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Converting and Ordering Rational Numbers [6th grade]

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UNDERSTANDING BY DESIGN

Unit Cover Page

Unit Title: Converting and Ordering Rational Numbers

Grade Level: 6th Grade Pre-AP

Subject/Topic Area(s): Mathematics – Fractions, Decimals, and Percents

Designed By: Danielle Kunez and Melanie Webb

Time Frame: 11-12 days

School District: North East Independent School District

School: Jackson Middle School and Wood Middle School

School Address and Phone:	Jackson M.S. 4538 Vance Jackson San Antonio, TX 78230 Phone: 210-442-0550	Wood M.S. 14800 Judson Rd San Antonio, TX 78233 Phone: 210-650-1300
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Brief Summary of Unit (Including curricular context and unit goals):

The goal of this unit is for students to understand that numbers have equivalencies in many representations and in order to compare rational numbers, they must be expressed using the same representation.

Throughout the unit, students compare and order rational numbers first within the same representation, and then learn to convert between representations to compare numbers between different forms.

The unit culminates with the students using what they have learned to analyze statistics of a basketball team in order to form a starting line-up with what they perceive to be the best players on the team.

Some supplementary materials were collected and adapted from many teachers in North East Independent School district.

Unit: Converting and Ordering Rational Numbers

Level: 6th Grade Pre-AP

Stage 1 – Desired Results		
<p>TEKS:</p> <p>(6.1) The student represents and uses rational numbers in a variety of equivalent forms. The student is expected to:</p> <p>(B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals</p> <p>(6.3) The student solves problems involving direct proportional relationships. The student is expected to:</p> <p>(B) represent percents with concrete models, fractions, and decimals</p> <p>(7.1) The student represents and uses numbers in a variety of equivalent forms. The student is expected to:</p> <p>(A) compare and order integers and positive rational numbers;</p> <p>(B) convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator</p>	Transfer	
	<p><i>Students will independently use their learning to...</i></p> <p>Use their knowledge of converting and ordering fractions, decimals, and percents to create a starting line-up for their own basketball team.</p>	
	Meaning	
	<p>Understandings</p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> The order of rational numbers is dependent on the value as distinguished in equivalent forms [i.e. One cannot compare apples to oranges. In regards to math, to compare fractions and decimals the numbers must be converted to the same form 	<p>Essential Questions</p> <ul style="list-style-type: none"> Which form is best to use when comparing rational numbers? Why do we need to compare rational numbers? How would life be different if it were not possible to convert rational numbers to other forms?
Acquisition		
<p>Knowledge</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> Definition of Rational Numbers Percent Strategies to convert between rational numbers. Arranging rational numbers in order is generally given from least to greatest. When comparing fractions, a common denominator is essential. 	<p>Skills</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> Simplify fractions. Generate equivalent forms of rational numbers. Represent percents with concrete models, as fractions, and decimals. Convert between fractions, decimals, whole numbers, and percents mentally or on paper. Compare and order integers and positive rational numbers. Read a decimal. Divide whole numbers. 	

Stage 2 – Evidence

Performance Task

MAKE THE DREAM TEAM

You are the head of a basketball team in the NBA. Your three best starters are injured and not available to play in your next game. It is now your task to look at the statistics provided, and decide which five players will start the game. To do this, you will have to take into account the statistics of the players you have left on your team. Do you want a player who misses all of their free-throw points, but sinks every three-point shot they attempt? The shots attempted most on the court are worth two points, called field goals. Which of your players make these shots most often?

Take what you've learned this week and build your own Dream Team.

1. Use the statistics given on various players to answer the Thinking Questions.
2. Analyze the statistics to decide who you want on your team.
3. When you have decided on your 5 players, fill out the table, including your mathematical reasoning for choosing those players.
4. Use the table as an outline to write a paragraph about how you chose your team. Make sure to **justify** your choices!
5. When you have finished, find another team in the class and go head to head. Analyze the differences and discuss whose team might win. Write a paragraph defending your team against your opponent's team.

Other Evidence

- Students will complete weekly homework assignments
- Students will complete 5 in the end/exit writing daily
- Equivalent Fractions and Comparing Decimals Quiz
- Summative Assessment

Stage 3 – Learning Plan

Pre-Assessment

- Unit Pre-Test
- Classroom Discussion

Learning Activities

Day 1

Learning Goal: Student will be able to (SWBAT) define a rational number and reason with decimals.

