Equivalent Fractions and Comparing Fractions:
   Are You My Equal?

Brief Overview:

   This four day lesson plan will explore the mathematical concept of identifying
   equivalent fractions and using this knowledge to compare proper fractions. The
   students will utilize a variety of manipulatives to explore the relationships of
   fractions with denominators of values up to 12. At the end of the unit, the
   students will play the game "Are You My Equal?" to demonstrate their
   knowledge.

NCTM Content Standard/National Science Education Standard:

Numbers and Operations

Understand numbers, ways of representing numbers, relationships among numbers, and
number systems

- Understand and represent commonly used fractions, such as 1/4, 1/3, and 1/2.
- Develop understanding of fractions as parts of unit wholes, as parts of a
  collection, as locations on number lines, and as divisions of whole numbers;
- Use models, benchmarks, and equivalent forms to judge the size of fractions
- Recognize and generate equivalent forms of commonly used fractions, decimals,
  and percents;

Grade/Level:

   Grades: 2-3

Duration/Length:

   4 Days (60 minutes per day)

Student Outcomes:

   Students will:

- Read, write, and represent fractions as parts of a single region using symbols,
  words, and models
- Read, write, and represent fractions as parts of a set using symbols, words, and
  models
- Compare fractions or mixed numbers with or without using the symbols (<, >, =)
- Read, write, and represent fractions with different denominators as equivalent
- Compare and order fraction values on a number line from least to greatest

Materials and Resources:

Lesson #1: **Advance Preparation Necessary**
- Fraction templates (Resource 1-T)
- Hershey Fraction Book (ISBN # 0-439-13519-2)
- Large blank sheet of paper to record student guesses for Hershey Fraction Book
- Fraction plates
- Fraction strips
- Equivalent Fractions Worksheet (Resource 2-S)

Lesson #2:
- Fraction plates
- Fraction strips
- Dare to Compare! (Resource 4-S)
- Rules For Comparing Fractions (Resource 6-S)

Lesson #3:
- Sheet with Hershey Bar fraction student guesses (from Lesson #1)
- Hershey candy bars – 1 per student
- Fraction plates
- Fraction strips
- Fraction clothesline (Resource 7-S)
- Fraction clothes (Resource 9-S)

Lesson #4:
- 4 foot clothesline
- 10 clothes pins
- 5 blank 3x5 note cards
- Note cards with the printed numbers (0, ½, 1)
- Gameboard (Resource 11-S)
- Gameboard answer sheet (Resource 12-S)
- Gameboard fraction cards (Resource 13- S)
- 1 die per group
- Transparency of gameboard
- Transparency of answer sheet
- Fraction plates
- Fraction strips
- Overhead projector

Development/Procedures:

Lesson 1   Equivalent Fractions

Advanced preparation: Prior to the lesson it is necessary to assemble the fraction plates. Print and cut out enough fraction templates **(Resource 1-T)** so that each pair of

students will have a complete set. Glue a template to each plate and make **one** cut to the middle of each plate along **one** of the fraction lines. In each set, include two blank cut plates that will be used in later lessons.

Preassessment – Gather the students on the carpet to discuss their prior knowledge of fractions. On the board list and discuss what they know about fractions and what they represent. Make sure that they understand that fractions represent parts of a whole or a group. Write the word *equivalent* on the board. Ask the students what they think this word means using mathematical vocabulary. Guide the students to the understanding that in mathematics, equivalent means the same or equal.

Launch – Introduce the students to the book, The Hershey's Milk Chocolate Fraction's Book by Jerry Pallotta and Rob Bolster. Show them the cover and ask the students which of the fractions they see would give them the greatest share of the candy bar. Record their responses on the large blank sheet of paper by name. Each student must make a guess since we will use this information later in the unit. Read the story. Have the students return to their seats. **Remember to keep the guess sheet for use during Lesson #3.**

Teacher Facilitation – Divide the students into pairs. Pass out one set of assembled fraction paper plates to each pair of students. Give the students time to investigate the different plates in their piles. Have the students hold up the plate that is divided into the fewest pieces (1/2). Have the students hold up the plate that is divided into the most pieces (1/12.) Have the students place these two plates in front of them and move the remainder of the plates to the upper left hand corner of their desk. Ask the students what they notice about the two fraction plates. (Guide their discussion to include: size of plate and number of pieces each is divided into.) Ask them how many twelfths they think it will take to equal ½ of the plate (6). Have the students connect the two fraction plates by sliding the plates together at the slit openings. Have the students demonstrate their understanding by correctly aligning the two plates to show 6/12 = ½. Next, have the students combine the 1/3 and 1/12 fraction plates to show a 1/3 equivalency.

Student Application – Have the students work with their fraction plates to explore other possible equivalent combinations of ½. Have the student pairs raise their hand when they think they have discovered other 1/2 equivalent fraction.

Embedded Assessment – Distribute (**Resource 2-S**). Read and discuss the directions. Ask the students to continue working in pairs to create other equivalent fractions using the various fraction plates according to the worksheet directions. Answers may be found on Resource 3-T

Reteaching/Extension –**Reteach:** If the students have difficulty understanding the concept of equivalent fractions in the pie format, have the students use fraction strips. Have the students line up all of the strips in order from fewest parts to greatest parts. They can then explore the equivalency concept using their strips. This will offer the student another opportunity to gain a visual concrete understanding of the concept.

Extension: Give the student the opportunity to create his/her own equivalent fraction pair and record them on the bottom of their worksheet.

Lesson 2 Comparing Fractions

*Preassessment –*Divide the class into pairs. Pass out the same fraction plates that were used in class for lesson #1. Remember that each pair of students should have one complete set of plates. Have each pair pick one person to show an equivalent fraction using the ½ plate and any other plate of their choosing. Have the partners switch and have the other person show an equivalent fraction using the 1/3 plate and any other plate of their choosing. By observing, you should quickly be able to assess if the students are ready to proceed. If not, repeat the preassessment with more teacher guidance.

Launch – Is everything in life equal? Are all the people in the world an equal height? Is everyone's pencil today an equal length? Can you name some other things that you know of that are not equal? (Give the students an opportunity to list 3-4 additional items.) Do you think that all fractions are equal? (No) Yesterday we talked about how we can use different fraction plates to create equivalent (equal) fractions. Today we are going to discover more about fractions and how to compare them.

Teacher Facilitation – Before we start comparing fractions, let's come up with some simple rules that will help us understand a little more about fractions and how they work.

Let's look at the plate that is divided into 2 parts. Which plate is that? (1/2). How many parts is that plate divided into? (2) If we were going to separate this fraction plate into groups, how many groups (sets) would we have? (2). Remember, the denominator determines how many groups or sets we can make from our fraction.(2)

Now let's look at the plate that is divided into 4 parts. Which plate is that ? (1/4). How many parts is that plate divided into? (4) If we were going to separate this fraction plate into groups, how many groups (sets) would we have? (4). Remember, the denominator determines how many groups or sets we can make from our fraction.(4)

Are there any questions? If it is necessary to use an additional example, use the 1/8 fraction plate.

Important: The bigger the number in the denominator – the more parts there are to the fraction plate and the smaller each part is. Therefore, it takes more pieces on a fraction plate with a big denominator to equal the same fraction on a fraction plate with a smaller denominator.

Based on what we just learned, can you solve this problem?

Brad's mom ordered two pizzas from the pizzeria. She asked that 1 pizza be cut into 4 pieces and the other pizza be divided into 8 pieces. When the pizzas arrived, she gave Brad 1 piece from the pizza that was divided into 4 pieces and Brad's sister 1 piece from the pizza that was divided into 8 pieces. Who got the bigger piece of pizza? How do you know? Use your

fraction plates if you need help solving this problem. (Brad got ¼, his sister got 1/8 – Brad's sister got less pizza and we know this because the denominator of her piece of pizza is larger. We know from exploring fractions that the bigger the denominator, the smaller the piece because we divide up 1 whole into more equal pieces.)

The following rule is **always correct** when we are comparing fractions. **Rule #1 -** If the numerators of the two fractions that we are comparing are the same, the fraction with the smaller number in the denominator always represents the bigger (greater) fraction. Write Rule #1 on the board for the students to refer to during the remainder of the lesson. Refer back to the above problems and insure that the students have a concrete understanding of this rule.

