6th Grade
5 day Unit

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# Table of Contents

1. Objectives .................................................................................................................. 3
2. NCTM Standards ........................................................................................................ 4
3. NYS Standards .......................................................................................................... 5
4. Resources .................................................................................................................... 5
5. Materials ..................................................................................................................... 6
6. Overview ...................................................................................................................... 7
7. Day 1 - fraction strips ............................................................................................... 8-11
8. Day 2 - equivalent fractions ..................................................................................... 12-17
9. Day 3 - simplify fractions ....................................................................................... 18-24
10. Day 4 - comparing fractions ................................................................................... 25-31
11. Day 5 - adding and subtracting fractions ............................................................... 32-34
Objectives

☆ Develop strategies to partition fraction strips for halves, thirds, fourths, fifths, sixths, eighths, ninths, tenths, and twelfths
☆ Explore the role of the numerator and the denominator and the part-to-whole nature of fractions
☆ Investigate equivalent fractions that result from different partitioning strategies
☆ Understand the role of the numerator and the denominator in a fraction and the part-to-whole nature of fractions
☆ Use fractions to represent part-to-whole relationships
☆ Begin to use fractions to find fraction parts of whole number quantities
☆ Understand the need to consider the size of the whole when comparing fraction amounts
☆ Begin to reason with fractions greater than one
☆ Recognize the role of the numerator and denominator when partitioning—that the size of the partition is different but we may need more or fewer partitions to create an equal amount
☆ Use fractions as operators to find the actual measure of a fraction length of a whole
☆ Understand the need to consider the size of the whole when comparing fractions
☆ Develop strategies for comparing and ordering fractions
☆ Learn how to use common denominators to compare and order fractions
☆ Learn how to find the simplest form of a fraction
☆ Understand how to use the GCF when finding the simplest form
☆ Use number sentences to express sums and differences
☆ Develop strategies for adding and subtracting fractions with like denominators
NCTM Standards

☆ Understand numbers, ways of representing numbers, relationships among numbers, and number systems
  o work flexibly with fractions, decimals, and percents to solve problems;
  o compare and order fractions, decimals, and percents efficiently and find their approximate locations on a number line

☆ Understand meanings of operations and how they relate to one another
  o understand the meaning and effects of arithmetic operations with fractions, decimals, and integers

☆ Organize and consolidate their mathematical thinking through communication;

☆ Communicate their mathematical thinking coherently and clearly to peers, teachers, and others;

☆ Analyze and evaluate the mathematical thinking and strategies of others;

☆ Use the language of mathematics to express mathematical ideas precisely.
NYS Standards

MST 3:
Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.
☆ 5.N.4 Students create equivalent fractions given a fraction.
☆ 5.N.5 Students compare and order fractions including unlike denominators (with and without the use of a number line)
☆ 5.N.9 Students compare fractions using <, >, or =.
☆ 6.N.16 Add and subtract fractions with unlike denominators

Resources

Pearson Prentice Hall, Bits and Pieces I: Understanding Fractions, Decimals and Percents-Grade 6, Glenda Lappan, James Fey, William Fitzgerald, Susan Friel, and Elizabeth Phillips, Investigation 1 pg.7, 10,11, Investigation 2 pg. 21-23, 2006

Scott Foresman, Math, Randall Charles, Carne Barnett, etc., Ch.7 section A pg. 302-305, 310-311, 316,317 Chapter 8 Section A pg. 348, 349,354-356, 1999
Materials Used

☆ Scott Foresman - MATH
☆ Strips of paper in different colors (10 for each student)
☆ Overhead fraction bars
☆ Overhead
☆ Fraction circle (enough for class)
☆ Fraction circle for overhead
☆ Fraction square (enough for class)
☆ Fraction square for overhead
☆ Lab sheet 1.4
☆ Transparency sheet 1.4
☆ Scissors
☆ Worksheet
☆ Lab sheet 2.1
☆ Transparency sheet 2.1
☆ Hershey’s Milk Chocolate Bar Fractions Book
☆ Hershey chocolate bars (1 per child)
Lesson Overview

Day 1 - Making fraction strips
In this lesson, students will be making their own fraction strips while using the fractions bars on the overhead as a model. After they have finished their strips, the students will learn how to name a fraction when given a shape with sections colored in.

