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

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<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td>The bottom of a fraction...the divisor</td>
<td>In $\frac{3}{4}$, the 4 is the denominator.</td>
</tr>
<tr>
<td>Dividend</td>
<td></td>
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<tr>
<td>Divisor</td>
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<td>Factor</td>
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<td>Improper</td>
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<td>LCD</td>
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<td>Minuend</td>
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<td>Reciprocal</td>
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<tr>
<td>Simplest Form</td>
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<tr>
<td>Subtrahend</td>
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</tbody>
</table>
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

<table>
<thead>
<tr>
<th>NAME:</th>
<th>Subject: Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Grade Level (s): 6</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Identifying similarities and differences</th>
<th>Reinforcing effort and providing recognition</th>
<th>Nonlinguistic representation</th>
<th>Setting objectives and providing feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions, cues, and advance organizers</td>
<td>Summarizing and note taking</td>
<td>Cooperative learning</td>
<td>Generating and testing hypotheses</td>
</tr>
<tr>
<td>Homework and practice</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Learner Diversity
- 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)
- 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

<table>
<thead>
<tr>
<th>Coaching</th>
<th>Providing Directions/Instructions</th>
<th>Learning Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>Providing opportunities for practice</td>
<td>Teacher-directed Questions and Answers</td>
</tr>
<tr>
<td>Hands-on experiences</td>
<td>Direct Instruction</td>
<td>Modeling</td>
</tr>
<tr>
<td>Presentation</td>
<td>Testing</td>
<td>Other: Math6.org</td>
</tr>
</tbody>
</table>
### Suggested brain-based learning activities promoting the above Instructional Practices

| Activity                          | Yes | Instructional Games | Music/Rhyme/Rhythm/Rap
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Think-Pair-Share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking Maps</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Integration</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of visuals</td>
<td>✓</td>
<td></td>
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<tr>
<td>Metaphor/Simile/Analogy</td>
<td>✓</td>
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<td>Writing/Reflecting/Journals</td>
<td>✓</td>
<td></td>
<td>Other: Math6.org</td>
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<tr>
<td><strong>Type(s) of Grouping Used:</strong></td>
<td></td>
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<tr>
<td>__small group</td>
<td></td>
<td>✓ student pairs</td>
<td>✓ whole group</td>
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<tr>
<td>_student pairs</td>
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<tr>
<td>_individual</td>
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</table>

### 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?
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

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 and 5/8 n when n = 1/3} Demonstrate the simplify first method using {3/4 * 4/5 ; 2/7 * 3/6 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

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</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Grade Level(s): 6</td>
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</table>

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)

<table>
<thead>
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Learner Diversity
- 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)
- 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

<table>
<thead>
<tr>
<th>Coaching</th>
<th>Providing Directions/Instructions</th>
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</tr>
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Suggested brain-based learning activities promoting the above Instructional Practices

<table>
<thead>
<tr>
<th>Think-Pair-Share</th>
<th>Instructional Games</th>
<th>Music/Rhyme/Rhythm/Rap</th>
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<th>Mnemonics</th>
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<tr>
<th>Peer/Self Assessment</th>
<th>Drawing or illustrating</th>
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<th>Writing/Reflecting/Journals</th>
<th>Simulations/Role Play</th>
<th>Other: Math6.org</th>
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<tbody>
<tr>
<td>✓</td>
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<td>✓</td>
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</table>

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.

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?
Multiplying Mixed Numbers

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 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.
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 1/2 * 1 1/3 ; 1 1/4 * 3 4/5 ; 3/4 * 2 1/3 ; 5 * 3 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)
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

• 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)

• 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

<table>
<thead>
<tr>
<th>Activity</th>
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<td></td>
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<td>✔</td>
<td>Simulations/Role Play</td>
<td></td>
<td>Other: Math6.org</td>
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</tbody>
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### 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?
Dividing Fractions and Mixed Numbers

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: 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 222-225
Anticipatory Set: Today we learn how to divide fractions and mixed numbers.

During the Lesson

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.

Guided Practice: Model creating reciprocals {1/5 ; 3/4 ; 2 1/3} Model dividing fractions {4/5 ÷ 2/3 ; 3/8 ÷ 3 ; 1 3/7 ÷ 7/10 ; 2 2/3 ÷ 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.