Now let me change the story above a little, listen carefully for any changes?

Brad's mom ordered one pizza from the pizzeria. She asked that the pizza be cut into 4 pieces. When the pizzas arrived, she gave Brad 1 piece from the pizza that was divided into 4 pieces and Brad's sister 2 pieces from the pizza that was divided into 4 pieces.   Who got the bigger share of the pizza? How do you know? Use your fraction plate if you need help solving this problem. (Brad got ¼, his sister got 2/4 – Brad's sister got more pizza and we know this because the denominator of the pizza fraction is the same for both Brad and his sister. Therefore, since Brad's sister got 2 pieces (bigger numerator), she got more parts of the whole and therefore more pizza.)

The following rule is **always correct** when we are comparing fractions. **Rule #2 -** If the denominators of the two fractions that we are comparing are the same, the fraction with the larger number in the numerator always represents the bigger (greater) fraction. Write Rule #2 on the board for the students to refer to during the remainder of the lesson. Refer back to the above problems and insure that the students have a concrete understanding of this rule.

Now onto the tough part. What happens when neither the numerator or the denominator are the same? (Take time to get several student responses.) We are going to use our plates today in a different way to help us discover the answer. Take the two white plates and attach them to the ½ and 1/3 plates. You should have these two plates in front of you. Put all the other plates in the upper left hand corner of your desk.

Write the two fractions ½ and 1/3 on the board. Tell the students to show 1/3 on their first fraction plate and ½ on their second fraction plate. Put the plates side by side and compare the two fractions. Tell me what you notice. (Students should recognize that the ½ fraction plates covers more of the white area than the 1/3 fraction and therefore ½ is greater than 1/3.) Could we use a rule to help us solve this problem if we didn't have fraction plates? Which rule could we use ? (Rule #1 – smaller denominator, larger fraction.)

Lets try another one using the 1/8 and 1/5 fraction plates. Write these fractions on the board. Show 5/8 and 2/5 on your fraction plates . Put the plates side by side and compare the two fractions. Tell me what you notice. (5/8 > 2/5). Are there any rules that we can use to help up quickly solve this problem? (No, since neither the numerator or denominator is the same in either

fraction.) If we wanted to compare these two fractions what math symbols could we use (<,>,=).
Place the correct symbol on the board between the two fractions to complete the comparison.

Student Application – Now you are going to work with your partner. Using the fraction plates,
you and your partner are going to complete the worksheet: Dare to Compare. Distribute Dare to
Compare worksheet **(Resource 4-S)** and Rules for Comparing Fractions worksheet **(Resource
6-S)**. You are going to compare sets of fractions and decide whether the fraction on the left of the
set is greater that, less than, or equal to the fraction on the right. If you can use a rule to solve a
comparison, write either Rule #1 or Rule #2 beside the problem that explains the rule you used.
Remember, the alligator always eats the larger fraction. Read the directions and answer any
questions that the students have about what they are to do.

Embedded Assessment – "Your Thought For The Day" at the bottom of worksheet
(Resource 4-S).

Reteaching/Extension –**Reteach:** If the students have difficulty understanding the
concept of comparing fractions in the pie format, have the students use fraction strips.
Have the students line up all of the strips in order from least number of parts to greatest
number of parts. They can then explore the comparing concept using their strips. This
will offer the student another opportunity to gain a visual concrete understanding of the
concept. **Extension:** Give the student the opportunity to create his/her own flash cards.
They can use these flash cards to create a game of "comparison fraction war" with their
classmates.

Lesson 3 – Comparing and Sequencing Fractions

Preassessment – Write the fractions 2/3, 5/8, 1/4 on the board. Have each student make two
valid comparisons using the >, <, = symbols using the above fractions. Have several students
come to the board and share their comparisons. After each comparison, have all of the students
that have the same comparison written on their paper raise their hand. Have at least 3 students
come to the board to share.

Launch - Have the students look at the board and the comparisons that their fellow students
wrote. Ask them: If you had to find the largest fraction of these three fractions, how might you
do it? Take suggestions from the students and record them on the board.

Teacher Facilitation – Pass out the fraction plates. Before the students actually begin to order
(sequence) the fractions, they need to be reminded that fractions actually represent numbers less
than one whole. In order to help the students arrive at this conclusion, draw a number line on the
board with only the 0 labeled at the beginning (left hand side) and a blank line at the end of the
number line (right hand side) where another number needs to be written. Ask the students if they
were creating a fraction number line what is the greatest number they should use? If necessary,
remind the students what a fraction actually represents (part of one whole). Through clues and
teacher guidance, the students should come to the conclusion that the right hand number should
be 1. Write the number 1 on the number line on the chalkboard. Next, explain to the students
that in order to make our number line easier to read, we need to put at least one more number or

fraction on the line. Ask the students if it should be a whole number or a fraction? (a fraction.) Ask them what fraction they think would be the easiest and best fraction to use? Invite them to use their fraction plates to make their decision. The number line should have the fraction ½ added. Now that the number line is complete on the board, take the first fraction (2/3) and have the students combine the 1/3 fraction plate and a white plate to represent the visual fraction on their plate. Ask them if 2/3 is > ½ ? (yes). Ask them if 2/3 > 1? (no). What do we know then about where the fraction 2/3 should go on the number line? (between ½ and 1.) Continue to model with the fraction 5/8. Go through the same comparisons as you did with 2/3 (using ½ and 1.) However, now there is another number between the ½ and the 1 (2/3). Therefore, the student needs to make one more comparison with the 2/3 before he can place the fraction 5/8 on the line. Have the students use their fraction plates to make this comparison. The correct placement for the 5/8 is between 2/3 and 1. Remind the students that they should always use their fraction plates to compare the fractions if they cannot easily apply one of the fraction rules that they learned yesterday. (same numerator or same denominator). Model the final fraction ¼ using the same comparison methodology. The students should immediately noticed that ¼ is < ½, therefore it needs to be placed between the 0 and ½.

Student Application - Put <u>The Hershey's Milk Chocolate Fraction Book</u> student guess sheet on the board at the front of the room. You should have saved this paper from Lesson #1. Pass out the Fraction Clothesline worksheet **(Resource 7-S)**. Answers may be found on Resource 8-T. Remind the students that this guess list was generated at the beginning of class during lesson #1. Explain that now that we have explored fractions for three days, we are going to put our fraction smarts to work and use the Hershey Fractions Book guess sheet and our fraction plate to put the fractions on the cover of the book in order from least to greatest. Hold up the Hershey Chocolate fraction book and have the students locate all of the fractions on the front cover. List them on the board (there are 9.)
 Read the directions and **Model the fraction 1/8 with the class.** Ask the students if they have any questions before they begin.

Embedded Assessment – After the students have completed their clothesline, pass out the Fraction "Clothes" worksheet **(Resource 9-S)** to be independently completed by each student. Answers may be found on Resource 10-T. Read the directions and ask the students if they have any questions. This resource sheet is designed to allow the student to apply their cumulative knowledge and show acquired knowledge of fractions.

Reteaching/Extension –**Reteach:** If the students have difficulty understanding the concept of sequencing fractions in the pie format, have the students use fraction strips. Have the students line up all of the fractions strips and create representations for the fractions ½, 1/3, ¼. Once a proper sequencing pattern can be established using a single fraction piece from each denomination, more complex fraction patterns can be explored.   This will offer the student another opportunity to gain a visual concrete understanding of the concept. **Extension:** Give the student the opportunity to add fraction clothes to their clothesline.

Lesson #4 – Are You My Equal? (The Game)

Preassessment – Ask for 2 volunteers to be clothesline holders. Have these students come to the front of the room and hold up a 4 foot clothesline. The teacher will attach the following numbers and fractions to the clothesline with clothespins (0, ½, 1). Randomly pass out 5 additional fractions that have been prepared on 3 x 5 note cards. Ask the student with the first note card to come to the front of the room and attach the fraction card to the clothesline in the proper place. After that student has put the fraction on the clothesline, poll the class with the thumbs up/down signal if they think he/she has done a good job. If not, ask for a "thumbs up buddy" (someone who had their thumb turned up) to come forward and relocate the fraction card on the clothesline. Re-poll the class and then proceed with the remainder of the fraction cards.