Vocabulary: Rational Number

LESSON: Unit Pre-Test

Discuss meaning of a rational number using Frayer Model
Decimal Reasoning Lesson with place value chart.

Students will analyze situations and choose the most appropriate placement for the decimal in the number. For example: It takes about how long to brush your teeth? 2 1 2 (The decimal should go after the first 2). Then students will practice with place value and decimals by making numbers given certain stipulations. For Example: Using the numbers 4, 5, 1, 8, and a decimal (.), make the smallest number possible. (.1458)

Homework: Reasoning with Decimals

Progress Monitoring

Exit Ticket – Rational Numbers

<p>Day 2</p> <p><u>Learning Goal:</u> SWBAT compare and order decimals.</p> <p><u>Vocabulary:</u> Rational Number</p> <p><u>LESSON:</u> Compare and Order Decimals</p> <p>Students will be given various decimal numbers to put in order from least to greatest on a number line. Common Misconception: Students may believe that 0.43 is greater than 0.5 because $43 > 5$. This is the time to address this problem by emphasizing place value and place holders to compare decimals.</p> <p><u>Homework:</u> Practice with Decimals</p>	<p>Discuss Decimal Reasoning homework</p>
<p>Day 3</p> <p><u>Learning Goal:</u> SWBAT generate equivalent fractions using models.</p> <p><u>Vocabulary:</u> Equivalence</p> <p><u>LESSON:</u> Trade or No Trade Activity</p> <p>This lesson is an introduction to equivalent fractions. Each student is given a circle divided into equal parts. They must trade pieces with several classmates so that they always have an entire circle. At the end of the activity, they cannot have any of their initial pieces.</p> <p><u>Homework:</u> Equivalent Fraction with Frayer Model</p>	<p>Exit Ticket – Equivalent Fractions</p>
<p>Day 4</p> <p><u>Learning Goal:</u> SWBAT generate equivalent fractions and simplify.</p> <p><u>Vocabulary:</u> Simplify</p> <p><u>LESSON:</u> Equivalent Fractions and Simplifying Fractions NOTES Equivalent Fractions Classwork</p> <p>Students will take a given model of a fraction and name it in many different ways and discover the meaning of equivalent fractions. The same model will be used when discussing simplifying fractions. After the pattern is established, we will use the method of upside down division to further develop their understanding of how to simplify fractions.</p> <p><u>Homework:</u> Fractions at Home (Interactive HW)</p>	<p>Exit Ticket – Simplify Fractions</p>
<p>Day 5</p> <p><u>Learning Goal:</u> SWBAT develop understanding of equivalent fractions through graphing.</p> <p><u>Vocabulary:</u> Numerator</p> <p><u>LESSON:</u> QUIZ on Equivalent Fractions and Comparing Decimals Fraction Equivalencies and Graphing</p> <p>Students will use tables to list equivalent fractions, then using the tables, they will graph the fractions, the numerators will be on the y-axis and the denominator will be on the x-axis, which seems counter intuitive, but will actually keep with the rise/run of slope and help students compare the value of the fractions using algebraic thinking.</p> <p><u>Homework:</u> Fraction Equivalencies Follow-Up</p>	<p>Briefly discuss Fractions at home assignment</p> <p>QUIZ</p>

<p>Day 6</p> <p><u>Learning Goal:</u> SWBAT compare and order fractions.</p> <p><u>Vocabulary:</u> Denominator</p> <p><u>LESSON:</u> Compare and Order Fractions NOTES</p> <p>The concept of a common denominator is reintroduced in this part of the lesson. The students will compare simple fractions to understand that they need to compare fractions under the same circumstance. A fraction includes both a numerator and denominator, but these are part of the same number. One cannot only look at part of the number to decide which is greater. For Example: Many students may think that $1/10$ is less than $3/30$ because 1 and 10 are both smaller than their counterparts 3 and 30, even though the fractions are equivalent. Also, this lesson is a good time to discuss reasonableness and comparing fractions to $\frac{1}{2}$.</p> <p><u>Homework:</u> Practice with Fractions</p>	<p>Discuss Follow-Up</p> <p>Exit Ticket – Ordering Fractions</p>
<p>Day 7</p> <p><u>Learning Goal:</u> SWBAT convert percents to decimals and fractions.</p> <p><u>Vocabulary:</u> Percent</p> <p><u>LESSON:</u> Percent Discovery</p> <p>Conversion Booklet Chapter 3</p> <p>Using Hundredths Place Grids, students will talk about the meaning of percent and then name shaded parts of the hundredths place grid by percent, decimals, and fractions. They can then make the connection between the three representations and note their findings in the Conversion Booklet (a foldable Book created as a word document with titles to organize their notes and where they put examples and drawing on the corresponding pages).</p> <p><u>Homework:</u> Make Your Own Grid Designs (Students are given Hundredths Place Grids and make a design and give the shaded region's value in the three representations)</p>	<p>Exit Ticket – Converting</p>
<p>Day 8</p> <p><u>Learning Goal:</u> SWBAT convert decimals, fractions, and percents.</p> <p><u>Vocabulary:</u> Conversion</p> <p><u>LESSON:</u> Conversion Booklet Chapters 1 and 2</p> <p>Cube Towers</p> <p>Students are given scenarios using snap cubes and then must answer various fraction, decimal, and percent questions using the different representations. For example, there are three pink cubes and one white cube. What percent of the cubes are white? What fraction of the cubes is pink?</p> <p><u>Homework:</u> None</p>	<p>Share a few Grid Designs</p> <p>Exit Ticket – Converting</p>
<p>Day 9</p> <p><u>Learning Goal:</u> SWBAT convert decimals, fractions, and percents.</p> <p><u>Vocabulary:</u> Justification</p> <p><u>LESSON:</u> Eight is Enough</p> <p>Fraction and Percent Problems</p>	

