to multiply by the reciprocal. We will learn to create reciprocals then practice multiplying by the reciprocal.

Differentiation:

504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:

Model creating reciprocals $\{1/5 ; 3/4 ; 2 1/3\}$ Model dividing fractions $\{4/5 \div 2/3 ; 3/8 \div 3 ; 1 3/7 \div 7/10 ; 2 2/3 \div 3 5/6 \}$

After the Lesson

Independent Practice

Text page 224-225 {1-4, 11-18, 43, 45, 49, 60-64}
AIG: {11-18, 43-45, 48-50, 60-64}
Assign workbook page 5.3

Closure / Assessment:

Create a flow map (with examples) to show the steps required to "divide" fractions.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are 10 activities connected with this lesson

[Improper Fractions GP](#)

[Dividing Fractions Lesson](#)

[Dividing Fractions GP](#)

[Dividing Mixed Numbers Lesson](#)

[Dividing Mixed Numbers GP](#)

**Splitting the Treasures

Math Objectives

5.02

Use and evaluate algebraic expressions.

Essential Question

About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else?

(Explain)

Wayne County Schools 21st Century Instructional Lesson Plan

Solving Fraction Equations: Multiplication and Division

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
5.02 Use and evaluate algebraic expressions.							
Essential Question(s) (In student-friendly terms)							
About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Examine student performance on multiplying and dividing fractions and mixed numbers.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Fraction equations involving multiplication and division is all about the reciprocal! Multiply both sides of the equation by the reciprocal of the fractional portion of the variable.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling			✓
Presentation	✓	Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators	Movement	
Technology Integration	✓	Storytelling	Humor	
Use of visuals	✓	Field Trips(Virtual)	Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching	Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play	Other: Math6.org	✓

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Use this time to respond to the essential question.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Solving Fraction Equations: Multiplication and Division

Essential Question: About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)

Objective (s) Numbers: **5.02**
Outcomes: Use and evaluate algebraic expressions.

Materials: Textbook pages 226-231

Anticipatory Set: Fraction equations involving multiplication and division is all about the reciprocal! Multiply both sides of the equation by the reciprocal of the fractional portion of the variable.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Reading (vocabulary, problem solving, analyzing expectation)

Integration of Reading: Reading for information and interpretation.

Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Fraction equations involving multiplication and division is all about the reciprocal! Multiply **both** sides of the equation by the reciprocal of the fractional portion of the variable.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Model solving the following fraction equations. $\{2/3 n = 14 ; 2n = 1/3 ; 5n/6 = 4\}$

After the Lesson

Independent Practice Text page 228-229 {1–16, 22–25, 33–45}
AIG: {13-45}
Assign workbook page 5.4

Closure / Assessment: No Entry - Use this time to make a final product for journal entry 5.2 or 5.3

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **9** activities connected with this lesson

[Equations with Fractions Lesson](#)

[Equations with Fractions Guided Practice](#)

[Equations with Mixed Numbers Lesson](#)

[Equations with Mixed Numbers Guided Practice](#)

**AR Points

Math Objectives

1.05

Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.

Essential Question

Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan Least Common Multiple (LCM & LCD)

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.05 Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.							
Essential Question(s) (In student-friendly terms)							
Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student performance on GCF and Prime Factorization.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will learn how to discover the least common multiple of a data set.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			
Hands-on experiences	✓	Direct Instruction	✓	Modeling			
Presentation	✓	Testing		Other: Math6.org			

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps	✓	Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating		Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other: Math6.org

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Create a double bubble map to compare and contrast the list method with the prime factorization method for finding LCM. Write a "persuasion" paragraph to try to convince your peers that your favorite method is the best.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Least Common Multiple (LCM & LCD)

Essential Question: Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers: **1.05**
Outcomes: Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.

Materials: Textbook pages 236-239
Anticipatory Set: Today we will learn how to discover the least common multiple of a data set.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (compare/contrast)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: The two ways to find LCM are the list method and prime factorization. We will study both methods today so that you can discover which method that you prefer.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: **List Method:** List the first 6 multiples for each term to find the LCM. {3, 5 and 6 ; 9, 12, 15} **Prime Factorization:** Use the Prime Factorization Method to find the LCM. {3, 5 and 6 ; 9, 12, 15 ; 12, 10 and 15 ; 2, 4, 5 and 6}

After the Lesson

Independent Practice Text page 234-235 {1, 14, 34, 38-48}
AIG: {1, 14, 34-35, 38-48}
Assign workbook page 5.5

Closure / Assessment: Create a double bubble map to compare and contrast the list method with the prime factorization method for finding LCM. Write a "persuasion" paragraph to try to convince your peers that your favorite method is the best.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson

[Least Common Multiple Lesson](#)

[LCM Guided Practice](#)

**When will it Happen?

Math Objectives

1.01c, 1.04c, 1.07

Make estimates in appropriate situations;
Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Estimating Fraction Sums and Differences

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.01c, 1.04c, 1.07 Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student performance on converting fractions to decimals.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will learn how to estimate fraction sums and differences.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			
Hands-on experiences	✓	Direct Instruction	✓	Modeling			
Presentation	✓	Testing		Other: Math6.org			

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps	✓	Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching	✓	Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating		Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other: Math6.org

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Create 2 models using problems 25 and 28 from text pages 238 and 239. Make sure to show the "rounded" version in a clear manner.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Estimating Fraction Sums and Differences

Essential Question:

Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers:
Outcomes:

1.01c, 1.04c, 1.07

Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials:

Textbook pages 240-245; Reteaching 5.6

Anticipatory Set:

Today we will learn how to estimate fraction sums and differences.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Writing (sequencing)

Reading (vocabulary, problem solving, analyzing expectation)

Integration of Reading:

Reading for information and interpretation.