Launch – Explain that today they are going to play the game "Are You My Equal?". The students should ideally play this game in pairs. However, a team of no more than three will also work well.

Teacher Facilitation –Model how the game is played using a transparency of the game board and answer sheet. Begin by modeling with the ½ fraction card. Hold up the fraction card. On the answer sheet transparency , write the fraction ½ in each of the boxes above the circles that contain the comparison signs. Put the game board transparency on the overhead. Roll the die and move your action figure disk (beginning on the home space) the number of spaces shown on the die. Whatever fraction the character card lands on is the fraction the student player needs to compare to the ½. Let's pretend the fraction we land on is ¾. Ask a student to compare the two fractions and tell you in which circle on the answer sheet we should put the fraction ¾. (the greater than circle because ¾ >1/2 .) Write the fraction in the greater than circle. Explain that it is now the next person's turn. Explain that the game continues until someone reaches the school. Also, if they land on one of the spaces that does not have a fraction, they need to read the box and do whatever it says. If the card sends them somewhere else on the board, they need to stay there until their next turn. (For example: You forgot your lunch – go back home .) Explain that they do not have to reach the school on an exact roll. The winner of the game is the player with the most fractions in their **equals** circle.

Student Application – The students should pick one or two friends to play the game. One student from each group needs to come to the front of the room and get one of each of the following: game board **(Resource 11-S)**, stack of fraction and character cards **(Resource 13 -S)**, and one die. The student also needs to get 2 answer sheets **(Resource 12-S)** per group member. (They can get more if they need them later.) Once the students have set up their game board and answer sheets, they may begin playing the game.

Embedded Assessment: The answer sheets that the students complete during the game will be a good indicator of their understanding of the principles taught during the unit.

Reteach/Extend – **Reteach:** Allow the students to use fraction plates or fraction strips to help them make the comparisons. **Extension:** After the students have played the game

using the ½, 1/3, and ¼ fraction cards, allow them to create their own fraction card and replay the game.

Summative Assessment: (Resource 14-S) The summative assessment will be a combination of multiple choice, matching and a brief constructed response. The multiple choice will consist of 6 questions that require the student to identify and compare fractions as either <, >, or equal to. The matching section will consist of 4 fractions that will require the student to match the fraction with its equivalent. Finally, the brief constructed response will require the student to demonstrate his/her overall understanding by creating two fractions, putting them on a number line, and explaining their placement using words, pictures, and symbols.

Authors:

Name - Anastasia Trueman   Name – Lynn Detter
School – Riderwood Elementary   School – Riderwood Elementary
    Baltimore County   Baltimore County
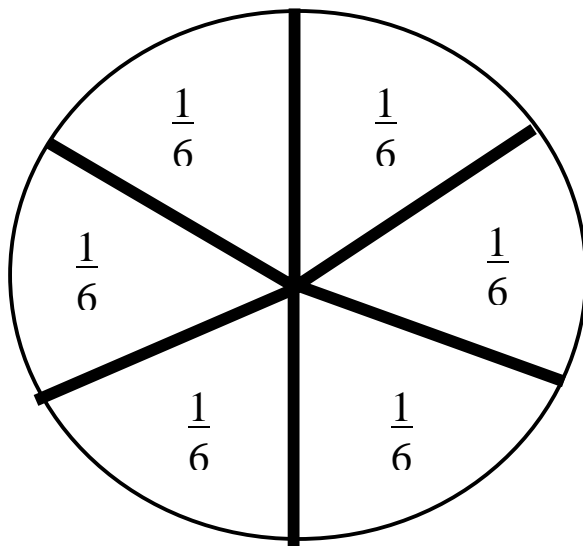
Fraction Templates

Use the templates below to create fraction plates that students can use to explore the relationships between fractions. Cut each out and glue in the center of a four inch paper plate.
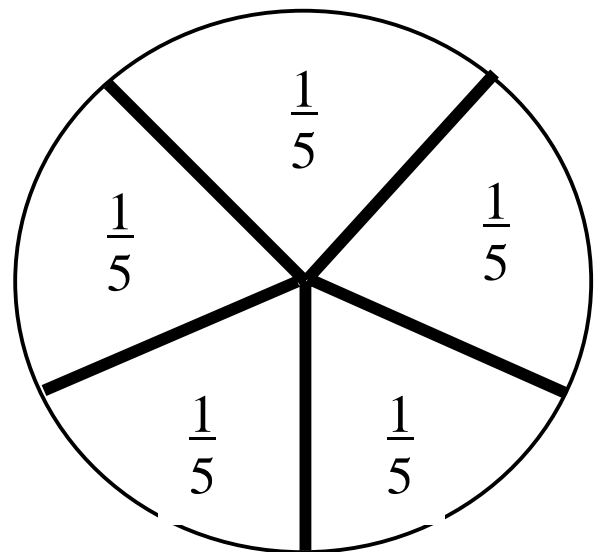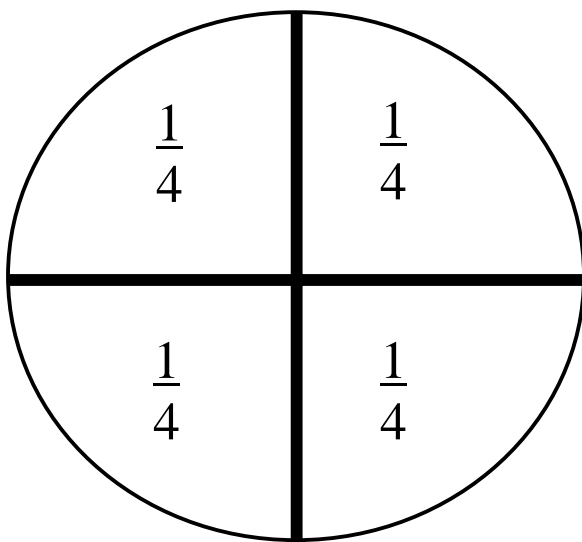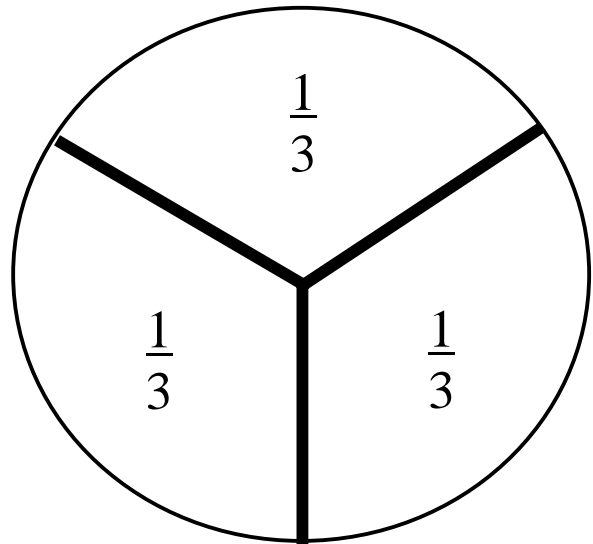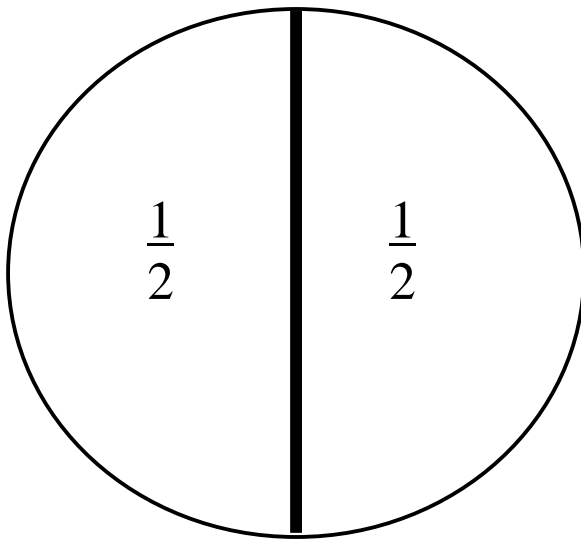
Fraction Templates