Eight is Enough is a “Get out of Your Seat” Assignment. The teacher places numbers and visual representations of a value around the room, so that the students may travel from station to station. Each station has a value represented in fraction, decimal, percent, or visual form, and the students must come up with eight equivalent representations including equivalent fractions, decimals, percent, and visuals of their own. For Example: 80% is 1) 80 out of 100, 2) $\frac{4}{5}$, 3) $\frac{8}{10}$, 4) 0.8, 5) 0.80, 6) a picture, 7) another visual representation, 8) a representation of the student’s choice.

Homework: Converting Fractions, Decimals, and Percents Chart (an all-inclusive review with notes included before final assessments)

Day 10

Learning Goal: SWBAT convert and order rational numbers.

Vocabulary: Integer

LESSON: Number Line Rotation

Each student is given one or more different integers or rational numbers. The students then must place their number on a class number line in the correct place. This activity is adjustable whether you would like your class to work together as a whole or in smaller groups. Hopefully the students will use this time to help one another and verbally explain why their numbers go in the specific placement. When this is complete, a class debriefing will conclude the assignment and if time allows, the introduction to the Performance task can be done together.

Homework: None

Day 11

Learning Goal: SWBAT convert and order rational numbers.

Vocabulary: Statistic

LESSON: Performance Task

Homework: None

Performance Task

Name: _____

Period: _____ Date: _____

MAKE THE DREAM TEAM

You are the head of a basketball team in the NBA. Your top three best starters are injured and not available to play in your next game. It is now your task to look at the statistics provided, and decide which five players you would choose to start the game. To do this, you will have to take into account the statistics of the players you have left on your team. Do you want a player who misses all of their free-throw points, but sinks every three-point shot they attempt? The most shots attempted on the court are worth two points and called field goals. Which of your players make these shots most often?

The numbers provided show the amount of shots they've made out of the total shots they've attempted. Using the information on Manu, Tim, and Tony, compare the star players of the San Antonio Spurs and answer the questions together as a class.

Player	Free Throws	Field Goals (2 pts)	Three-Pointers
Tim Duncan	71%	49.5%	0%
Tony Parker	4/5	9/20	1/3
Manu Ginobili	0.857	0.448	0.338

1. Who has the best free-throw statistic? How do you know?
2. Which player makes the most number of their two-point shots?
3. What can you assume about the players according to their 'three-point' statistic?

4. **From this information**, who do you think is the most valuable player? Why? Use your math to justify your answer.



Name: _____

Period: _____ Date: _____

MAKE YOUR OWN DREAM TEAM!

Take what you've learned this week and build your own Dream Team.