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

<table>
<thead>
<tr>
<th>Identifying similarities and differences</th>
<th>Reinforcing effort and providing recognition</th>
<th>Nonlinguistic representation</th>
<th>Setting objectives and providing feedback</th>
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</thead>
<tbody>
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<td>Generating and testing hypotheses</td>
</tr>
<tr>
<td>Homework and practice</td>
<td></td>
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<td></td>
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</table>

**Learner Diversity**

- 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)**

- 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**

<table>
<thead>
<tr>
<th>Coaching</th>
<th>Providing Directions/Instructions</th>
<th>Learning Centers</th>
</tr>
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<td></td>
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</tr>
<tr>
<td>Presentation</td>
<td>Testing</td>
<td>Other: Math6.org</td>
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### Suggested brain-based learning activities promoting the above Instructional Practices

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### 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?
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. \( \frac{2}{3} n = 14 \; ; \; 2n = \frac{1}{3} \; ; \; \frac{5n}{6} = 4 \)

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
• 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)
• 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 brain-based learning activities promoting the above Instructional Practices

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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?
Least Common Multiple (LCM & LCD)

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)
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)

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</tr>
</thead>
<tbody>
<tr>
<td>Questions, cues, and advance organizers</td>
<td>Summarizing and note taking</td>
<td>Cooperative learning</td>
<td>Generating and testing hypotheses</td>
</tr>
<tr>
<td>Homework and practice</td>
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</tbody>
</table>

Learner Diversity
- 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)
- 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

<table>
<thead>
<tr>
<th>Coaching</th>
<th>Providing Directions/Instructions</th>
<th>Learning Centers</th>
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<tbody>
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<thead>
<tr>
<th>Discussion</th>
<th>Providing opportunities for practice</th>
<th>Teacher-directed Questions and Answers</th>
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<tr>
<th>Hands-on experiences</th>
<th>Direct Instruction</th>
<th>Modeling</th>
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<tbody>
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<td>Other: Math6.org</td>
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<thead>
<tr>
<th>Presentation</th>
<th>Testing</th>
</tr>
</thead>
</table>
Suggested brain-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.

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?

See next page for instructional detail.

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?
**Estimating Fraction Sums and Differences**

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:** 1.01c, 1.04c, 1.07

**Outcomes:** 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)
- **Integration of Reading:** Reading (vocabulary, problem solving, analyzing expectation)
- **Integration of Technology:** Computer, Projector, PowerPoint, Internet

**Modeling:** Estimating Fraction Sums and Differences involves rounding each term to 0, 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**

**EEOG Estimation**
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.

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

\[
\frac{5}{6} + \frac{1}{3} \approx \frac{1}{2} + \frac{1}{2} = \frac{1}{2}
\]

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

\[
\frac{7}{8} - \frac{1}{4} \approx \frac{1}{2} - \frac{1}{2} = \frac{1}{2}
\]

So, $\frac{7}{8} - \frac{1}{4}$ 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. $\frac{1}{4} - \frac{1}{3}$
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)
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**  
- 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)**  
- 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 brain-based learning activities promoting the above Instructional Practices

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<tr>
<th>Activity</th>
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<td>Thinking Maps</td>
<td>✓</td>
<td></td>
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<tr>
<td>Technology Integration</td>
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<tr>
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<td>Writing/Reflecting/Journals</td>
<td>✓</td>
<td>✓ Other: Math6.org</td>
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</table>

### 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?
Adding and Subtracting with Unlike Denominators

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: 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 242-245
Anticipatory Set: Today we will learn to add and subtract fractions with unlike denominators.

During the Lesson

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.


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)
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
- Identifying similarities and differences
- Reinforcing effort and providing recognition
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Learner Diversity
- 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)
- 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 brain-based learning activities promoting the above Instructional Practices**

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<tr>
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<th>Movement</th>
<th>Storytelling</th>
<th>Humor</th>
<th>Field Trips (Virtual)</th>
<th>Project/Problem-Based Learning</th>
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<th>Other: Simulations/Role Play</th>
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**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.
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- 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?
Adding and Subtracting Mixed Numbers

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

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.

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

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<thead>
<tr>
<th>NAME:</th>
<th>Subject: Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Grade Level (s): 6</td>
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</tbody>
</table>

**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)**

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<th>Identifying similarities and differences</th>
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**Learner Diversity**

- 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)**

- 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**

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**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 1/4 is regrouped as 6 5/4 rather than 6 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?
**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:** 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 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)

**Integration of Reading:**
- Reading (vocabulary, problem solving, analyzing expectation)

**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 1/4 is regrouped as 6 5/4 rather than 6 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
  - Regrouping GP
  - Subtracting Mixed Numbers GP
  - Regrouping Drill
  - Subtracting Mixed Numbers Drill
  - **Olympic Champions**
Regrouping Mixed Numbers
Regroup each of the following to borrow one from the whole number.