Use the templates below to create fraction plates that students can use to explore the relationships between fractions. Cut each out and glue in the center of a four inch paper plate.
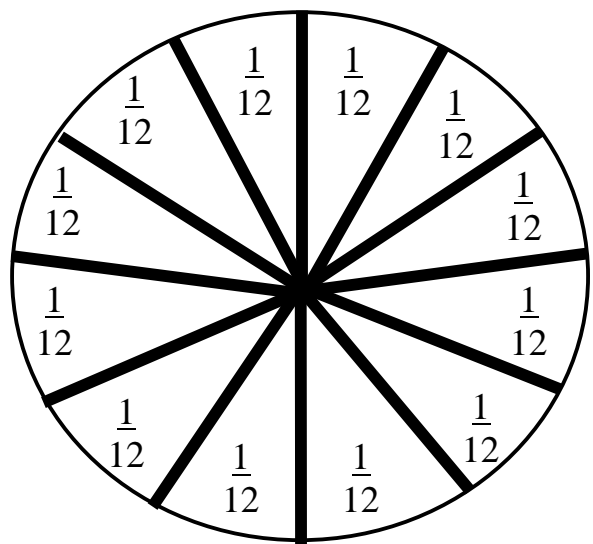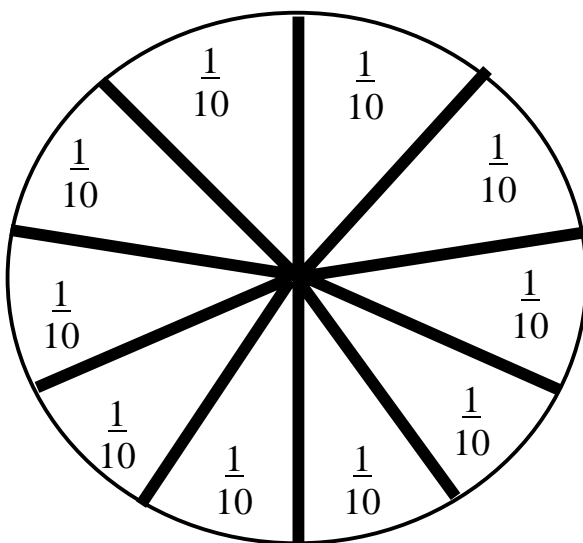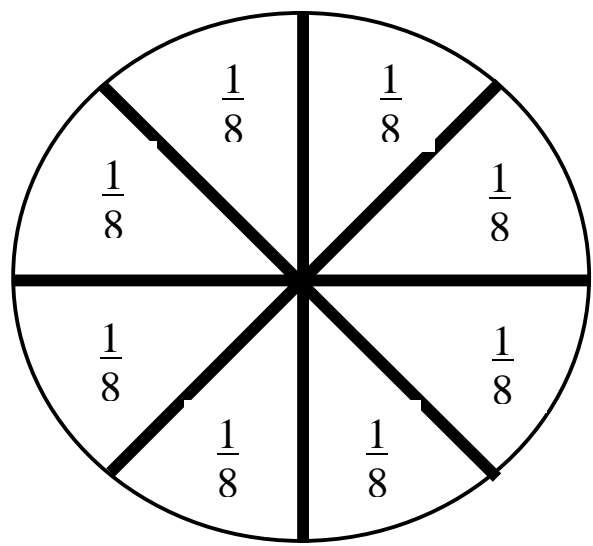
Names_____

Equivalent Fractions

Directions: Using your fraction plates, find the equivalent fraction to the given fractions below. Look at the denominators of the fractions you are solving and use those two fraction plates to find the answer to each problem.

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

$$\frac{2}{3} = \frac{}{6}$$

$$\frac{3}{4} = \frac{}{8}$$

$$\frac{1}{5} = \frac{}{10}$$

$$\frac{4}{10} = \frac{}{5}$$

$$\frac{2}{4} = \frac{}{12}$$

Your Thought of the Day:
Based on what you have learned about equivalent fractions, explain using words, pictures, or symbols why $\frac{2}{4}$ equals $\frac{1}{2}$.

_____

_____

_____

Names_____

Equivalent Fractions

Directions: Using your fraction plates, find the equivalent fraction to the given fractions below. Look at the denominators of the fractions you are solving and use those two fraction plates to find the answer to each problem.

ANSWER KEY

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

$$\frac{2}{3} = \frac{4}{6}$$

$$\frac{3}{4} = \frac{6}{8}$$

$$\frac{1}{5} = \frac{2}{10}$$

$$\frac{4}{10} = \frac{2}{5}$$

$$\frac{2}{4} = \frac{6}{12}$$

Your Thought of the Day:
Based on what you have learned about equivalent fractions, explain using words, pictures, or symbols why $\frac{2}{4}$ equals $\frac{1}{2}$.
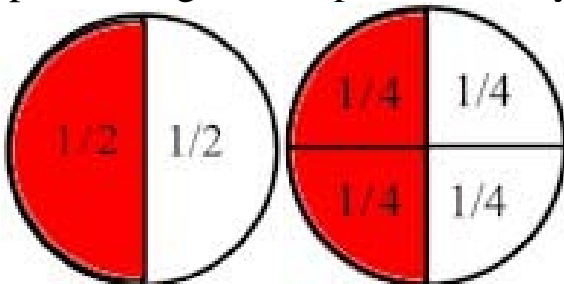
In these two figures, 2/4 takes up the same amount of space as 1/2. Therefore, the fractions are equal to each other or equivalent.

Names_____

Dare to Compare!

Directions: Look at the fractions below. Using your fraction plates to help you, compare the following sets of fractions. Compare the fraction on the left to the fraction on the right using the symbols, greater than (>), less than (<), or equal to (=). Fill in the circles with the correct symbol.

$\frac{1}{2}$ ◯ $\frac{2}{4}$ $\frac{3}{4}$ ◯ $\frac{3}{8}$ $\frac{2}{6}$ ◯ $\frac{4}{8}$

$\frac{1}{8}$ ◯ $\frac{1}{6}$ $\frac{2}{3}$ ◯ $\frac{4}{6}$ $\frac{7}{8}$ ◯ $\frac{5}{6}$

$\frac{3}{6}$ ◯ $\frac{2}{4}$ $\frac{1}{3}$ ◯ $\frac{1}{4}$ $\frac{3}{5}$ ◯ $\frac{1}{2}$

Your Thought of the Day:

How do you compare one fraction to another fraction? Create fraction comparisons of your own in the boxes below. In box #1, show that the fraction on the left is LESS THAN (<) than the fraction on the right. In box #2, show that the fraction on the left is GREATER THAN (>) the fraction on the right. Using what you have learned today, choose one of your comparisons and explain why it is correct.

_____

_____

_____

_____

_____

_____

#1   — ◯(<) —

#2   — ◯(>) —

Names_____

Dare to Compare!

Directions: Look at the fractions below. Using your fraction plates to help you, compare the following sets of fractions. Compare the fraction on the left to the fraction on the right using the symbols, greater than (>), less than (<), or equal to (=). Fill in the circles with the correct symbol.

$\frac{1}{2}$ (=) $\frac{2}{4}$ $\frac{3}{4}$ (>) $\frac{3}{8}$ $\frac{2}{6}$ (<) $\frac{4}{8}$

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

$\frac{3}{6}$ (=) $\frac{2}{4}$ $\frac{1}{3}$ (>) $\frac{1}{4}$ $\frac{3}{5}$ (>) $\frac{1}{2}$

Your Thought of the Day:

How do you compare one fraction to another fraction? Create fraction comparisons of your own in the boxes below. In box #1, show that the fraction on the left is LESS THAN (<) than the fraction on the right. In box #2, show that the fraction on the left is GREATER THAN (>) the fraction on the right. Using what you have learned today, choose one of your comparisons and explain why it is correct.

_____

In box #1 the numerators are the same but the denominators are different. The bigger the denominator, the smaller the piece so I know that 1/4 is a bigger amount than 1/8 because the denom-Inator in 1/8 represents a smaller part of one whole.

In box #2 the two fractions share the same denominator so the pieces are equal. However, in the first fraction I have 3 pieces and in the second fraction I have 2 pieces and 3 is greater than 2. Therefore, 3/4 is greater than 2/4.

#1 $\frac{1}{8}$ (<) $\frac{1}{4}$

#2 $\frac{3}{4}$ (>) $\frac{2}{4}$

Fraction Rules

You are a fool
if you don't follow
these fraction rules!