1. Using the statistics given on the following players answer the Thinking Questions on the next page
2. Analyze the statistics to decide who you want on your team.
3. When you've decided on your 5 players, fill out the table, include notes on why you chose these players.
4. Use your table as an outline to write a paragraph about your team. Make sure to **justify** your choices!
5. When you have finished, find another team in the class and go head to head. Analyze the differences and discuss whose team might win. Write a paragraph defending your team against your opponent's team. **THERE IS NOT JUST ONE RIGHT ANSWER!!**

Player	Free Throws	Field Goals	Three-Point
James Anderson	0.50	$\frac{11}{25}$	50%
DeJuan Blair	$\frac{1}{2}$	63%	0.0
Matt Bonner	60%	0.313	$\frac{17}{50}$
Boris Diaw	0.75	$\frac{13}{25}$	0.5
Danny Green	$\frac{7}{10}$	41.8%	0.345
Stephen Jackson	0.933	$\frac{21}{50}$	60.5%
Kawhi Leonard	81.3%	0.50	$\frac{9}{20}$
Patty Mills	0%	$\frac{11}{20}$	0.600
Gary Neal	$\frac{21}{25}$	0.476	44.4%
Tiago Splitter	0.372	63.8%	$\frac{1}{3}$

Statistics adapted from www.nba.com/Spurs playoff stats, June 2012

Name:

Period: _____ Date: _____

Thinking Questions

1. The NBA is hosting a free-throw competition for charity, which two players would you send?
2. List the top 5 players with the highest field goal statistic in order from least to greatest.

3. Which two players have the same three-point statistic?

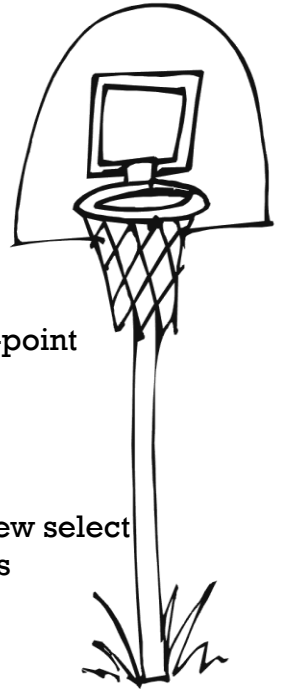
4. In comparison with the rest of their own statistics, which players' two-point statistic is higher than their three-point and free-throw percentages?

5. Greg Papovitch is inviting a famous free-throw coach to work with a few select players on the team. Which three players might benefit most from this workshop?

6. In order from least to greatest, give the top 4 three-point shooters on the roster.

7. Who makes fewer than half of their field goals attempted?

8. Is there any single player who is in the top five players for every category?



Name:

Period: _____ Date: _____

Who do you want on your team?

Player	Why??

Persuade the Head Coach in a paragraph why he should choose these players, make sure you use your statistics to justify your choices:

Name:

Period: _____ Date: _____

Now, put your team up against a classmate's team! Classmate: _____

Your Team Players	Their Team Players (may overlap)

Evaluate the statistics you have on these players and discuss the choices you made. Write a short paragraph explaining why your team would win a game against the team of your classmate:



Name:

Period: _____ Date: _____

Rubric for MAKE YOUR OWN DREAM TEAM!

	Needs Improvement	Approaching Expectations	Meets Expectations	Exceeds Expectations
Thinking Questions (40%)	(0-10pts) All questions are unanswered or incorrect.	(11-25pts) Most questions are answered, however, most are incorrect.	(26-35pts) All questions are answered, most are correct.	(36-40pts) All questions are answered and all are correct.
Calculations (10%)	(0-2pts) Calculations are not included	(3-5pts) The calculations are included, however the work is not provided or there are multiple errors.	(6-8pts) Calculations are included and correct with no more than five minor errors.	(9-10pts) All calculations are correct with no more than two minor errors.
Justification/ Paragraph (40%)	(0-10pts) The paragraph is not included or does not explain the purpose of the chosen players.	(11-25pts) The paragraph is included but lacks effort and does not include mathematical justification of why the players were chosen.	(26-35pts) The paragraph includes mathematical justification of why the players were chosen.	(36-40pts) The paragraph includes clear reasoning behind the team chosen. It is well thought-out and edited.
Game Against Classmate Paragraph (10%)	(0-2pts) The paragraph is not included or is incomplete.	(3-5pts) The paragraph lacks clear mathematical justifications.	(6-8pts) The paragraph includes clear and reasonable mathematical justifications.	(9-10pts) The paragraph is convincing that the student believes and supports their decision.

Name:

Period: _____ Date: _____

Unit Pre-Test: Converting and Ordering Rational Numbers

Determine if the following statements are true or false. Write out the word true or false in the blank.

_____ 1. $6.35 > 6.7$

_____ 2. $835\% < 0.95$

_____ 3. The following is in order from least to greatest: 40% , $\frac{4}{9}$, 0.52

_____ 4. $\frac{3}{4} = \frac{5}{6}$

_____ 5. A walk from our classroom to the front office is about 7.48 feet.

_____ 6. $0.32 < 0.5$

_____ 7. An inch worm is generally not even an inch long. You see an inch worm that is only $\frac{3}{10}$ of an inch long. You could also say that the worm was $\frac{6}{20}$ of an inch long.