Day 2 - Equivalent Fractions
In this lesson, the students will learn how to find equivalent fractions by using their fractions circles, fraction bars and fraction strips to see which fractions are the same. They will also be able to give names of other fractions that are equivalent to a certain fraction.

Day 3 - Simplify Fractions
In this lesson, the students will learn how to put a fraction into its simplest form by using their knowledge of the GCF (greatest common factor). They will use the fraction squares to visualize different fractions and in their simplest form.

Day 4 - Comparing and Ordering Fractions
In this lesson, students will compare two fractions to see which fraction is bigger. They will use their fraction strips and the fraction squares to determine which is bigger. The students will also learn how to put fractions in order from greatest to least and from least to greatest.

Day 5 - Adding and Subtracting Fractions
In this lesson, the students will be trying to figure out how much land each farmer gets by adding and subtracting fractions on the land plot. The students will then take their knowledge of adding and
subtracting fractions and will solve problems where the fractions have different denominators.

Day 1: Making Fraction Strips
Time: 60 minutes

Objectives: SWBAT:
☆ Develop strategies to partition fraction strips for halves, thirds, fourths, fifths, sixths, eighths, ninths, tenths, and twelfths
☆ Explore the role of the numerator and the denominator and the part-to-whole nature of fractions
☆ Tell where the numerator and denominator are
☆ Understand the role of the numerator and the denominator in a fraction and the part-to-whole nature of fractions
☆ Use fractions to represent part-to-whole relationships
☆ Begin to use fractions to find fraction parts of whole number quantities
☆ Understand the need to consider the size of the whole when comparing fraction amounts

Materials
☆ Bits and Pieces I
☆ Strips of paper in different colors (10 for each student)
☆ Overhead fraction bars
☆ Overhead

Procedure:
☆ Anticipatory set
  ▪ Ask the students the following questions:
    • Today we want to make a set of fraction strips that will be useful to us in making comparisons and solving problems.
    • What fractions do you think we will fold our strips into?
☆ Give the students the necessary strips (one in each color)
☆ Select one color and have the students label it "1"
Select another color and have the students fold it in half. The students will then label both parts 1/2.
  - Ask the students why they labeled each piece 1/2.
 Continue to have the students fold their strips into different fractions (1/3, 1/4, 1/5, 1/6, 1/8, 1/9, 1/10, 1/12) while walking around helping those students who needed it.
 Have students help each other to fold the strips if they are having trouble.
 Go over how to name a fraction based on the number of pieces that each strip or shape has
  - Use overhead fraction bars to show the students what each fraction looks like and how to name it.
 Students will work on questions from Bits and Pieces I book together in groups.

Closing
  - Gather students together as a large group
    - What are some different ways you could fold a half strip to make a twelfths strip? What fraction strip, besides halves, could you partition to make twelfths?
    - What fraction strips could be made by partitioning half strips? Fifths? Tenths?
    - How are these denominators related?
    - Which strips cannot be made by repeatedly partitioning another strip?
    - What do the numerator and denominator of a fraction tell you?
    - Can you use your sixths strip to explain what the numerator and denominator of mean?

Homework: worksheet
Wholes and Parts Homework

Write the fraction that names the shaded part of each.

1.  

2.  

3.  

4.  

5.  

6.  

7. What fraction strips could you make if you started with a fourths strip?

8. What fraction strips could you make if you started with a thirds strip?
Write the fraction that names the shaded part of each.