Integration of Technology:

Computer, Projector, PowerPoint, Internet

Modeling:

Estimating Fraction Sums and Differences involves rounding each term to 0, $\frac{1}{2}$ or 1. We will use a reteaching page for today's lesson so that you can easily see how this works and is done.

Differentiation:

504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:

Use reteaching 5.6 as the guided practice so that the students will be encouraged to display the estimation process.

After the Lesson

Independent Practice

Text page 238-239 {1-13, 20-22, 26-29, 33-42}

AIG: {13-42}

Assign workbook page 5.6

Closure / Assessment:

Create 2 models using problems 25 and 28 from text pages 238 and 239. Make sure to show the "rounded" version in a clear manner.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities:

There are **6** activities connected with this lesson

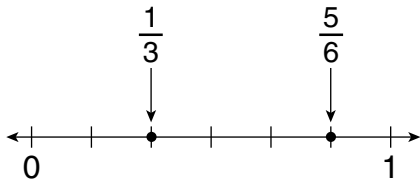
Estimation Guided Practice

**EOG Estimation

LESSON **Reteach**
5-6 **Estimating Fraction Sums and Differences**

You can use number lines to help you estimate fraction sums and differences.

To estimate the sum of $\frac{5}{6}$ and $\frac{1}{3}$, locate each fraction on a number line. Then round each fraction to 0, $\frac{1}{2}$, or 1.

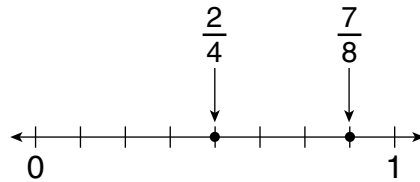


$$\frac{5}{6} + \frac{1}{3} \approx$$

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

So, $\frac{5}{6} + \frac{1}{3}$ is about $1\frac{1}{2}$.

To estimate the difference between $\frac{7}{8}$ and $\frac{2}{4}$, locate each fraction on a number line. Then round each fraction to 0, $\frac{1}{2}$, or 1.

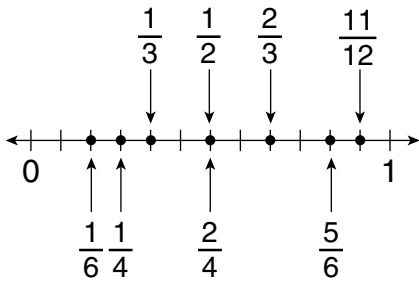


$$\frac{7}{8} - \frac{2}{4} \approx$$

$$1 - \frac{1}{2} = \frac{1}{2}$$

So, $\frac{7}{8} - \frac{2}{4}$ is about $\frac{1}{2}$.

Use the number line to round each fraction to 0, $\frac{1}{2}$, or 1 to estimate each sum or difference.



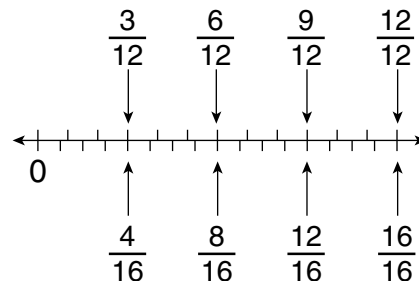
1. $\frac{5}{6} + \frac{1}{6}$

2. $\frac{11}{12} - \frac{1}{2}$

3. $\frac{2}{3} + \frac{2}{4}$

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

Use the number line to round each fraction to 0, $\frac{1}{2}$, or 1 to estimate each sum or difference.



5. $\frac{7}{12} + \frac{2}{6}$

6. $\frac{5}{6} - \frac{3}{8}$

7. $\frac{1}{4} + \frac{2}{6}$

8. $\frac{7}{8} + \frac{14}{16}$

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

Over the next three lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Adding and Subtracting with Unlike Denominators

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.01c, 1.04c, 1.07 Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
Over the next three lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student competence regarding prime factoring and assessment of how to write 1 as a fraction.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will learn to add and subtract fractions with unlike denominators.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			
Hands-on experiences	✓	Direct Instruction	✓	Modeling			
Presentation	✓	Testing		Other: Math6.org			

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps	✓	Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching	✓	Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other: Math6.org

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Create a demonstration (using fraction strips) to model the addition of four fifths and three sevenths.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Adding and Subtracting with Unlike Denominators

Essential Question:

Over the next three lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers:
Outcomes:

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials:

Textbook pages 242-245

Anticipatory Set:

Today we will learn to add and subtract fractions with unlike denominators.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Writing (How To)

Reading (vocabulary, problem solving, analyzing expectation)

Integration of Reading:

Reading for information and interpretation.

Integration of Technology:

Computer, Projector, PowerPoint, Internet

Modeling:

There are 3 ways to easily add or subtract fractions with unlike denominators. We will examine the Across Up Up method, the LCD method and the Mental Math (Easy LCD) method. You will want to use and master all three methods to make your fraction life much easier.