Rule #1: If the numerators of the two fractions we are comparing are the same, the fraction with the smaller number in the *denominator* always represents the bigger (greater) fraction.

$$\frac{2}{4} > \frac{2}{6}$$

Rule #2: If the denominators of the two fractions we are comparing are the same, the fraction with the larger number in the *numerator* always represents the bigger (greater) fraction.
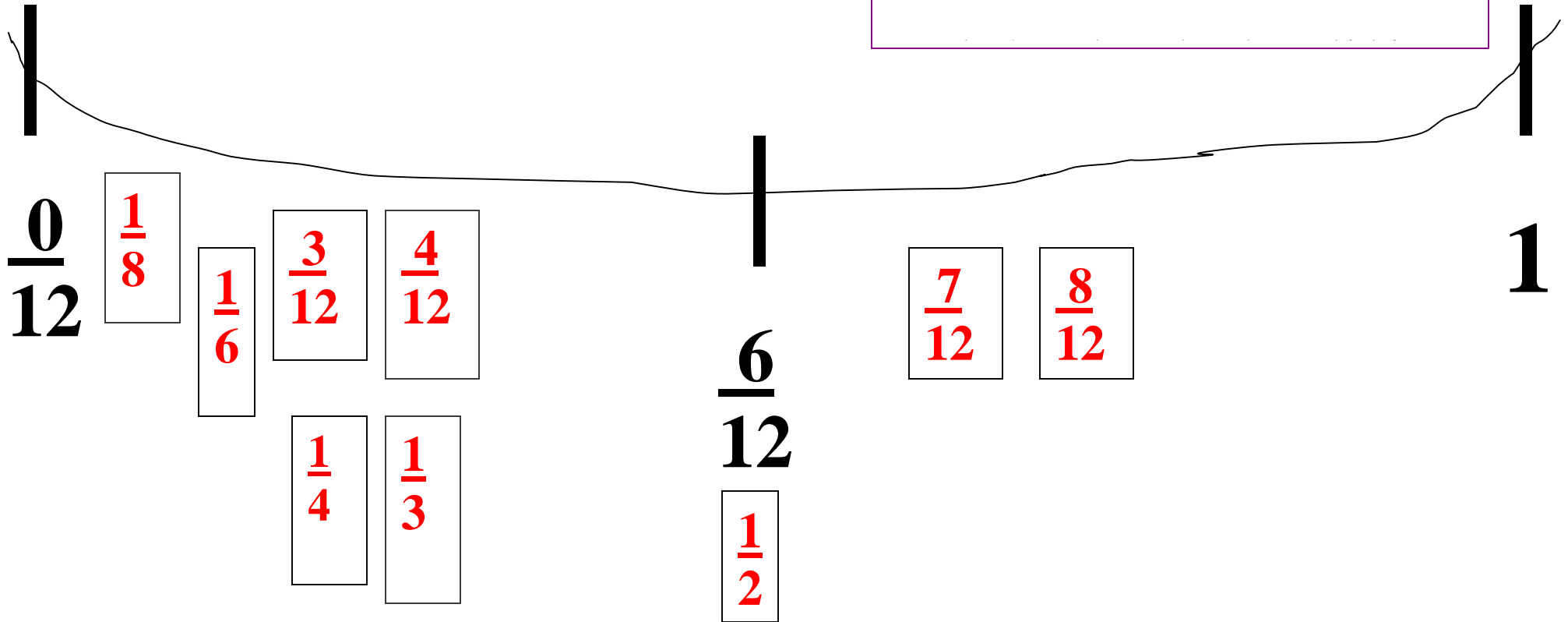
$$\frac{5}{8} > \frac{3}{8}$$
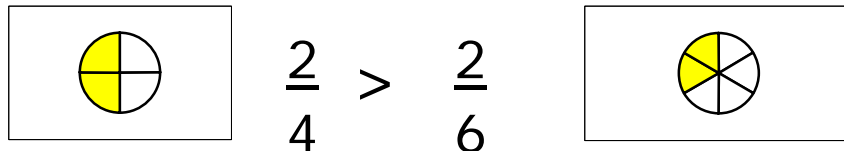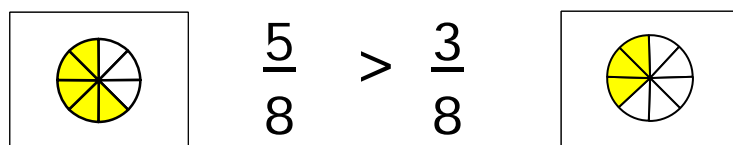
Fraction Clothesline

Directions: Put the following fractions in order from least to greatest along the fraction time line. Cut the fractions out on the bottom of this sheet and paste them in the correct order on the articles of clothing hanging from the clothesline. Remember what you have learned about fractions to determine their place along the clothesline.

$\frac{0}{12}$

$\frac{6}{12}$

1
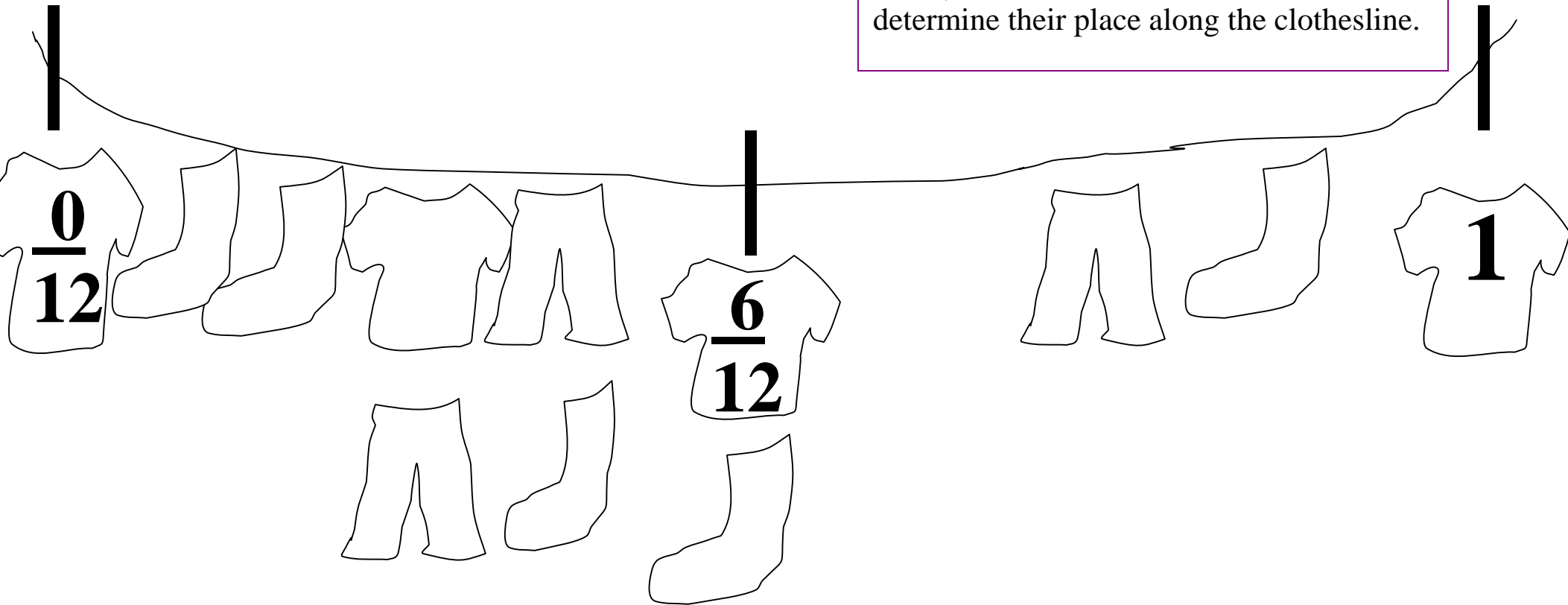
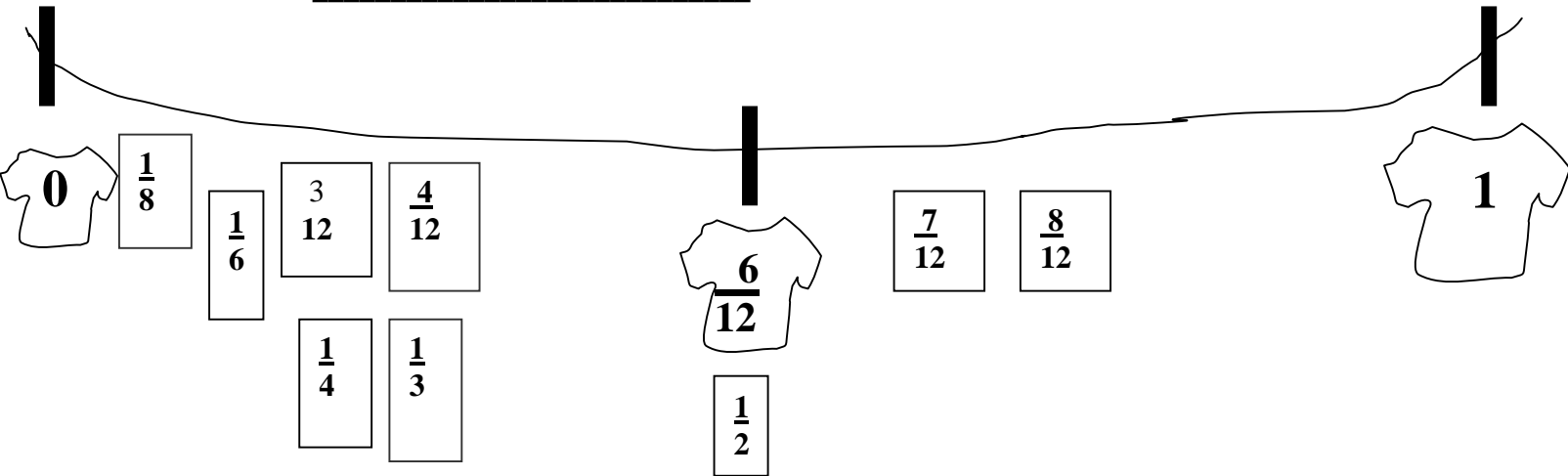$\frac{8}{12}$ $\frac{1}{8}$ $\frac{1}{2}$ $\frac{4}{12}$ $\frac{3}{12}$ $\frac{7}{12}$ $\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{4}$