1. \[
\begin{array}{c}
\text{2/6}
\end{array}
\]

2. \[
\begin{array}{c}
\text{1/2}
\end{array}
\]

3. \[
\begin{array}{c}
\text{2/3}
\end{array}
\]

4. \[
\begin{array}{c}
\text{7/8}
\end{array}
\]

6. \[
\begin{array}{c}
\text{1/2}
\end{array}
\]

7. What fraction strips could you make if you started with a fourths strip?
\[
\begin{array}{c}
1/8, 1/12, 1/16 \text{ (multiples of 4)}
\end{array}
\]

8. What fraction strips could you make if you started with a thirds strip?
\[
\begin{array}{c}
1/6, 1/9, 1/12 \text{ (multiples of 3)}
\end{array}
\]
Day 2: Equivalent Fractions  
Time: 60 minutes

Objectives: SWBAT..  
☆ Investigate equivalent fractions that result from different partitioning strategies  
☆ Recognize the role of the numerator and denominator when partitioning—that the size of the partition is different but we may need more or fewer partitions to create an equal amount  
☆ Use fractions as operators to find the actual measure of a fraction length of a whole

Materials  
☆ Bits and Pieces I  
☆ Overhead  
☆ Fraction circle (enough for class)  
☆ Fraction circle for overhead  
☆ Fraction square (enough for class)  
☆ Fraction square for overhead  
☆ worksheet

Procedure:  
☆ Anticipatory set  
   ▪ Ask the students the following questions:  
      • In this problem you will be putting fractions on a number line and finding other fraction names for the fractions. As you work, look for patterns to create additional equivalent fractions.  
      ▪ Give students a picture of a fraction strip marked for 1/2. Ask the students for five other fractions that are equivalent to 1/2.

☆ Pass out fraction squares and fraction circles to the students.  
☆ Put a fraction on the overhead using the overhead fraction squares. Have the students find another way to make this fraction using only one type of square.
• Demonstrate to the students the same fraction using the fraction circle. This will show the students that fractions can be made out of any shape.

☆ Pass out worksheet on equivalent fractions that will help the students with the lesson.

☆ Students work in pairs to complete the worksheet.

☆ Closing

• Gather students together as a large group
  • How did you decide the name of the new marks on the number line?
  • What marks on the number line now have more than one label and what are the labels for each?

Homework: worksheet
Class work

1. Find parts of the fraction square that name the same amount as 1/2. Draw a picture of the fraction strips used.

2. Can you use 1/3 strip? Why or Why not?

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

3. Find the different fractions that equal each of the following fractions.

   a. 1/4 ................................................................................................................................
   b. 2/3 ................................................................................................................................
   c. 3/4 ................................................................................................................................
   d. 3/6 ................................................................................................................................
   e. 4/12 ................................................................................................................................
Class work

1. Find parts of the fraction square that name the same amount as 1/2. Draw a picture of the fraction strips used.

Answers will vary

2. Can you use 1/3 strip? Why or Why not?
No because 1/3 is too small and 2/3 is more than half the paper (or other answers)

3. Find the different fractions that equal each of the following fractions.

   f. 1/4 ____ 2/8, 3/12 ______________________________
   g. 2/3 ____ 4/6, 6/9, 8/12 __________________________
   h. 3/4 ____ 6/8, 9/12 ______________________________
   i. 3/6 ____ 1/2, 2/4, 4/8, 5/10, 6/12 __________________
   j. 4/12 ____ 1/3, 2/6, 3/9, ________________________
Equivalent Fractions Homework

1. Which picture shows a fraction equivalent to 1/3?
   a) [Diagram]
   b) [Diagram]
   c) [Diagram]

Write two new fractions for each given fraction.
2. 3/4 ________________________________
3. 1/2 ________________________________
4. 1/4 ________________________________
5. 2/16 ________________________________
6. 6/12 ________________________________
7. 3/6 ________________________________
8. 4/16 ________________________________
9. 4/12 ________________________________

10. Pat said she ate 1/2 of a pizza. Amir said he ate more since he ate 4/8 of the same size pizza. Is Amir correct? Explain.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. Draw a picture to show 4 of 16 sections of a swimming pool. Write two fractions that describe the picture.
1. Which picture shows a fraction equivalent to $\frac{1}{3}$?
   a) ![Picture A]
   b) ![Picture B]
   c) ![Picture C]

Write two new fractions for each given fraction.