Differentiation:

504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:

Use a 4x4. Model Across Up Up solutions for $\{9/10 - 7/8 ; 3/4 + 4/7 ; 2/3 - 5/9\}$ Use a 4x4. LCD solutions for $\{3/4 + 1/6 ; 7/8 - 3/10 ; 1/2 + 2/3\}$ Use a 4x4. Easy LCD solutions for $\{5/12 - 1/6 ; 3/8 + 3/4 ; 5/7 - 2/21\}$

After the Lesson

Independent Practice

Text page 244-245 {1–15, 17–29 odd, 36, 38–39, 44–49}

AIG: {19–49}

Assign workbook page 5.7

Closure / Assessment:

Create a demonstration (using fraction strips) to model the addition of four fifths and three sevenths.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **17** activities connected with this lesson

[Adding Fractions Lesson](#)

[Subtracting Fractions Lesson](#)

****Great Weight**

[Adding Fractions GP](#)

[Subtracting Fractions GP](#)

[Across, Up, Up GP](#)

[Across, Up, Up GP](#)

[Easy LCD GP](#)

[Easy LCD GP](#)

[Like Denominators GP](#)

[Like Denominators GP](#)

[Adding Fractions Drill](#)

[Subtracting Fractions Drill](#)

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

Over the next two lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Wayne County Schools 21st Century Instructional Lesson Plan

Adding and Subtracting Mixed Numbers

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.01c, 1.04c, 1.07 Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
Over the next two lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student competence regarding prime factoring and assessment of how to write 1 as a fraction.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will learn to add and subtract mixed numbers with unlike denominators. *Examine regrouping when adding and subtracting with alternate bases*							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			
Hands-on experiences	✓	Direct Instruction	✓	Modeling			
Presentation	✓	Testing		Other: Math6.org			

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators	Movement	
Technology Integration	✓	Storytelling	Humor	
Use of visuals	✓	Field Trips(Virtual)	Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching	Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play	Other: Math6.org	✓

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

No Entry - Complete Workbook page 5.8

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Adding and Subtracting Mixed Numbers

Essential Question: Over the next two lessons, you will learn the two most challenging skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

Objective (s) Numbers: **1.04a, 1.04b, 1.07**
Outcomes: Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 246-249

Anticipatory Set: Today we will learn to add and subtract mixed numbers with unlike denominators.
Examine regrouping when adding and subtracting with alternate bases

During the Lesson

Presentation of Information:
Integration of Other Subjects: Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Adding and Subtracting Mixed Numbers is virtually the same as yesterday's lesson with the added point of occasionally needing to regroup. Today we will examine regrouping with addition, tomorrow we will learn how to regroup with subtraction.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use a 4x4 to model the process with $\{2 \frac{3}{4} + 1 \frac{5}{6} ; 4 \frac{5}{6} - 2 \frac{2}{9} ; 2 \frac{2}{3} + 1 \frac{3}{4}\}$

After the Lesson

Independent Practice Text page 248-249 {1–10, 23–28, 37–41 odd, 45–53}
AIG: {2–8 even, 11–25 odd, 43–53}
Assign workbook page 5.8

Closure / Assessment: No Entry - Complete Workbook page 5.8

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **14** activities connected with this lesson
[Adding Mixed Numbers Lesson](#) [Regrouping Mixed Numbers Lesson](#) [Subtracting Mixed Numbers Lesson](#)
[Adding Mixed Numbers GP](#) [Regrouping Mixed Numbers GP](#) [Subtracting Mixed Numbers GP](#)
[Adding Mixed Numbers Drill](#) [Regrouping Mixed Numbers Drill](#) [Subtracting Mixed Numbers Drill](#)
**Practical Perimeters

Math Objectives

1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)

Wayne County Schools 21st Century Instructional Lesson Plan

Renaming to Subtract Mixed Numbers

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.01c, 1.04c, 1.07 Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.							
Essential Question(s) (In student-friendly terms)							
All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student competence regarding prime factoring and assessment of how to write 1 as a fraction.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will learn how to regroup when subtracting. We will learn the proper way (regrouping) and the Brittany style. The Brittany style is just a little bit more work, but will always get the correct answer without ever needing to worry about regrouping the denominators.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling			✓
Presentation	✓	Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps	✓	Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other: Math6.org

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

When regrouping fractions, you need to pay special attention to the denominator. Use fraction strips (or pies) to show why $7 \frac{1}{4}$ is regrouped as $6 \frac{5}{4}$ rather than $6 \frac{11}{4}$.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Renaming to Subtract Mixed Numbers

Essential Question:	All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)
Objective (s) Numbers: Outcomes:	1.04a, 1.04b, 1.07 Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 250-255; Reteaching 5.9; Regrouping Drill
Anticipatory Set:	Today we will learn to subtract fractions with renaming.

During the Lesson

Presentation of Information:	
Integration of Other Subjects:	Writing (narratives) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Today we will learn how to regroup when subtracting. We will learn the proper way (regrouping) and the Brittany style. The Brittany style is just a little bit more work, but will always get the correct answer without ever needing to worry about regrouping the denominators.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use Reteaching 5.9 to model this skill.

After the Lesson

Independent Practice	Text page 254-255 {1–14, 27–30, 35–39 odd, 43–49} AIG: {23 - 49} Assign workbook page 5.9
Closure / Assessment:	When regrouping fractions, you need to pay special attention to the denominator. Use fraction strips (or pies) to show why $7 \frac{1}{4}$ is regrouped as $6 \frac{5}{4}$ rather than $6 \frac{11}{4}$.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities:	There are 11 activities connected with this lesson
Regrouping Lesson	Subtracting Mixed Numbers Lesson **Olympic Champions
Regrouping GP	Subtracting Mixed Numbers GP
Regrouping Drill	Subtracting Mixed Numbers Drill

Name _____

Regrouping Mixed Numbers

Regroup each of the following to borrow one from the whole number.

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

6. $3 \frac{2}{5} =$ _____

2. $3 \frac{1}{6} =$ _____

7. $3 \frac{1}{9} =$ _____

3. $5 \frac{5}{8} =$ _____

8. $2 \frac{4}{7} =$ _____

4. $15 \frac{11}{12} =$ _____

9. $9 \frac{1}{7} =$ _____

5. $11 \frac{1}{2} =$ _____

10. $1 \frac{3}{8} =$ _____

11. 9 regrouped to borrow one and have a fraction with a 4 in the denominator would be _____.

12. 11 regrouped to borrow one and have a fraction with a 5 in the denominator would be _____.