_____ 8. $\frac{2}{9} > \frac{1}{3}$

_____ 9. Ten of the 40 students in the sixth grade are wearing green today. That means that 10% of the students in sixth grade are wearing green.

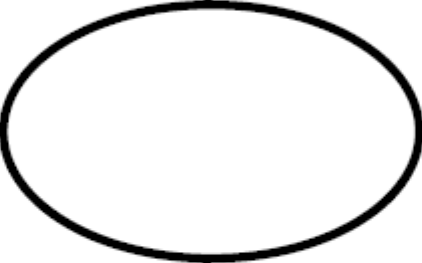
_____ 10. $60\% = 0.6$

Name:

Period: _____ Date: _____

Supplementary Materials:

Definition	Visual Representation
Example	Non-Example



Name: _____

Period: _____ Date: _____

Place-Value Chart

Decimal names
for place-value
groups

10,000 1,000 100 10 1 0.1 0.01 0.001 0.0001

Decimal names
for place-value
groups

10,000	1,000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	$\frac{1}{10,000}$
<i>Ten Thousands</i>	<i>Thousands</i>	<i>Hundreds</i>	<i>Tens</i>	<i>Ones</i>	<i>Tenths</i>	<i>Hundredths</i>	<i>Thousandths</i>	<i>Ten Thousandths</i>

Name:

Period: _____ Date: _____

Pre-AP Decimal Reasoning

A. Analyze each situation. Decide which answer makes sense and circle that answer.

1. It takes about _____ minutes to brush your teeth. 21.2 2.12 0.212
2. The door to your classroom is about _____ yards tall. 2.3 23.0 0.23
3. Your desk is about _____ inches tall. 280.0 28.0 2.8
4. The height of the boots at North Star Mall is about _____ feet. 370.0 37.0 3.7
5. The drive from San Antonio to Dallas might take _____ hours. 0.46 4.6 46.0

B. Rearrange the digits and the decimal point below to create the number described. Use all the digits exactly once in each answer.

4, 5, 1, 8, and •

6. Write the smallest number _____
7. Write a number with a 1 in the hundredths place _____
8. Write a number with a 5 in the ones place and an 8 in the hundredths place

9. The number that is closest to 50 _____
10. If your math text book weighs 5 pounds, what would be the greatest number that is less than the weight of your math text book? _____
11. If a pencil weighs 0.54 ounces, what would be the greatest number that is less than that?

12. Write the largest number that is smaller than 5 _____

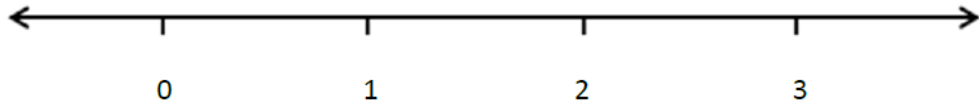
Name: _____

Period: _____ Date: _____

Pre-AP Compare & Order Decimals

- I. Place the decimal values on each number line. Estimate where each number should be and write it in that spot.

1. 1.85, 0.25, 2.61, 3.75, 0.075, 1.48



2. 0.51, 0.75, 0.35, 0.475, 0.2, 0.895



- II. List each set of decimals in order from greatest to least.

3. 0.003, 0.03, 0.033

4. 6.8, 6.807, 6.08

5. 7.001, 7.01, 7.0

6. 0.935, 0.9335, 0.933

- III. List each set of decimals in order from least to greatest.

7. 1.29, 1.029, 1.92

8. 0.452, 0.425, 0.042

9. 0.476, 0.486, 0.47

10. 8.1, 8.101, 8.11

Name: _____

Period: _____ Date: _____

IV. Read each problem. Choose the best answer.

11. Molly measured the lengths of her five favorite books in inches. Which list shows the lengths in order from least to greatest?

- A. 8.25 in., 8.52 in., 8.45 in., 8.54 in., 8.24 in.
- B. 8.24 in., 8.25 in., 8.45 in., 8.52 in., 8.54 in.
- C. 8.54 in., 8.52 in., 8.45 in., 8.25 in., 8.24 in.
- D. 8.45 in., 8.54 in., 8.25 in., 8.52 in., 8.24 in.

