



LESSON 5.1b  
**We Are Family!**

Objective

Percent, Fractions , and Decimal Equivalence

**Warm-Up**



Rewrite each fraction as an equivalent fraction with a denominator of 100.

1.  $\frac{3}{20}$

2.  $\frac{24}{40}$



On Saturday, Melanie won 3 out of 4 of her tennis matches at the Redstone Tournament. On Sunday, she won 1 out of 4 of her matches at the Mesa Tennis Tournament.

Each student summarized Melanie's record over the weekend

Patrick  
Melanie won 100% of her matches!

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



Laura  
Melanie won 50% of her matches!

$$\begin{aligned} & \frac{3 \text{ matches won}}{4 \text{ matches played on Sat}} + \frac{1 \text{ match won}}{4 \text{ matches played on Sun}} \\ &= \frac{4 \text{ matches won}}{8 \text{ total matches played}} \end{aligned}$$



Jonathon

Melanie won 4 out of 8 matches played.

3 matches won : 4 matches played on Saturday

1 match won : 4 matches played on Sunday

---

4 matches won : 8 total matches played




1. What is wrong with Patrick's reasoning?
2. How did Laura make her reasoning explicit?
3. What is the same about Laura's and Jonathon's reasoning? What is different?
4. Why do Laura's and Jonathon answers make sense?



It's time to play The Percentage Match Game. In this game, you will use your knowledge of percents, fractions, and decimals.

Rules of the Game:

- For this 2-person game, 1 person needs to cut out the cards given by Mr. Gilbes. 
- Lay out all the cards facedown.
- The first player chooses any card. That player then turns over another card to see if it is an equivalent match. If the value on the two cards are equivalent, then the match is put into the player's pile. The first player then picks again and repeats the process until a match is not found.
- If the first player does not have an equivalent match, turn the cards back over. It is the second player's turn. The same process for picking and matching cards described is now followed by the second player.
- Continue taking turns until all possible matches are made.
- The player with the greater number of correct equivalent matches wins the game.

$\frac{3}{5}$	$\frac{3}{10}$	$\frac{6}{10}$	30%
0.6	$\frac{1}{3}$	60%	33%
$\frac{1}{8}$	$\frac{2}{6}$	12.5%	$0.\bar{3}$
$\frac{1}{10}$	$\frac{1}{2}$	1%	50%
0.1	$\frac{2}{3}$	10%	$66.\bar{6}\%$
$\frac{1}{5}$	$\frac{3}{4}$	$\frac{2}{10}$	$\frac{6}{8}$
$\frac{1}{4}$	0.75	$\frac{2}{8}$	75%

## Show You Know

Family Resemblances

Percents, fractions, and decimals can be used interchangeably.

The chart shows some common equivalent fractions, decimals, and percents.

Common Equivalent Fractions, Decimals, and Percents									
<b>Fraction</b>	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{2}{5}$	$\frac{1}{2}$	$\frac{3}{5}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{4}{5}$
<b>Decimal</b>	0.2	0.25	$0.\overline{3}$	0.4	0.5	0.6	$0.\overline{6}$	0.75	0.8
<b>Percent</b>	20%	25%	$33\frac{1}{3}\%$	40%	50%	60%	$66\frac{2}{3}\%$	75%	80%

1. How are percents similar to decimals? How are percents and decimals different?

2. How are percents similar to fractions? How are percents and fractions different?

3. How are percents similar to ratios? How are percents and ratios different?



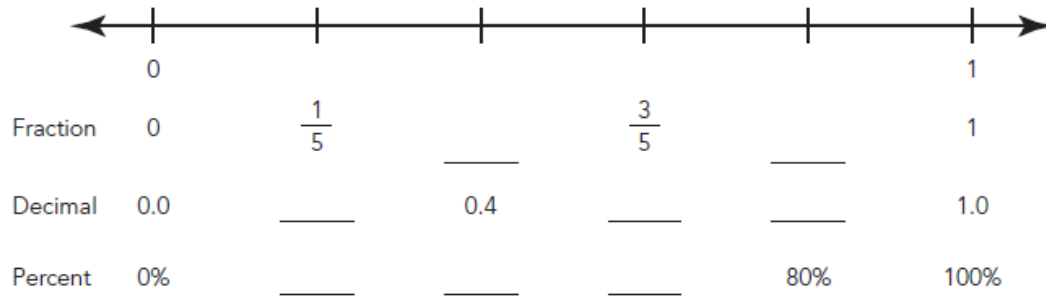
**LESSON 5.1b**  
**We Are Family!**



**Objective** Percent, Fractions , and Decimal Equivalence

**Practice**

1. Label each mark on the number line with a fraction, decimal, and percent. Make sure your fractions are in lowest terms.



2. The table shows the portion of sixth graders at your school who have a particular number of siblings. Complete the table by representing each portion as a part-to-whole ratio, a fraction, a decimal, and a percent. Make sure your ratios and fractions are in lowest terms.

Number of Siblings	Ratio	Fraction	Decimal	Percent
0		$\frac{3}{20}$		
1				20%
2	3:8			
3			0.24	
4 or more		$\frac{7}{200}$		