13. 6 regrouped to borrow one and have a fraction with a 7 in the denominator would be _____.

14. 12 regrouped to borrow one and have a fraction with a 2 in the denominator would be _____.

15. 3 regrouped to borrow one and have a fraction with a 8 in the denominator would be _____.

Name _____

Regrouping Mixed Numbers

Regroup each of the following to borrow one from the whole number.

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

6. $3 \frac{2}{5} =$ _____

2. $3 \frac{1}{6} =$ _____

7. $3 \frac{1}{9} =$ _____

3. $5 \frac{5}{8} =$ _____

8. $2 \frac{4}{7} =$ _____

4. $15 \frac{11}{12} =$ _____

9. $9 \frac{1}{7} =$ _____

5. $11 \frac{1}{2} =$ _____

10. $1 \frac{3}{8} =$ _____

11. 9 regrouped to borrow one and have a fraction with a 4 in the denominator would be _____.

12. 11 regrouped to borrow one and have a fraction with a 5 in the denominator would be _____.

13. 6 regrouped to borrow one and have a fraction with a 7 in the denominator would be _____.

14. 12 regrouped to borrow one and have a fraction with a 2 in the denominator would be _____.

15. 3 regrouped to borrow one and have a fraction with a 8 in the denominator would be _____.

LESSON

Reteach

5-9 Renaming to Subtract Mixed Numbers

You can use fraction strips to rename to subtract mixed numbers.

To find $3\frac{1}{4} - 1\frac{3}{4}$, first model the first mixed number in the expression.

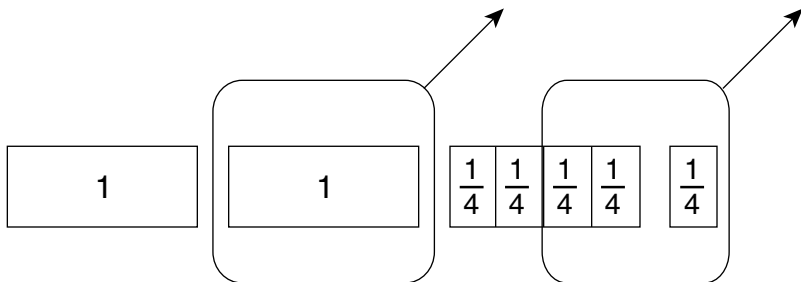


There are not enough $\frac{1}{4}$ pieces to subtract, so you have to rename.

Trade one one-whole strip for four $\frac{1}{4}$ pieces, because $\frac{4}{4} = 1$.



Now there are enough $\frac{1}{4}$ pieces to subtract. Take away $1\frac{3}{4}$.



The remaining pieces represent the difference. Write the difference in simplest form.

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

Use fraction strips to find each difference. Write your answer in simplest form.

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

2. $3\frac{1}{6} - 1\frac{5}{6}$

3. $4\frac{3}{8} - 1\frac{7}{8}$

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

5. $5\frac{5}{12} - 2\frac{7}{12}$

6. $3\frac{3}{10} - 1\frac{9}{10}$

7. $5\frac{1}{8} - 1\frac{5}{8}$

8. $4 - 1\frac{1}{3}$

9. $3\frac{1}{8} - 1\frac{3}{8}$

10. $2\frac{1}{8} - 1\frac{7}{8}$

11. $3 - 1\frac{1}{4}$

12. $6\frac{3}{8} - 2\frac{5}{8}$

Math Objectives

1.04a, 1.04b, 5.03

Analyze computational strategies; Describe the effect of operations on size; Solve simple (one- and two-step) equations or inequalities.

Essential Question

About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 4 or more days of instruction. Do you still support your teacher's decision to break this skill into 8 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)

Wayne County Schools 21st Century Instructional Lesson Plan

Solving Fraction Equations: Addition and Subtraction

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.04a, 1.04b, 5.03 Analyze computational strategies; Describe the effect of operations on size; Solve simple (one- and two-step) equations or inequalities.							
Essential Question(s) (In student-friendly terms)							
About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 4 or more days of instruction. Do you still support your teacher's decision to break this skill into 8 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Review student abilities with inverse operations.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will work with equations that involve addition or subtraction of fractions.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers			✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling			✓
Presentation	✓	Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games	Music/Rhyme/Rhythm/Rap	✓
Thinking Maps	✓	Student Facilitators	Movement	✓
Technology Integration	✓	Storytelling	Humor	✓
Use of visuals	✓	Field Trips(Virtual)	Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching	Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play	Other: Math6.org	✓

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Cheerleading: Keeping the problem balanced while using inverse operations is the part of the process that most students fail to maintain. Create a (or improve your previous) poem, song or cheer to encourage your classmates to consider keeping a problem balanced. Come on students - think High School Musical or Even Stevens - Influenza!

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Solving Fraction Equations: Addition and Subtraction

Essential Question:	About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 4 or more days of instruction. Do you still support your teacher's decision to break this skill into 8 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)
Objective (s) Numbers: Outcomes:	1.04a, 1.04b, 5.03 Analyze computational strategies; Describe the effect of operations on size; Solve simple (one- and two-step) equations or inequalities.
Materials:	Textbook pages 256-259
Anticipatory Set:	Today we will work with equations that involve addition or subtraction of fractions.