12. Noah wrote down the amount of money he had collected for the fundraiser at school. Which list shows the amounts in order from greatest to least?

- A. \$367.42, \$376.24, \$324.67, \$322.74
- B. \$535.87, \$535.78, \$532.18, \$532.08
- C. \$281.46, \$281.64, \$281.73, \$281.79
- D. \$414.39, \$417.52, \$410.84, \$415.98

13. Compare the following numbers using $<$, $>$, or $=$.

0.70 0.07 0.40 0.4 0.27 0.271

14. Read the following problem. Write the answer in the space provided.

Marcia, Jim, Kyle, and Jen decided to have a race to see who could swim the fastest. Marcia's time was 56.24 seconds. Jim's time was 56.20 seconds. Kyle's time was 56.287 seconds. Jen's time was 56.29 seconds.

a. Which swimmer had the fastest time? _____

b. By how much time did the fastest swimmer beat the slowest swimmer?

Please show your answer using the bubble grid below.

				•		
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

Name:

Period: _____ Date: _____

Pre-AP Fractions at Home – HW

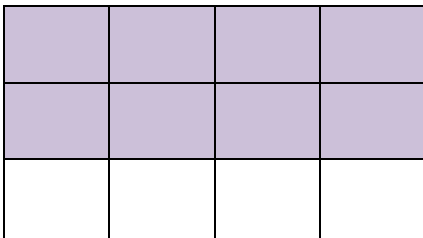
Dear Family Partner,

In Math we are learning about equivalent fractions. I hope you enjoy this activity with me. This assignment is due tomorrow.

Sincerely,

Student's Signature

I. Look This Over: Explain this example to your family partner.

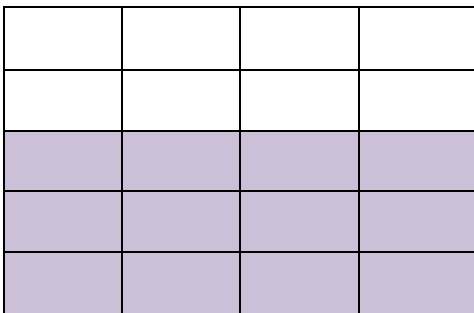


SAMPLE:

What fraction is represented by the shaded region in the model?

Are there any other fractions represented by the shaded region in the model? If so, what are they?

II. Now Try This: Show your family partner how you do this example.



What fraction is represented by the shaded region in the model?

Are there any other fractions represented by the shaded region in the model? If so, what are they?

III. Practice Session: Complete these examples on your own. Show your work. Explain one example to your family partner.

1. $\frac{1}{3} = \frac{6}{\quad}$

2. $\frac{\quad}{7} = \frac{9}{21}$

3. $\frac{4}{9} = \frac{\quad}{72}$

Name: _____

Period: _____ Date: _____

In the Real World...

Survey your environment. Identify five fractions in your environment and explain their purpose.

1. _____

2. _____

3. _____

4. _____

5. _____

IV. Home to School Communication

Dear Parent,
Please give me your reactions to your child's work on this activity. Write YES or NO for each statement.

- _____ 1. My child understood the homework and was able to complete it.
- _____ 2. My child and I enjoyed the activity.
- _____ 3. The assignment helped me know what my child is learning in math.

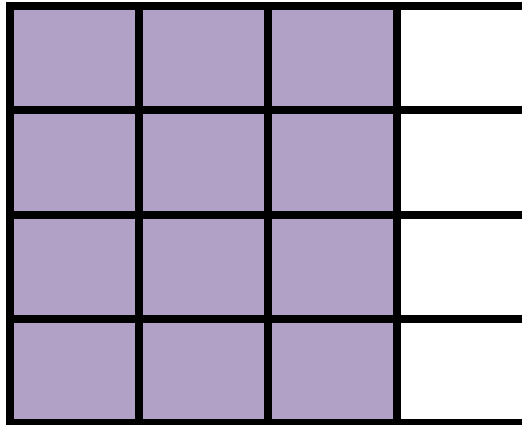
Any other comments: _____

Parent Signature _____

Name: _____

Period: _____ Date: _____

Equivalent Fractions



What fraction do you see represented in the model above?

Can you find others? Which response is correct?

What strategies did you use?

$$\frac{3}{4} \times 4 = \frac{12}{16} \qquad \frac{3}{7} \times 5 = \frac{15}{7}$$

$\frac{x4}{x4}$ is the same as $x \frac{2}{2}$, which is $x 1$.

ANYTHING multiplied by the #1 = _____.