Fraction Clothesline

Directions: Put the following fractions in order from least to greatest along the fraction time line. Cut the fractions out on the bottom of this sheet and paste them in the right place. Remember what you have learned about fractions to determine their place along the clothesline.

$\frac{0}{12}$ $\frac{1}{8}$ $\frac{1}{6}$ $\frac{3}{12}$ $\frac{4}{12}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{6}{12}$ $\frac{1}{2}$ $\frac{7}{12}$ $\frac{8}{12}$ 1

$\frac{8}{12}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{4}{12}$	$\frac{3}{12}$	$\frac{7}{12}$	$\frac{1}{6}$	$\frac{1}{3}$	$\frac{1}{4}$

Fraction "Clothes"

Name_____

0    $\frac{1}{8}$ $\frac{1}{6}$ $\frac{3}{12}$ $\frac{4}{12}$ $\frac{6}{12}$ $\frac{7}{12}$ $\frac{8}{12}$ 1

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

Directions: At the beginning of the unit, we read the book, "The Hershey's Milk Chocolate Fractions Book", by Jerry Pallotta. You were asked to guess which fraction on the cover page was the greatest.
Find your guess on the clothesline and color it BLUE.
Now that you have learned how to recognize equivalent fractions and how to compare fractions, find and color the greatest fraction on the clothesline RED.
Use what you have learned about fractions to answer the question below. Make sure you use pictures, words, or symbols to explain why the fraction you colored RED is the greatest fraction.
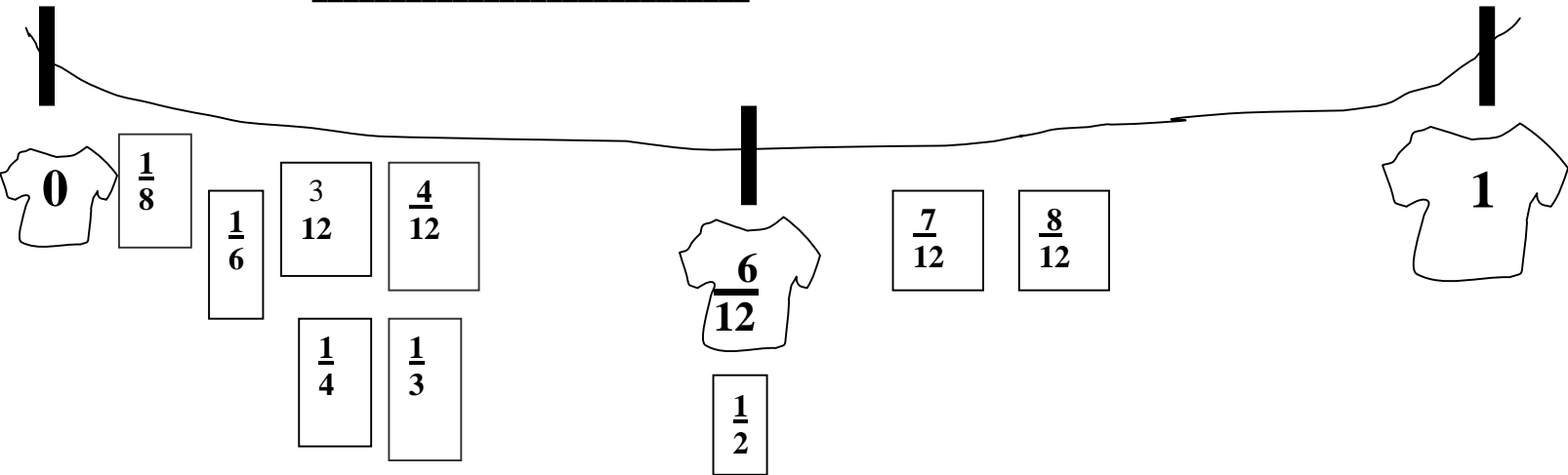
Written Response Criteria:
- ❑ I used fraction vocabulary
- ❑ I was specific and explained my answer
- ❑ I used illustrations to show what I know.
- ❑ I labeled my drawings

At the beginning of this unit, I guessed _____ to be the greatest fraction on the cover of, "The Hershey's Milk

Chocolate Fractions Book". Based on what I learned in the equivalent fraction unit, I now know that _____ is the

greatest fraction because:

_____

_____

_____

_____

Fraction "Clothes"

Name_____

0    $\frac{1}{8}$ $\frac{1}{6}$ $\frac{3}{12}$ $\frac{4}{12}$ $\frac{6}{12}$ $\frac{7}{12}$ $\frac{8}{12}$ 1

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

$\frac{1}{2}$

Directions: At the beginning of the unit, we read the book, "The Hershey's Milk Chocolate Fractions Book", by Jerry Pallotta. You were asked to guess which fraction on the cover page was the greatest.
Find your guess on the clothesline and color it BLUE.
Now that you have learned how to recognize equivalent fractions and how to compare fractions, find and color the greatest fraction on the clothesline RED.
Use what you have learned about fractions to answer the question below. Make sure you use pictures, words, or symbols to explain why the fraction you colored RED is the greatest fraction.