10. $\frac{3}{4}$ ____________ $\frac{6}{8}, \frac{9}{12}$
11. $\frac{1}{2}$ ____________ $\frac{2}{4}, \frac{3}{6}$
12. $\frac{1}{4}$ ____________ $\frac{2}{8}, \frac{3}{12}$
13. $\frac{2}{16}$ ____________ $\frac{1}{8}, \frac{2}{24}$
14. $\frac{6}{12}$ ____________ $\frac{1}{2}, \frac{2}{4}$
15. $\frac{3}{6}$ ____________ $\frac{1}{2}, \frac{4}{8}$
16. $\frac{4}{16}$ ____________ $\frac{1}{4}, \frac{2}{8}$
17. $\frac{4}{12}$ ____________ $\frac{1}{3}, \frac{8}{24}$

10. Pat said she ate $\frac{1}{2}$ of a pizza. Amir said he ate more since he ate $\frac{4}{8}$ of the same size pizza. Is Amir correct? Explain.
   
   ________ No because $\frac{1}{2}$ is the same as $\frac{4}{8}$. They are equivalent fractions.

11. Draw a picture to show 4 of 16 sections of a swimming pool. Write two fractions that describe the picture.
   
   ![Picture Diagram] $\frac{2}{8}, \frac{1}{4}$
Day 3: Simplest Form  
Time: 60 minutes  

Objectives: SWBAT...  
☆ Learn how to find the simplest form of a fraction  
☆ Understand how to use the GCF when finding the simplest form  

Materials:  
☆ Notes on transparency  
☆ Overhead  
☆ Worksheet  
☆ Pencil  
☆ Hershey’s Milk Chocolate Bar Fractions Book  
☆ Hershey chocolate bars (1 per child)  

Procedure:  
☆ Anticipatory Set  
  o Ask the students if they remember what the greatest common factor is.  
  o Give the students 3 sets of numbers where they will have to give the GCF for each.  
    ▪ 4 and 12 GCF=4  
    ▪ 8 and 30 GCF=2  
    ▪ 12 and 42 GCF=6  

☆ Read Hershey’s Milk Chocolate Bar Fractions Book with the class.  
☆ Give each student a chocolate bar and have them do the activities in the book  
  o The students will learn about equivalent fractions and they will also see how to simplify fractions.  
☆ Give the students notes on how to find the simplest form of a fraction.  
☆ Students will then work in groups of 3 to work on a class sheet that will let them practice simplifying fractions.  
  o They will be able to use the fraction squares or fraction circles to complete the worksheet
Closing
  o Gather group back together
  o Ask students to describe their methods for simplifying a fraction.

Homework: worksheet
Notes for Simplifying Fractions

One Way:

Divide numerators and denominators by common factors until the GCF is 1

\[
\frac{18 \div 2}{24 \div 2} = \frac{9}{12}
\]

\[
\frac{9 \div 3}{12 \div 3} = \frac{3}{4}
\]

3/4 is the simplest form for 18/24.

Another Way:

Divide both numerator and denominator by their GCF.

Factors for 18: 1, 2, 3, 6, 9, 18
Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24

6 is the greatest common factor.

\[
\frac{18 \div 6}{24 \div 6} = \frac{3}{4}
\]
Class work on Simplest Form

Name: _______________________________________

Find the simplest form for each question.

1. 10/12  
2. 10/20  
3. 12/16  

4. 6/8  
5. 10/15  
6. 8/12  

7. 4/10  
8. 16/24  
9. 14/16  

10. Explain why all fractions with the numerator of 1 are in simplest form.

   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
Class work on Simplest Form  Answer Key

Name: _____________________________________

Find the simplest form for each question.