During the Lesson

Presentation of Information:	
Integration of Other Subjects:	Writing (poetry) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Solving equations with fractions uses the same process as the other algebra that you have studied this year. 1. Simplify anything that can be simplified. 2. Use inverse operations to get the variable alone. (Keep the problem balanced!) 3. Use substitution to check your answer.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4 to model solutions for $\{n + 6 \frac{2}{3} = 11 ; 2 \frac{1}{4} = n - 3 \frac{1}{2} ; 5 \frac{3}{5} = n + \frac{7}{10}\}$

After the Lesson

Independent Practice	Text page 258-259 { 1–10, 11–15 odd, 30, 33, 38–42} AIG: {23-42} Assign workbook page 5.10
Closure / Assessment:	Cheerleading: Keeping the problem balanced while using inverse operations is the part of the process that most students fail to maintain. Create a (or improve your previous) poem, song or cheer to encourage your classmates to consider keeping a problem balanced. Come on students - think <i>High School Musical</i> or <i>Even Stevens - Influenza!</i>

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **9** activities connected with this lesson

[Equations with Fractions Lesson](#)

[Equations with Fractions Guided Practice](#)

[Equations with Mixed Numbers Lesson](#)

[Equations with Mixed Numbers Guided Practice](#)

**Ready for the EOG

Math Objectives

1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;

Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.

Essential Question

What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)

Wayne County Schools 21st Century Instructional Lesson Plan

Computation with Fractions Review

NAME:		Subject: Math					
Date:		Grade Level (s): 6					
Standards/Objectives Addressed (NCSCOS)							
1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02; Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.							
Essential Question(s) (In student-friendly terms)							
What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)							
Assess (Look at student data to plan. Use formative and/or summative assessments.)							
Examine student performance on various skill assessments, journals and projects.							
High Yield Instructional Strategies (check all that apply to the lesson)							
Identifying similarities and differences		Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers		Summarizing and note taking		Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						
Learner Diversity							
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 							
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes.							
Engage (Anticipatory Set)							
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 							
Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.							
Instructional Practices Used in this Lesson							
Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers			
Discussion		Providing opportunities for practice	✓	Teacher-directed Questions and Answers			
Hands-on experiences		Direct Instruction		Modeling			
Presentation		Testing		Other: Math6.org			✓

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps		Student Facilitators	✓	Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals		Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics
Peer/Self Assessment	✓	Drawing or illustrating		Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Computation with Fractions Chapter Review

Essential Question: What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)

Objective (s) Numbers: **1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;**
Outcomes: Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.

Materials: Textbook pages 264-267; Test Form B

Anticipatory Set: Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Reading (vocabulary, problem solving, analyzing expectation)

Integration of Reading: Reading for information and interpretation.

Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss the value of careful review, the process that should occur when errors are made and the importance of reviewing material that students are less comfortable with.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss Instructions for the review on pages 264-266. Have the students review the Headings and address and questions or requests for immediate remediation.

After the Lesson

Independent Practice Text page 264-266 {1-54}
AIG: {1-54}
Assign Test Form B

Closure / Assessment: Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson

[Vocabulary Matching Practice](#)

[Practice Test](#)

[Fractions Quiz Bowl](#)

[Fractions Millionaire](#)

CHAPTER

5

Chapter Test

Form B

Multiply. Write each answer in simplest form.

1. $\frac{5}{7} \cdot \frac{3}{4}$ _____

2. $\frac{6}{11} \cdot \frac{5}{6}$ _____

Evaluate the expression $y \cdot \frac{1}{8}$ for each value of y . Write the answer in simplest form.

3. $y = \frac{16}{17}$ _____

4. $y = \frac{8}{11}$ _____

Multiply. Write each answer in simplest form.

5. $\frac{2}{3} \cdot 4\frac{1}{2}$ _____

6. $4\frac{1}{5} \cdot \frac{1}{3}$ _____

Find each product. Write the answer in simplest form.

7. $1\frac{1}{2} \cdot 3\frac{1}{6}$ _____

8. $3\frac{2}{3} \cdot 5\frac{1}{5}$ _____

Find the reciprocal.

9. $\frac{7}{6}$ _____

10. $\frac{1}{8}$ _____

Divide. Write each answer in simplest form.

11. $\frac{9}{11} \div 4$ _____

12. $2\frac{9}{10} \div 3\frac{1}{3}$ _____

Solve each equation. Write the answer in simplest form.

13. $\frac{2}{3}a = 4$ _____

14. $12t = \frac{1}{4}$ _____

15. $\frac{8y}{11} = 6$ _____

16. $\frac{1}{2} = \frac{n}{8}$ _____

Find the least common multiple (LCM).

17. 6 and 8 _____

18. 5 and 11 _____

19. 27, 90, and 84 _____

20. 3, 5, and 8 _____

Estimate each sum or difference by rounding to 0, $\frac{1}{2}$, or 1.

21. $\frac{1}{12} + \frac{3}{4}$ _____

22. $\frac{15}{16} - \frac{2}{3}$ _____

23. $\frac{17}{20} + \frac{1}{2}$ _____

24. $\frac{9}{10} - \frac{7}{8}$ _____

CHAPTER

Chapter Test**5****Form B, continued**

Add or subtract. Write each answer in simplest form.

25. $\frac{5}{6} - \frac{7}{12}$ _____

26. $\frac{7}{8} - \frac{5}{12}$ _____

27. $\frac{15}{24} + \frac{4}{24}$ _____

28. $\frac{3}{10} + \frac{3}{8}$ _____

Find each sum or difference. Write the answer in simplest form.

29. $3\frac{3}{4} + 2\frac{1}{8}$ _____

30. $9\frac{4}{5} - 2\frac{1}{2}$ _____

Subtract. Write each answer in simplest form.

31. $7\frac{1}{8} - 2\frac{5}{8}$ _____

32. $9 - 2\frac{2}{5}$ _____

33. $15\frac{2}{9} - 7\frac{5}{6}$ _____

34. $12 - 7\frac{2}{15}$ _____

Solve each equation. Write the solution in simplest form.