Written Response Criteria:
- ❑ I used fraction vocabulary
- ❑ I was specific and explained my answer
- ❑ I used illustrations to show what I know.
- ❑ I labeled my drawings

At the beginning of this unit, I guessed answers will vary to be the greatest fraction on the cover of, "The

Hershey's Milk Chocolate Fractions Book". Based on what I learned in the equivalent fraction unit, I now know

that 8/12 is the greatest fraction because: it uses the greatest amount of parts out of 1 whole. Answers should

include information about the denominator being 12 so the parts are separated into 12 equal pieces and the
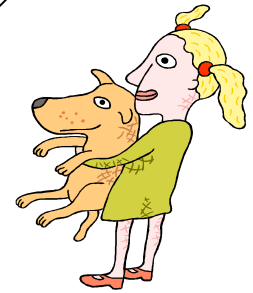
numerator being 8 and that is the greatest amount

$\frac{8}{12}$
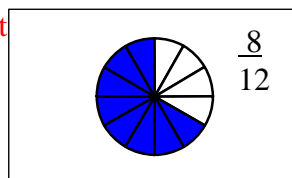
Are You My Equal?

| $\dfrac{3}{6}$ | $\dfrac{4}{12}$ | $\dfrac{1}{4}$ | $\dfrac{4}{6}$ | **You see 2 friends. Move ahead 3 spaces to catch up with them.** |

$\dfrac{1}{8}$

| **Forgot your homework! Go back 2 spaces** | $\dfrac{2}{6}$ | $\dfrac{6}{12}$ | $\dfrac{2}{8}$ | $\dfrac{2}{3}$ | **Walk your little sister to school. Move ahead 1 space.** |

$\dfrac{3}{12}$

| **Your book bag is heavy. Take a rest and lose 1 turn.** | $\dfrac{4}{8}$ | $\dfrac{1}{3}$ | $\dfrac{7}{8}$ | $\dfrac{5}{6}$ | **You forgot your lunch. Go back home.** |

$\dfrac{2}{4}$

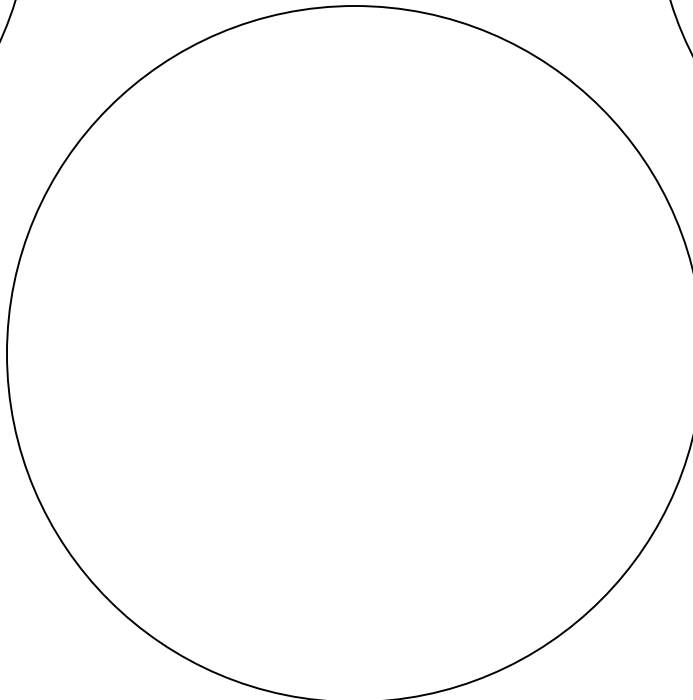| $\dfrac{7}{12}$ | $\dfrac{1}{2}$ | $\dfrac{3}{5}$ | **You're going to be late! Move ahead 1 space.** |

"Are You My Equal?"

Greater than (>) ___

Less than (<) ___

?

>
<
=
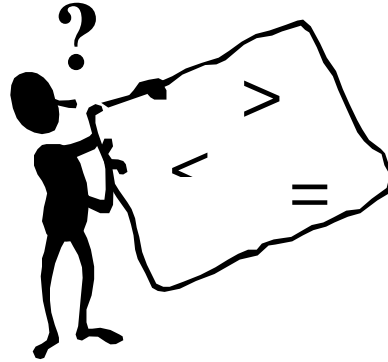
Equal to (=) ___
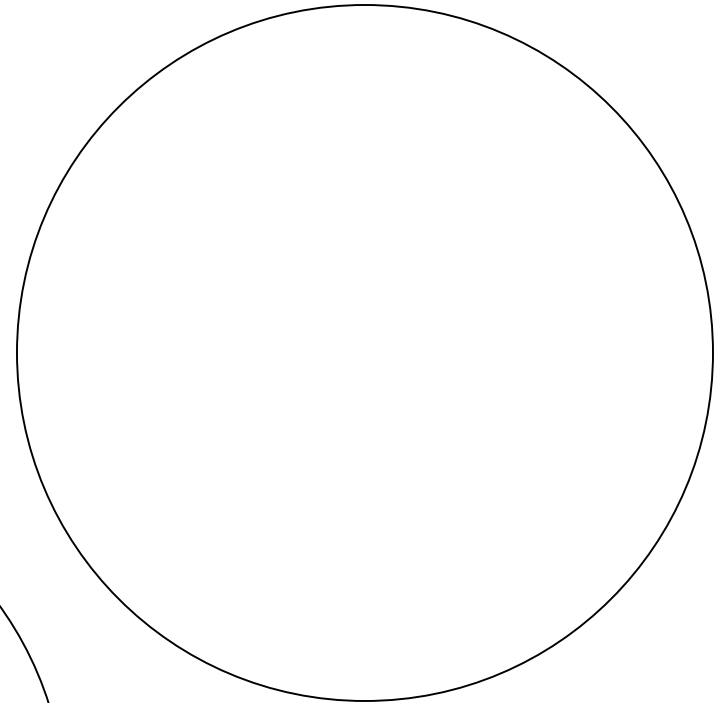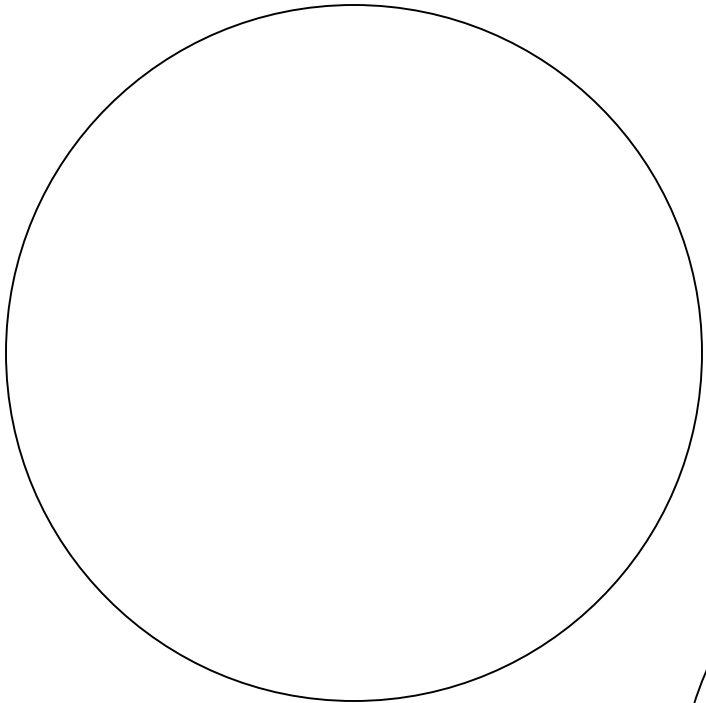
Directions:
1. Label the >, <, and = boxes with the fraction you are using. (Begin with 1/2 and replay the game with 1/4 and 1/3)
2. As you move through the game, be sure you place each fraction you land on and compare to your original fraction (1/2, 1/3, or 1/4), in the correct circle above.

Names

_____

_____

"Are You My Equal?"

Greater than (>) 1
                   2
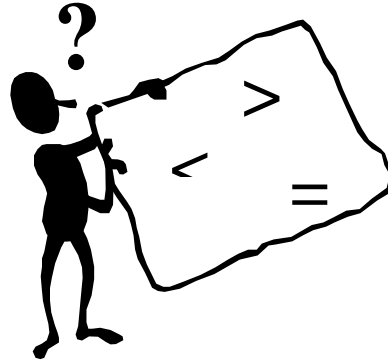
Less than (<) 1
               2

?
>
<
=

4/6
2/3
7/8
5/6
3/5
7/12

4/12
¼
1/8
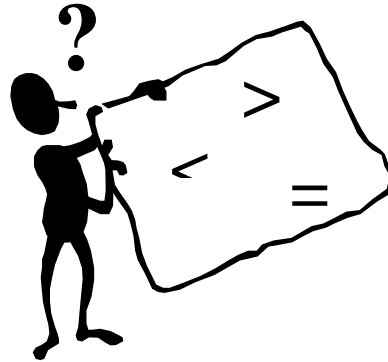2/8
2/6
3/12
1/3

Equal to (=) 1
              2

3/6
6/12
2/4
½
4/8

Directions:
1. Label the >, <, and = boxes with the fraction you are using. (Begin with 1/2 and replay the game with 1/4 and 1/3)
2. As you move through the game, be sure you place each fraction you land on and compare to your original fraction (1/2, 1/3, or 1/4), in the correct circle above.