1. \(5 \frac{3}{4} = \) _______
2. \(3 \frac{1}{6} = \) _______
3. \(5 \frac{5}{8} = \) _______
4. \(15 \frac{11}{12} = \) _______
5. \(11 \frac{1}{2} = \) _______
6. \(3 \frac{2}{5} = \) _______
7. \(3 \frac{1}{9} = \) _______
8. \(2 \frac{4}{7} = \) _______
9. \(9 \frac{1}{7} = \) _______
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 ______.
**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
- 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)
- 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

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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:** 1.04a, 1.04b, 5.03

**Outcomes:** 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 2/3 = 11 ; 2 1/4 = n - 3 1/2 ; 5 3/5 = n + 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 *High School Musical* or *Even Stevens - Influenza*

**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: [student's name]

Subject: Math

Date: [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)

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Learner Diversity

• 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)

• Capture the students’ attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.

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- _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?
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
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. \( \frac{2}{3} \cdot \frac{4}{2} \)

6. \( \frac{4}{5} \cdot \frac{1}{3} \)

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. \( \frac{9}{10} - \frac{7}{8} \)
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)
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)

<table>
<thead>
<tr>
<th>Identifying similarities and differences</th>
<th>Reinforcing effort and providing recognition</th>
<th>Nonlinguistic representation</th>
<th>Setting objectives and providing feedback</th>
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<tbody>
<tr>
<td>Questions, cues, and advance organizers</td>
<td>Summarizing and note taking</td>
<td>Cooperative learning</td>
<td>Generating and testing hypotheses</td>
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<td>Homework and practice</td>
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Learner Diversity
- How will you differentiate to meet the needs of all learners in your class?

504 modifications ET and RA.

Engage (Anticipatory Set)
- 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

<table>
<thead>
<tr>
<th>Coaching</th>
<th>Providing Directions/ Instructions</th>
<th>Learning Centers</th>
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<tr>
<td>Discussion</td>
<td>Providing opportunities for practice</td>
<td>Teacher-directed Questions and Answers</td>
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<td>Hands-on experiences</td>
<td>Direct Instruction</td>
<td>Modeling</td>
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<td>Presentation</td>
<td>Testing</td>
<td>Other:</td>
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</table>
**Suggested brained-based learning activities promoting the above Instructional Practices**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Instructional Games</th>
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<td>Think-Pair-Share</td>
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<td>Technology Integration</td>
<td>✓ Storytelling</td>
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<td>Use of visuals</td>
<td>Field Trips(Virtual)</td>
<td>Project/Problem- Based Learning</td>
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<td>Metaphor/Simile/Analogy</td>
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<td>Peer/Self Assessment</td>
<td>Drawing or illustrating</td>
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<tr>
<td>Writing/Reflecting/Journals</td>
<td>✓ Simulations/Role Play</td>
<td>Other:</td>
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</tbody>
</table>

**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?
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)
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.

1. 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

2. Estimate 13,253 + 8,789 rounding to thousands.
   F 20,000  H 22,000
   G 21,000  J 23,000

3. Express $5 \times 5 \times 5$ in exponential form.
   A $3^5$  C $3^3$
   B $5^5$  D $5^3$

4. Simplify $(25 + 20) ÷ 5 + 2^2$.
   F 13  H 33
   G 5  J 121

5. Which represents the use of the Distributive Property in determining $16 \times 4$?
   A $10 \times 4 + 6 \times 4$
   B $16 + 16 + 16 + 16$
   C $4 \times 16$
   D $4 \times 4 \times 4$

6. 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

7. Identify the missing numbers in the sequence 1, 2, 2, 8, 16, 2, 64,....
   A 3, 32  C 3, 48
   B 4, 32  D 4, 24

8. Evaluate $3x + 7$ for $x = 5$.
   F 50  H 22
   G 38  J 36

9. 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

10. Which of the following is a solution for the equation $14p + 7 = 35$?
    F $p = 1$  H $p = 3$
    G $p = 2$  J $p = 4$