35. $y + 4\frac{1}{10} = 7$ _____

36. $7\frac{1}{6} = y - 3\frac{2}{3}$ _____

37. $\frac{4}{7}a = 6$ _____

38. $n - 2\frac{2}{5} = 5\frac{9}{10}$ _____

39. Pat has a $5\frac{3}{4}$ pound mixture of pecans and cashews. The mix includes $2\frac{2}{3}$ pounds of cashews. How many pounds are pecans?

40. At the end of her shift at The Deli Shop, Maria had sold $15\frac{3}{4}$ pounds of sliced turkey and $21\frac{2}{3}$ pounds of ham. What was the total weight of the meat?

Essential Question

Has your life improved or do you feel burdened by the steps you took after the last chapter to improve your test taking? (Explain)

Wayne County Schools 21st Century Instructional Lesson Plan Computation with Fractions Assessment

NAME:		Subject: Math			
Date:		Grade Level (s): 6			
Standards/Objectives Addressed (NCSCOS)					
1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02; Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.					
Essential Question(s) (In student-friendly terms)					
Has your life improved or do you feel burdened by the steps you took after the last chapter to improve your test taking? (Explain)					
Assess (Look at student data to plan. Use formative and/or summative assessments.)					
Examine student performance on concepts review.					
High Yield Instructional Strategies (check all that apply to the lesson)					
Identifying similarities and differences		Reinforcing effort and providing recognition	<input checked="" type="checkbox"/>	Nonlinguistic representation	Setting objectives and providing feedback
Questions, cues, and advance organizers		Summarizing and note taking		Cooperative learning	Generating and testing hypotheses
Homework and practice					
Learner Diversity					
<ul style="list-style-type: none"> How will you differentiate to meet the needs of all learners in your class? 					
504 modifications ET and RA.					
Engage (Anticipatory Set)					
<ul style="list-style-type: none"> Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. 					
Today we will assess our mastery of Computation with Fractions.					
Instructional Practices Used in this Lesson					
Coaching		Providing Directions/ Instructions	<input checked="" type="checkbox"/>	Learning Centers	
Discussion		Providing opportunities for practice		Teacher-directed Questions and Answers	
Hands-on experiences		Direct Instruction		Modeling	
Presentation		Testing	<input checked="" type="checkbox"/>	Other:	

Suggested brained-based learning activities promoting the above Instructional Practices				
Think-Pair-Share		Instructional Games		Music/Rhyme/Rhythm/Rap
Thinking Maps		Student Facilitators		Movement
Technology Integration	✓	Storytelling		Humor
Use of visuals		Field Trips(Virtual)		Project/Problem- Based Learning
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics
Peer/Self Assessment		Drawing or illustrating		Other:
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:

Type(s) of Grouping Used:

small group student pairs whole group individual

Explain, Explore, Elaborate

Content Chunks: How will you divide and teach the content?

- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)

- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?

Describe, Analyze, Reflect:

- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____

Time Frame: **80 minutes**

Computation with Fractions Assessment

Essential Question: Has your life improved or do you feel burdened by the steps you took after the last chapter to improve your test taking? (Explain)

Objective (s) Numbers: **1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;**
Outcomes: Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.

Materials: Cumulative Assessment (Form B)

Anticipatory Set: Today we will assess our mastery of Computation with Fractions.

During the Lesson

Presentation of Information:

Integration of Other Subjects: Writing (evaluation)
Reading (vocabulary, problem solving, analyzing expectation)

Integration of Reading: Reading for information and interpretation.

Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Review the Practice Test, answer questions and model answers.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss the Instructions.

After the Lesson

Independent Practice Assign Cumulative Review Test Form B

Closure / Assessment: Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?

Choose a Journal entry to share with your class.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson

[Vocabulary Matching Practice](#)

[Practice Test](#)

[Fractions Quiz Bowl](#)

[Fractions Millionaire](#)

Cumulative Test**Form B****Select the best answer.**

- Order the numbers 134, 146, 119 from least to greatest.
A 134, 119, 146 **C** 119, 134, 146
B 146, 134, 119 **D** 119, 146, 134
- Estimate $13,253 + 8,789$ rounding to thousands.
F 20,000 **H** 22,000
G 21,000 **J** 23,000
- Express $5 \times 5 \times 5$ in exponential form.
A 3^5 **C** 3^3
B 5^5 **D** 5^3
- Simplify $(25 + 20) \div 5 + 2^2$.
F 13 **H** 33
G 5 **J** 121
- Which represents the use of the Distributive Property in determining 16×4 ?
A $10 \times 4 + 6 \times 4$
B $16 + 16 + 16 + 16$
C 4×16
D $4 \times 4 \times 4$
- Lisa receives \$5 per hour for babysitting her little brother. If she watches him 8 hours, how much money will she make?
F \$32 **H** \$40
G \$45 **J** \$13
- Identify the missing numbers in the sequence 1, 2, ?, 8, 16, ?, 64,....
A 3, 32 **C** 3, 48
B 4, 32 **D** 4, 24
- Evaluate $3x + 7$ for $x = 5$.
F 50 **H** 22
G 38 **J** 36
- Choose the expression that represents the phrase “y plus 18” and identify it as a numerical or algebraic expression.
A $18y$, numerical
B $18y$, algebraic
C $y + 18$, numerical
D $y + 18$, algebraic
- Which of the following is a solution for the equation $14p + 7 = 35$?
F $p = 1$ **H** $p = 3$
G $p = 2$ **J** $p = 4$
- Solve $r + 12 = 27$.
A $r = 5$ **C** $r = 15$
B $r = 12$ **D** $r = 39$
- Solve $14 = a - 11$.
F $a = 3$ **H** $a = 15$
G $a = 14$ **J** $a = 25$
- Solve $5t = 125$.
A $t = 25$ **C** $t = 120$
B $t = 10$ **D** $t = 625$
- Solve $\frac{c}{12} = 4$.
F $c = 3$ **H** $c = 12$
G $c = 48$ **J** $c = 16$