Names

_____

_____

"Are You My Equal?"

Greater than (>) $\dfrac{1}{4}$

3/6   4/12
3/12   2/4
5/6   4/12
7/8   3/5
4/8   7/12
6/12   1/2
2/3
4/6

Less than (<) $\dfrac{1}{4}$

1/8

Equal to (=) $\dfrac{1}{4}$

1/4
2/8
3/12

Directions:
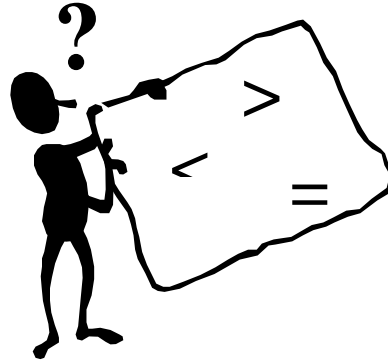1. Label the >, <, and = boxes with the fraction you are using. (Begin with 1/2 and replay the game with 1/4 and 1/3)
2. As you move through the game, be sure you place each fraction you land on and compare to your original fraction (1/2, 1/3, or 1/4), in the correct circle above.

Names

_____

_____

"Are You My Equal?"

Resource 12-S
"Are You My Equal?" Answer Sheet

Greater than (>) 1
3

Less than (<) 1
3

?
>
<
=

3/6   7/12
4/6   1/2
2/3
6/12
5/6
7/8
4/8
2/4
3/5

¼
1/8
2/8
3/12

Equal to (=) 1
3

4/12
2/6
1/3

Directions:
1. Label the >, <, and = boxes with the fraction you are using. (Begin with 1/2 and replay the game with 1/4 and 1/3)
2. As you move through the game, be sure you place each fraction you land on and compare to your original fraction (1/2, 1/3, or 1/4), in the correct circle above.

Names

_____

_____

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

Directions: Cut out each fraction card, game character, and round disk.   Each person in the group picks a character card. Use the round disks that have your character's initials on them to move around the game board.
Start with comparing the fraction 1/2 to the fractions on the game board and record your comparisons on the answer sheet.   Replay the game with 1/4 and 1/3. If you make it through3 rounds, use the blank fraction card to make your own fraction to compare.

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

(AJF)   (EEE)   (CCC)

**Action Jackson
Fraction**

**Energetic Ellie
Equivalent**

**Cool Carlos
Compare**

Are You My Equal?
Summative Assessment

Name_____

MULTIPLE CHOICE-**Circle the correct letter that would make the fraction comparison true**.

1.

$\frac{1}{4}$ ◯ $\frac{1}{3}$

   a. >
   b. =
   c. <

2.

$\frac{1}{2}$ ◯ $\frac{3}{6}$

   a. <
   b. =
   c. >

3. $\frac{4}{6}$ ◯ $\frac{2}{6}$

   a. =
   b. >
   c. <

4.

$\frac{2}{8}$ ◯ $\frac{3}{6}$

   a. <
   b. =
   c. >

5.

$\frac{1}{2}$ ◯ $\frac{2}{2}$

   a. >
   b. <
   c. =

6.

$\frac{7}{12}$ ◯ $\frac{1}{2}$

   a. <
   b. =
   c. >

MATCHING- Draw a line from the fraction on the left to the equivalent fraction on the right.

7. $\frac{1}{2}$

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

9. $\frac{1}{4}$

10. 1

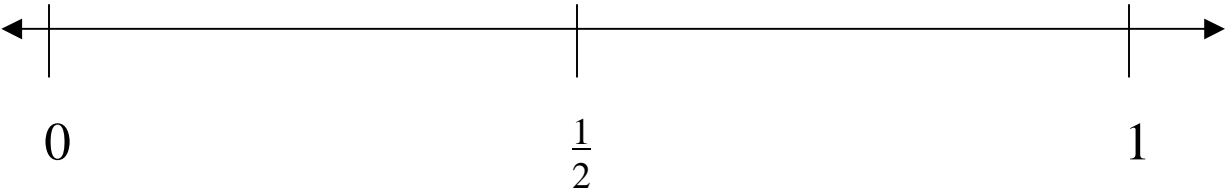a. $\frac{3}{12}$

b. $\frac{3}{3}$

c. $\frac{4}{8}$

d. $\frac{2}{6}$

BRIEF CONSTRUCTED RESPONSE

Directions:
1. Create and correctly place 2 fractions on the number line below.
2. Explain in the space provided why you placed your fractions where you did on the number line. Be sure to use pictures, words, and symbols to explain your answer.

0                    $\frac{1}{2}$ 1

Written Response Criteria:
❑   I used fraction vocabulary
❑   I was specific and explained my answer
❑   I used illustrations to show what I know.
❑   I labeled my drawings

Fractions I chose to put on the number line:

_____ and _____.

Based on what I learned about equivalent fractions and comparing fractions, I know that I placed

the fractions on the number line in the correct place because_____

_____

_____

_____

_____

Are You My Equal?
Summative Assessment

Name____KEY_____

MULTIPLE CHOICE-**Circle the correct letter that would make the fraction comparison true.**

1.
$\frac{1}{4}$ ◯ $\frac{1}{3}$

a. >
b. =
(c) <

2.
$\frac{1}{2}$ ◯ $\frac{3}{6}$

a. <
(b) =
c. >

3.
$\frac{4}{6}$ ◯ $\frac{2}{6}$

a. =
(b) >
c. <

4.
$\frac{2}{8}$ ◯ $\frac{3}{6}$

(a) <
b. =
c. >

5.
$\frac{1}{2}$ ◯ $\frac{2}{2}$

a. >
(b) <
c. =

6.
$\frac{7}{12}$ ◯ $\frac{1}{2}$

a. <
b. =
(c) >

MATCHING- **Draw a line from the fraction on the left to the equivalent fraction on the right.**

7. $\frac{1}{2}$ (c)

8. $\frac{1}{3}$ (d)

9. $\frac{1}{4}$ (a)

10. 1   (b)

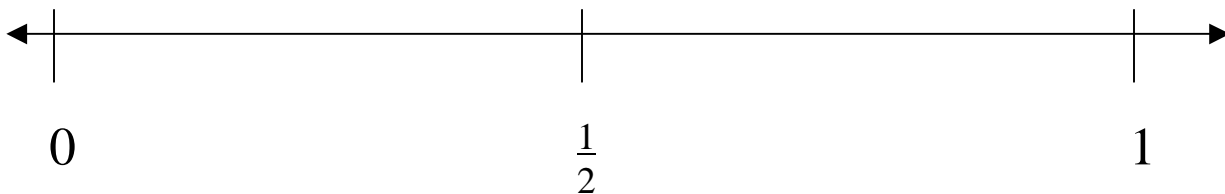a. $\frac{3}{12}$

b. $\frac{3}{3}$

c. $\frac{4}{8}$

d. $\frac{2}{6}$

BRIEF CONSTRUCTED RESPONSE

Directions:
1. Create and correctly place 2 fractions on the number line below.
2. Explain in the space provided why you placed your fractions where you did on the number line. Be sure to use pictures, words, and symbols to explain your answer.

0          $\frac{1}{2}$ 1

Fractions I chose to put on the number line:

_____ and _____.
Answers will vary.
Make sure they are

Written Response Criteria:
- ❑ I used fraction vocabulary
- ❑ I was specific and explained my answer
- ❑ I used illustrations to show what I know.
- ❑ I labeled my drawings

Based on what I learned about equivalent fractions and comparing fractions, I know that I placed

the fractions on the number line in the correct place because (Answers should include math

vocabulary such as denominators, numerators, and comparing these using Rules #1 and #2. The

student should accurately place the fractions on the number line and explain why they know that,

for example (1/4 would be placed in between 0 and 1/2 because 1/4 is less than 1/2 based on rule

#2 that states that if the numerators are the same and the denominators are different the bigger

number in the denominator is the smaller part.)

The student should draw a picture to describe his or her reasoning to show a visual.