11. Solve $r + 12 = 27$.
    A $r = 5$  C $r = 15$
    B $r = 12$  D $r = 39$

12. Solve $14 = a - 11$.
    F $a = 3$  H $a = 15$
    G $a = 14$  J $a = 25$

13. Solve $5t = 125$.
    A $t = 25$  C $t = 120$
    B $t = 10$  D $t = 625$

14. Solve $\frac{c}{12} = 4$.
    F $c = 3$  H $c = 12$
    G $c = 48$  J $c = 16
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 \(3.258 \times 10^4\)  H \(3.258 \times 10^6\)
   G \(3.258 \times 10^5\)  J \(3.258 \times 10^7\)

19. Multiply 12.2 \(\times\) 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 \(\frac{6}{9}, \frac{8}{14}, \frac{14}{21}\)

27. Order the fractions \(\frac{1}{2}, \frac{4}{7}, \frac{3}{8}\) from least to greatest.
    A \(\frac{3}{7}, \frac{4}{2}, \frac{1}{8}\)
    B \(\frac{3}{8}, \frac{1}{2}, \frac{4}{7}\)
    C \(\frac{1}{3}, \frac{4}{7}, \frac{3}{8}\)
    D \(\frac{4}{7}, \frac{1}{2}, \frac{3}{8}\)
28. What is the value of $\frac{6}{7} - \frac{2}{7}$?
   - F $\frac{3}{7}$
   - G $\frac{4}{7}$
   - H 0
   - J $1 \frac{1}{7}$

29. What is the value of $6 \times \frac{4}{9}$ in simplest form?
   - A $2 \frac{4}{3}$
   - B $3 \frac{1}{3}$
   - C $2 \frac{2}{3}$
   - D $6 \frac{4}{9}$

30. What is the value of $\frac{3}{4} \times \frac{2}{5}$ in simplest form?
   - F $\frac{3}{10}$
   - G $\frac{4}{5}$
   - H $\frac{3}{4}$
   - J $\frac{6}{20}$

31. What is the value of $5 \frac{2}{5} \times \frac{5}{6}$ in simplest form?
   - A $5 \frac{1}{3}$
   - B $5 \frac{9}{10}$
   - C $4 \frac{2}{3}$
   - D $4 \frac{1}{2}$

32. What is the value of $8 \frac{2}{7} \div 2 \frac{1}{4}$ in simplest form?
   - F $3 \frac{43}{63}$
   - G $10 \frac{15}{28}$
   - H $6 \frac{1}{28}$
   - J $18 \frac{9}{14}$

33. Solve for $g$ in the following equation: $\frac{8g}{11} = 4$.
   - A $g = 3 \frac{3}{11}$
   - B $g = 2 \frac{10}{11}$
   - C $g = 5 \frac{1}{2}$
   - D $g = 4 \frac{8}{11}$

34. Find the least common multiple of 16 and 30.
   - F 90
   - G 480
   - H 180
   - J 240

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

36. What is the value of $\frac{8}{9} - \frac{5}{6}$ in simplest form?
   - F $\frac{1}{3}$
   - G $\frac{1}{18}$
   - H 1
   - J $1 \frac{13}{18}$

37. What is the value of $2 \frac{2}{3} + 4 \frac{1}{5}$ in simplest form?
   - A $6 \frac{13}{15}$
   - B $6 \frac{2}{5}$
   - C $6 \frac{1}{2}$
   - D $6 \frac{11}{15}$

38. What is the value of $3 \frac{1}{2} - 1 \frac{1}{6}$ in simplest form?
   - A $2 \frac{1}{6}$
   - B $1 \frac{5}{6}$
   - C $2 \frac{1}{3}$
   - D $1 \frac{5}{6}$

39. What is the solution to the following equation, $5 \frac{3}{4} + x = 14 \frac{5}{6}$, in simplest form?
   - A $x = 20 \frac{7}{12}$
   - B $x = 9 \frac{1}{12}$
   - C $x = 2 \frac{40}{69}$
   - D $x = 85 \frac{7}{24}$
40. Find the missing values in the table.

<table>
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<th>n</th>
<th>2 \times (n - 1)</th>
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<tbody>
<tr>
<td>2</td>
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</table>

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 \(2.41 \times 10^4\) 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 \(\frac{21}{6}\)   H \(\frac{3}{4}\)
G \(\frac{31}{8}\)   J \(\frac{7}{8}\)

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.
### Computation with Fractions Assessment

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Computation with Fractions Assessment

Chapter 5 Assessment

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