CHAPTER
5 **Cumulative Test**
Form B, continued

15. Order the decimals 0.75, 0.73, 0.8 from least to greatest.
A 0.8, 0.73, 0.75 **C** 0.75, 0.73, 0.8
B 0.8, 0.75, 0.73 **D** 0.73, 0.75, 0.8
16. Add $0.75 + 0.224$.
F 0.974 **H** 0.526
G 0.149 **J** 0.279
17. A volume of 0.570 liters is equal to how many milliliters?
A 5.7 mL **C** 570 mL
B 57 mL **D** 5700 mL
18. Express 3,258,000 in scientific notation.
F 3.258×10^4 **H** 3.258×10^6
G 3.258×10^5 **J** 3.258×10^7
19. Multiply 12.2×0.6 .
A 6.10 **C** 8.54
B 7.32 **D** 7.92
20. Divide $8.35 \div 0.25$.
F 16.7 **H** 41.75
G 8.10 **J** 33.4
21. Evaluate $23.1 \div y$ for $y = 11$.
A 0.21 **C** 2.3
B 2.1 **D** 11.1
22. The number 42 is divisible by which of the following: 2, 3, 4, 7, 12?
F 3, 7, 12 **H** 2, 3, 7
G 2, 4, 7 **J** 3, 4, 12
23. What is the prime factorization of 120?
A $2 \times 3^2 \times 5$ **C** $2^2 \times 3 \times 5^2$
B $2^3 \times 3 \times 5$ **D** $2^2 \times 3 \times 7$
24. What is the greatest common factor of 28, 42, and 56?
F 7 **H** 14
G 4 **J** 28
25. Order the following numbers from greatest to least: 0.68, $\frac{3}{4}$, 0.72.
A 0.68, 0.72, $\frac{3}{4}$
B 0.72, $\frac{3}{4}$, 0.68
C $\frac{3}{4}$, 0.68, 0.72
D $\frac{3}{4}$, 0.72, 0.68
26. Which of the following sets of fractions are equivalent to $\frac{2}{3}$?
F $\frac{6}{9}, \frac{8}{12}, \frac{14}{21}$
G $\frac{3}{6}, \frac{8}{12}, \frac{12}{18}$
H $\frac{12}{18}, \frac{18}{27}, \frac{24}{48}$
J $\frac{6}{9}, \frac{8}{18}, \frac{14}{21}$
27. Order the fractions $\frac{1}{2}, \frac{4}{7}, \frac{3}{8}$ from least to greatest.
A $\frac{3}{8}, \frac{4}{7}, \frac{1}{2}$
B $\frac{3}{8}, \frac{1}{2}, \frac{4}{7}$
C $\frac{1}{2}, \frac{3}{8}, \frac{4}{7}$
D $\frac{4}{7}, \frac{1}{2}, \frac{3}{8}$

CHAPTER

5

Cumulative Test**Form B, continued**

28. What is the value of $\frac{6}{7} - \frac{2}{7}$?

F $\frac{3}{7}$

H 0

G $\frac{4}{7}$

J $1\frac{1}{7}$

29. What is the value of $6 \times \frac{4}{9}$ in simplest form?

A $2\frac{4}{3}$

C $2\frac{2}{3}$

B $3\frac{1}{3}$

D $6\frac{4}{9}$

30. What is the value of $\frac{3}{4} \times \frac{2}{5}$ in simplest form?

F $\frac{3}{10}$

H $\frac{3}{4}$

G $\frac{4}{5}$

J $\frac{6}{20}$

31. What is the value of $5\frac{2}{5} \times \frac{5}{6}$ in simplest form?

A $5\frac{1}{3}$

C $4\frac{2}{3}$

B $5\frac{9}{10}$

D $4\frac{1}{2}$

32. What is the value of $8\frac{2}{7} \div 2\frac{1}{4}$ in simplest form?

F $3\frac{43}{63}$

H $6\frac{1}{28}$

G $10\frac{15}{28}$

J $18\frac{9}{14}$

33. Solve for g in the following equation:

$\frac{8g}{11} = 4.$

A $g = 3\frac{3}{11}$

C $g = 5\frac{1}{2}$

B $g = 2\frac{10}{11}$

D $g = 4\frac{8}{11}$

34. Find the least common multiple of 16 and 30.

F 90

H 180

G 480

J 240

35. Estimate the sum of $\frac{3}{5} + \frac{7}{8}$ by rounding to 0, $\frac{1}{2}$, or 1.

A $\frac{1}{2}$

C $1\frac{1}{2}$

B 1

D 2

36. What is the value of $\frac{8}{9} - \frac{5}{6}$ in simplest form?

F $\frac{1}{3}$

H 1

G $\frac{1}{18}$

J $1\frac{13}{18}$

37. What is the value of $2\frac{2}{3} + 4\frac{1}{5}$ in simplest form?

A $6\frac{13}{15}$

C $6\frac{1}{2}$

B $6\frac{2}{5}$

D $6\frac{11}{15}$

38. What is the value of $3\frac{1}{2} - 1\frac{1}{6}$ in simplest form?

F $2\frac{1}{6}$

H $2\frac{1}{3}$

G $1\frac{2}{3}$

J $1\frac{5}{6}$

39. What is the solution to the following equation, $5\frac{3}{4} + x = 14\frac{5}{6}$, in simplest form?

A $x = 20\frac{7}{12}$

C $x = 2\frac{40}{69}$

B $x = 9\frac{1}{12}$

D $x = 85\frac{7}{24}$

CHAPTER
5 **Cumulative Test**
Form B, continued

40. Find the missing values in the table.

n	$2 \times (n - 1)$
2	2
4	
8	

- F** 8, 16 **H** 6, 14
G 7, 15 **J** 6, 12

41. Solve for k . $35 \div k = 5$

- A** $k = \frac{1}{7}$ **C** $k = 30$
B $k = 7$ **D** $k = 40$

42. Express 2.41×10^4 in standard form.

- F** 241 **H** 24,100
G 2,410 **J** 241,000

43. Solve for x . $\frac{543}{x} = 181$

- A** $x = 3$ **C** $x = \frac{1}{3}$
B $x = 6$ **D** $x = 81$

44. What are the factors of 48?

- F** 1, 2, 4, 8, 18, 24, 48
H 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
G 1, 2, 3, 4, 6, 8, 9, 12, 48
J 1, 3, 4, 12, 14, 24, 36, 48