2. 10/12  2. 10/20  3. 12/16
   5/6      1/2      3/4

5. 6/8  5. 10/15  6. 8/12
   3/4      2/3      2/3

8. 4/10  8. 16/24  9. 14/16
   2/5      2/3      7/8

10. Explain why all fractions with the numerator of 1 are in simplest form.
The greatest common factor of 1 is 1 so there is no smaller form of a fraction with one in the numerator. One cannot be broken down into smaller pieces.
Homework for Simplest Form

Name: ______________________________________

Find the simplest form for each fraction.

1. $\frac{15}{20}$
2. $\frac{10}{16}$
3. $\frac{7}{14}$
4. $\frac{8}{10}$
5. $\frac{20}{30}$
6. $\frac{12}{21}$

Write whether each fraction is in its simplest form. For those that are not, find the simplest form.

1. $\frac{3}{9}$ __________________
2. $\frac{2}{7}$ _____________________
3. $\frac{3}{8}$ ___________________
4. $\frac{2}{14}$ ____________________

Applications:

1. There are 50 states in the United States. Only Florida, Alabama, Mississippi, Louisiana, and Texas border the shore of the Gulf of Mexico.
   A. What fraction of all the states is this? __________________
   B. When might you prefer to use a fraction that is not in simplest form, such as $\frac{5}{50}$?

Homework for Simplest Form Answer Key

Name: _____________________________________

Find the simplest form for each fraction.

1. 15/20
   3/4

2. 10/16
   5/8

3. 7/14
   1/2

4. 8/10
   4/5

5. 20/30
   2/3

6. 12/21
   4/7

Write whether each fraction is in its simplest form. For those that are not, find the simplest form.

1. 3/9 ___not simplest form___ 2. 2/7 ____Simplest form ______
   1/3

3. 3/8 ___simplest form______ 4. 2/14 ___not simplest form___
   1/7

Applications:
1. There are 50 states in the United States. Only Florida, Alabama, Mississippi, Louisiana, and Texas border the shore of the Gulf of Mexico.
   A. What fraction of all the states is this? ___5/50____________
   B. When might you prefer to use a fraction that is not in simplest form, such as 5/50?  answers will vary
Day 4: Comparing and Ordering Fractions  
Time: 60 minutes

Objectives: SWBAT
☆ Use fractions as operators to find the actual measure of a fraction length of a whole  
☆ Understand the need to consider the size of the whole when comparing fractions  
☆ Develop strategies for comparing and ordering fractions  
☆ Learn how to use common denominators to compare and order fractions

Materials:
☆ Fraction squares for class  
☆ Overhead fraction squares  
☆ Student worksheet  
☆ Overhead

Procedure:
☆ Anticipatory set
  o Review with students how to make equivalent fractions  
    ▪ Find the equivalent fraction for:
      • 1/2  
      • 3/5  
      • 3/8  
      • 3/10  
    o Review the different symbols for comparing: <, >, =

☆ Using the overhead fraction square, show how to compare two different fractions that have the same denominator.
  o If the denominators are the same, look at the numerator to compare fractions. The number that is bigger in the numerator, will be the bigger fraction.
  o Show this example using the fraction square.
    ▪ 3/8 ____ 5/8
☆ Using the overhead fraction square, show how to compare two fractions that have the same numerator.
Use the following fractions: 3/10  3/8
“Think of this problem as two different pizzas. One of your friends ate 3 pieces out of a pizza that had 10 slices and you ate 3 pieces out of a pizza that had 8 slices, who ate the most pizza?”
When the numerators are the same, the larger fraction is the fraction with the smaller denominator.
Show the students these two fractions using the fraction squares. Line up the two fraction strips and let the students visually see how long each fraction is.

Using the overhead fraction square, show the students how to compare two fractions when the fractions have nothing in common.
3/4 ____ 5/6
See notes

Give students a worksheet that they will complete with a partner.
The students will use their manipulatives to help compare and order fractions.