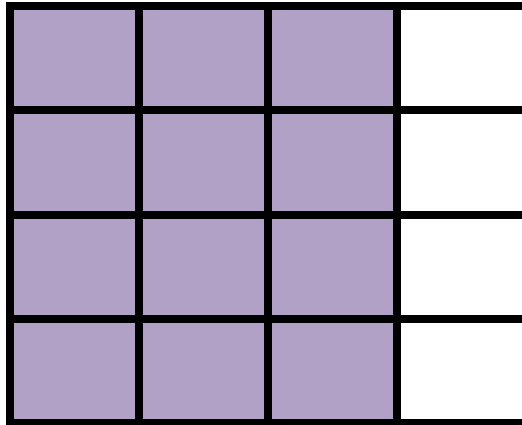
Find the Equivalent Fractions: Show Your Work!

$$\frac{9}{13} = \frac{18}{\quad} \qquad \frac{7}{12} = \frac{\quad}{36} \qquad \frac{8}{11} = \frac{\quad}{55}$$

Name: _____

Period: _____ Date: _____

Simplifying Fractions



How can I write another fraction that represents the same value as $\frac{12}{16}$?

To **simplify** fractions, divide **both** the numerator and denominator by a common factor. **When the only common factor is 1, the fraction is in simplest form.

$$\frac{12}{16} = \frac{\quad}{\quad} \quad \frac{30}{42} = \frac{\quad}{\quad} \quad \frac{15}{40} = \frac{\quad}{\quad}$$

You may also use Upside-Down Division!

$$\frac{24}{32} = \begin{array}{l} \underline{24, 32} \\ \end{array} \quad \frac{54}{72} =$$

Name: _____

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Compare & Order Fractions

Compare each set of numbers using $<$, $>$, or $=$.

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

$$\frac{1}{10} \square \frac{3}{30}$$

$$\frac{205}{1000} \square \frac{21}{100}$$

$$\frac{37}{50} \square \frac{74}{100}$$

$$\frac{6}{100} \square \frac{6}{10}$$

$$\frac{8}{40} \square \frac{8}{400}$$

Write the following in order from least to greatest. Justify your order!

$$\frac{2}{5}, \frac{1}{4}, \frac{2}{10}, \frac{1}{3}$$

$$\frac{3}{4}, \frac{2}{3}, \frac{3}{5}, \frac{7}{8}$$

$$\frac{1}{4}, \frac{2}{5}, \frac{9}{20}, \frac{3}{10}$$

$$\frac{827}{1000}, \frac{123}{100}, \frac{987}{100}, \frac{987}{1000}$$

$$\frac{3}{100}, \frac{5}{1000}, \frac{3}{1000}, \frac{17}{50}$$

Name: _____

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Pre-AP Comparing & Ordering Fractions - HW

Compare each set of numbers using $<$, $>$, or $=$.

1. $\frac{7}{10} \square \frac{725}{1000}$

2. $\frac{37}{50} \square \frac{13}{25}$

3. $2\frac{1}{6} \square 2\frac{3}{8}$

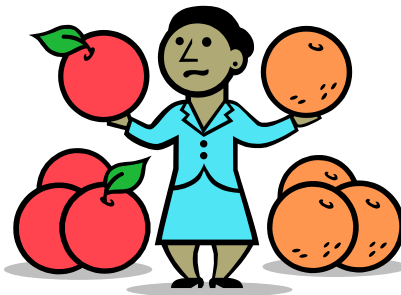
4. $\frac{56}{100} \square \frac{56}{1000}$

5. $\frac{60}{100} \square \frac{6}{10}$

6. $\frac{8}{100} \square \frac{8}{10}$

7. Write the following in order from least to greatest: $\frac{65}{100}, \frac{16}{25}, \frac{67}{100}, \frac{3}{4}$

8. Write the following in order from greatest to least: $\frac{5}{8}, \frac{3}{10}, \frac{50}{100}, \frac{46}{100}$



Name: _____

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Number Line Rotation Example Cards:

-4	-3	$-\frac{4}{2}$	$-\frac{10}{10}$	1%
$\frac{2}{100}$	$\frac{1}{10}$	0.13	$\frac{18}{100}$	20%
$\frac{3}{12}$	0.28	$33\frac{1}{3}\%$	$\frac{7}{20}$	38%
$\frac{2}{5}$	0.45	$\frac{5}{10}$	55%	$\frac{9}{15}$
0.7	$\frac{6}{8}$	0.80	87.5%	$\frac{9}{10}$
$\frac{5}{5}$	$1\frac{3}{100}$	$\frac{6}{5}$	$1\frac{1}{4}$	1.28
130%	$1\frac{4}{8}$	1.51	$\frac{8}{5}$	1.625
$1\frac{2}{3}$	175%	1.8	$1\frac{9}{10}$	$\frac{4}{2}$