45. Oatmeal canisters 12 inches high are being stacked next to 18 inch tall paint cans. What is the shortest height at which the stacks will be the same height?

- A** 24 in. **C** 32 in.
B 36 in. **D** 216 in.

46. What is the value of $3\frac{1}{4} \times 1\frac{1}{2}$ in simplest form?

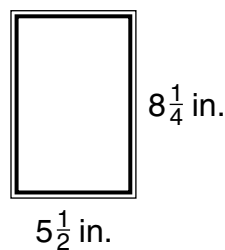
- F** $2\frac{1}{6}$ **H** $1\frac{3}{4}$
G $3\frac{1}{8}$ **J** $4\frac{7}{8}$

47. Solve for g in the following equation:

$$8g = \frac{24}{35}$$

- A** $g = \frac{3}{35}$ **C** $g = \frac{3}{32}$
B $g = \frac{1}{8}$ **D** $g = \frac{1}{14}$

48. What is the distance around the rectangular picture frame shown?



- F** $13\frac{1}{3}$ in. **H** $27\frac{1}{2}$ in.
G $13\frac{3}{4}$ in. **J** $41\frac{1}{4}$ in.

Name _____

Computation with Fractions Assessment

1	A	B	C	D
2	F	G	H	J
3	A	B	C	D
4	F	G	H	J
5	A	B	C	D
6	F	G	H	J
7	A	B	C	D
8	F	G	H	J
9	A	B	C	D
10	F	G	H	J
11	A	B	C	D
12	F	G	H	J
13	A	B	C	D
14	F	G	H	J
15	A	B	C	D
16	F	G	H	J
17	A	B	C	D
18	F	G	H	J
19	A	B	C	D
20	F	G	H	J
21	A	B	C	D
22	F	G	H	J
23	A	B	C	D
24	F	G	H	J
25	A	B	C	D
26	F	G	H	J
27	A	B	C	D

28	F	G	H	J
29	A	B	C	D
30	F	G	H	J
31	A	B	C	D
32	F	G	H	J
33	A	B	C	D
34	F	G	H	J
35	A	B	C	D
36	F	G	H	J
37	A	B	C	D
38	F	G	H	J
39	A	B	C	D
40	F	G	H	J
41	A	B	C	D
42	F	G	H	J
43	A	B	C	D
44	F	G	H	J
45	A	B	C	D
46	F	G	H	J
47	A	B	C	D
48	F	G	H	J

Name _____

Computation with Fractions Assessment

1	A	B	C	D
2	F	G	H	J
3	A	B	C	D
4	F	G	H	J
5	A	B	C	D
6	F	G	H	J
7	A	B	C	D
8	F	G	H	J
9	A	B	C	D
10	F	G	H	J
11	A	B	C	D
12	F	G	H	J
13	A	B	C	D
14	F	G	H	J
15	A	B	C	D
16	F	G	H	J
17	A	B	C	D
18	F	G	H	J
19	A	B	C	D
20	F	G	H	J
21	A	B	C	D
22	F	G	H	J
23	A	B	C	D
24	F	G	H	J
25	A	B	C	D
26	F	G	H	J
27	A	B	C	D

28	F	G	H	J
29	A	B	C	D
30	F	G	H	J
31	A	B	C	D
32	F	G	H	J
33	A	B	C	D
34	F	G	H	J
35	A	B	C	D
36	F	G	H	J
37	A	B	C	D
38	F	G	H	J
39	A	B	C	D
40	F	G	H	J
41	A	B	C	D
42	F	G	H	J
43	A	B	C	D
44	F	G	H	J
45	A	B	C	D
46	F	G	H	J
47	A	B	C	D
48	F	G	H	J

Computation with Fractions Assessment

1	A	B		D
2	F	G		J
3	A	B	C	
4		G	H	J
5		B	C	D
6	F	G		J
7	A		C	D
8	F	G		J
9	A	B	C	
10	F		H	J
11	A	B		D
12	F	G	H	
13		B	C	D
14	F		H	J
15	A	B	C	
16		G	H	J
17	A	B		D
18	F	G		J
19	A		C	D
20	F	G	H	
21	A		C	D
22	F	G		J
23	A		C	D
24	F	G		J
25	A	B	C	
26		G	H	J
27	A		C	D

28	F		H	J
29	A	B		D
30		G	H	J
31	A	B	C	
32		G	H	J
33	A	B		D
34	F	G	H	
35	A	B		D
36	F		H	J
37		B	C	D
38	F	G		J
39	A		C	D
40	F	G		J
41	A		C	D
42	F	G		J
43		B	C	D
44	F	G		J
45	A		C	D
46	F	G	H	
47		B	C	D
48	F	G		J

Chapter 5 Assessment

13	100%
12	92%
11	85%
10	77%
9	69%
8	62%
7	54%
6	46%
5	38%
4	31%
3	23%
2	15%
1	8%
0	0%