Closing:
Bring class back together and review the different ways that they can use to compare fractions.

Homework: Worksheet
Notes for comparing fractions

~when numerators and denominators are different~

3/4 ____ 5/6

One Way →

Find a common denominator using the least common multiple.

4:  4, 8, 12, 16, 20, 24...
6:  6, 12, 18, 24....

3/4: \[
\frac{3 \times 3}{4 \times 3} = \frac{9}{12}
\]

5/6: \[
\frac{5 \times 2}{6 \times 2} = \frac{10}{12}
\]

9/12 < 10/12 so 3/4 < 5/6

Another way →

Multiply the denominators.

\[
4 \times 6 = 24
\]

Use 24 as the common denominator.

3/4: \[
\frac{3 \times 6}{4 \times 6} = \frac{18}{24}
\]

5/6: \[
\frac{5 \times 4}{6 \times 4} = \frac{20}{24}
\]

18/24 < 20/24 so 3/4 < 5/6
Class Worksheet

Name: ________________________

Compare the fractions using <,>,= 

1. 1/4 [ ] 1/3 
2. 3/5 [ ] 5/6 
3. 3/4 [ ] 3/5 
4. 1/2 [ ] 3/5 
5. 5/6 [ ] 6/7 
6. 9/12 [ ] 3/4 
7. 2/3 [ ] 5/8 
8. 3/10 [ ] 3/8 
9. 5/7 [ ] 7/8 
10. 4/10 [ ] 9/20 
11. 2/6 [ ] 6/18 
12. 9/12 [ ] 2/3 

Order them from least to greatest.

1. 1/4, 2/3, 3/8 _________________________________
2. 7/8, 2/5, 2/3 _________________________________
3. 5/12, 3/5, 2/3 _________________________________
Class Worksheet  Answer Key

Name: ____________________________

Compare the fractions using <,>,=

1. $\frac{1}{4}$  $\underline{\text{<}}$  $\frac{1}{3}$
2. $\frac{3}{5}$  $\underline{\text{<}}$  $\frac{5}{6}$
3. $\frac{3}{4}$  $\underline{\text{>}}$  $\frac{3}{5}$
4. $\frac{1}{2}$  $\underline{\text{<}}$  $\frac{3}{5}$
5. $\frac{5}{6}$  $\underline{\text{<}}$  $\frac{6}{7}$
6. $\frac{9}{12}$  $\underline{\text{=}}$  $\frac{3}{4}$
7. $\frac{2}{3}$  $\underline{\text{>}}$  $\frac{5}{8}$
8. $\frac{3}{10}$  $\underline{\text{<}}$  $\frac{3}{8}$
9. $\frac{5}{7}$  $\underline{\text{<}}$  $\frac{7}{8}$
10. $\frac{4}{10}$  $\underline{\text{<}}$  $\frac{9}{20}$
11. $\frac{2}{6}$  $\underline{\text{=}}$  $\frac{6}{18}$
12. $\frac{9}{12}$  $\underline{\text{>}}$  $\frac{2}{3}$

Order them from least to greatest.

1. $\frac{1}{4}$, $\frac{2}{3}$, $\frac{3}{8}$  ____ $1/4$, $3/8$, $2/3$______________________________
2. $\frac{7}{8}$, $\frac{2}{5}$, $\frac{2}{3}$  ____ $2/5$, $2/3$, $7/8$______________________________
3. $\frac{5}{12}$, $\frac{3}{5}$, $\frac{2}{3}$  ____ $5/12$, $3/5$, $2/3$______________________________
Homework

Name: ____________________________________________

Compare using <,>,=.