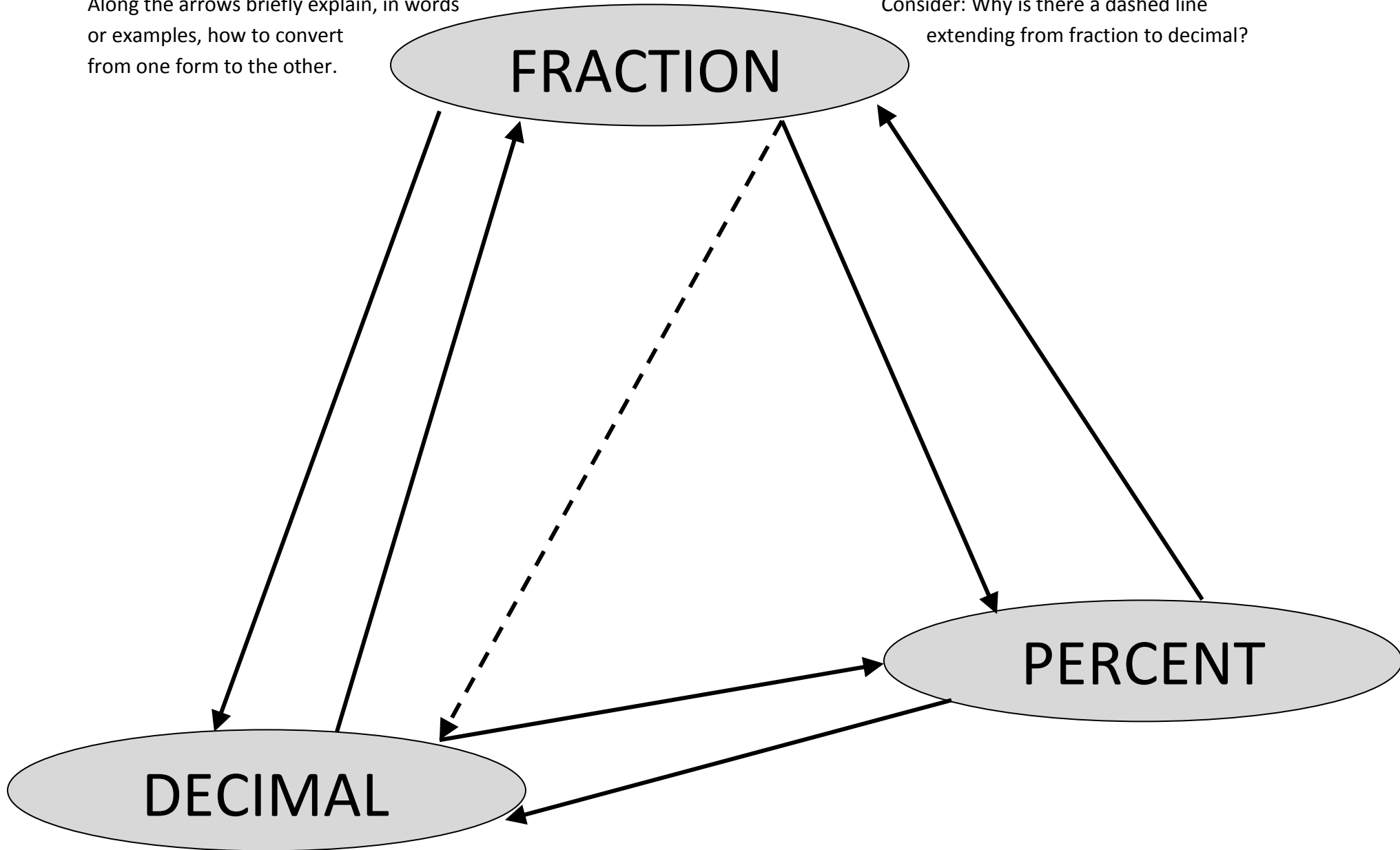
Name: _____

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FDP Graphic Organizer

Along the arrows briefly explain, in words or examples, how to convert from one form to the other.

Consider: Why is there a dashed line extending from fraction to decimal?



Name:

Period: _____ Date: _____