1. \( \frac{4}{9} \) \( \square \) \( \frac{7}{8} \) 
2. \( \frac{6}{9} \) \( \square \) \( \frac{2}{3} \) 
3. \( \frac{1}{5} \) \( \square \) \( \frac{1}{15} \) 

4. \( \frac{2}{3} \) \( \square \) \( \frac{3}{5} \) 
5. \( \frac{1}{4} \) \( \square \) \( \frac{3}{8} \) 
6. \( \frac{1}{5} \) \( \square \) \( \frac{2}{10} \) 

7. \( \frac{6}{10} \) \( \square \) \( \frac{59}{100} \) 
8. \( \frac{2}{8} \) \( \square \) \( \frac{1}{4} \) 
9. \( \frac{4}{9} \) \( \square \) \( \frac{10}{12} \) 

Order fractions from least to greatest.

1. \( \frac{2}{3}, \frac{3}{7}, \frac{7}{8} \) _____________________________________

2. \( \frac{5}{9}, \frac{1}{2}, \frac{4}{7} \) _____________________________________

3. \( \frac{1}{2}, \frac{1}{3}, \frac{1}{4} \) _____________________________________

4. \( \frac{2}{3}, \frac{5}{8}, \frac{3}{4} \) _____________________________________
Homework Answer Key

Name: ______________________________

Compare using <,>,=.

1. \( \frac{4}{9} \) < \( \frac{7}{8} \)  
2. \( \frac{6}{9} \) = \( \frac{2}{3} \)  
3. \( \frac{1}{5} \) > \( \frac{1}{15} \)

4. \( \frac{2}{3} \) > \( \frac{3}{5} \)  
5. \( \frac{1}{4} \) < \( \frac{3}{8} \)  
6. \( \frac{1}{5} \) = \( \frac{2}{10} \)

7. \( \frac{6}{10} \) > \( \frac{59}{100} \)  
8. \( \frac{2}{8} \) = \( \frac{1}{4} \)  
9. \( \frac{4}{9} \) < \( \frac{10}{12} \)

Order fractions from least to greatest.

1. \( \frac{2}{3} \), \( \frac{3}{7} \), \( \frac{7}{8} \) ___ \( \frac{3}{7} \), \( \frac{2}{3} \), \( \frac{7}{8} \)________________________

2. \( \frac{5}{9} \), \( \frac{1}{2} \), \( \frac{4}{7} \) ___ \( \frac{1}{2} \), \( \frac{5}{9} \), \( \frac{4}{7} \)________________________

3. \( \frac{1}{2} \), \( \frac{1}{3} \), \( \frac{1}{4} \) ___ \( \frac{1}{4} \), \( \frac{1}{3} \), \( \frac{1}{2} \)________________________

4. \( \frac{2}{3} \), \( \frac{5}{8} \), \( \frac{3}{4} \) ___ \( \frac{5}{8} \), \( \frac{2}{3} \), \( \frac{3}{4} \)________________________
Day 5: Adding and Subtracting Fractions
Time: 60 minutes

Objectives:
☆ Use number sentences to express sums and differences
☆ Develop strategies for adding and subtracting fractions with like denominators

Materials:
☆ Bits and Pieces II
☆ Lab sheet 2.1
☆ Transparency sheet 2.1

Procedure:
☆ Anticipatory set
  o Review with students what a number sentence is
  o Make sure that students know that there are many names for a number sentence
    ▪ Mathematical sentence, addition sentence, subtraction sentence, multiplication sentence, and division sentence.
☆ Read the problem with the students
☆ Using the lab sheet, students will find out how much land each person owns in section 18 and in section 19
  o (teacher puts answer on overhead with the transparency for lab sheet 2.1)
  o Students complete assignment for Section 2.1 out of their books.

☆ Closing
  o Ask students the following questions:
    ▪ Who owns the largest piece of a section?
    ▪ Whose land, when added together equals Foley?
    ▪ What other fractions did you come up with for each section of land? Foley, Gardella, Stewart, Fitz, etc.
- What pieces of land, when added together equal 1 \( \frac{1}{2} \)?
- How do you decide if addition or subtraction will help solve a problem?

**Homework:** ACE (Application, Connections, Extensions) questions from book. Questions #1, 2, 28, 29