Unit Percents-**(6.RP.3c)** **Saturday, December 7, 2013**

Name: _____ Class: _____ Date: _____

Lesson 3: Percent of a Number

OBJECTIVES: SWBA to

1. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity);
2. Solve problems involving finding the whole, given a part and the percent. **(6.RP.3c)**

INTRODUCTION + Vocabulary:

There are many ways we use percents in real life. The next time you go shopping, just check out the sale signs that say "30% off" or "50% off the lowest ticketed price" and you'll see just one of them. Knowing how to calculate percentages will allow you to determine the price of these items on sale, as well as the "best buy." Once you get to the bill to pay for the items, you will be charged sales tax, a fixed percentage of the price of the items. This is a very common use of percentages in real life.

Also, have a look at the food labels on some things like ice-cream or milk and see where it says "Percentage of recommended daily intake" for a certain portion or serving size. If you can calculate percentages you can determine how much of the food you need to eat or drink in order to get the full, or 100%, recommended daily intake. Another dietary consideration is fat intake, and often food label will say that only a certain percentage of calories come from fat.

Finally, contractors add 10% to materials ordered to allow for waste; money in saving or a CD account gains some percent interest on your savings. And most commonly, your grade in a test is most of the time out of 100 points or a percent!

MINI-LESSON (I DO):

Problem 2:

Donovan took a math test and got 35 correct and 10 incorrect answers.

What was the percentage of correct answers? Round the percentage to the nearest whole number.

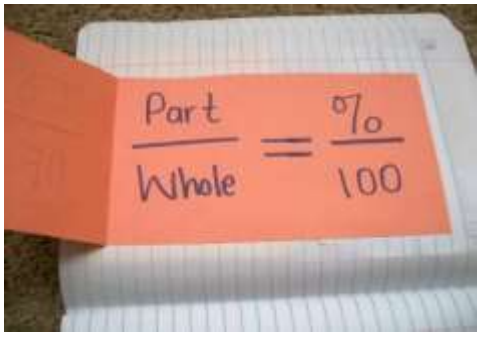

Figure 1: percent Proportion

Solution:

To answer this question we follow these steps:

Step 1: What is the question?

Step 2: We highlight or underling important and relevant information

Step 3: Devise a plan and use it to help you answer the question

Step 4: Check your answer

Name: _____ Class: _____ Date: _____

So here, we go:

Step 1: What was the percent of correct questions?

Step 2: There were a total of 45 questions: 35 correct and 10 incorrect

Step 3: I am going to use a percent-proportion to solve this problem. Since the problem is asking for the percentage of correct answers out of 45 possible questions. In this case, the 45 questions represent the whole test (or 100% of the test) and the 35 correct answers represent a part of the whole test (45 questions). So the question is "What percentage is 35 out of 45?" To solve this problem, we set up the following proportion

$$\frac{Part}{Whole} = \frac{x\%}{100}$$

Where x is the percent part (number) we are looking for.

$$\frac{35 correct}{45 questions} = \frac{x\%}{100}$$

Now, I am going to use cross multiplication to find the #%.

(35) (100) = 45x

3500 = 45x. Divide both sides by x, we find that

***x* = 78%**

Donavon got 78% of the questions correct!

Let's check the answer:

I know Donavan had 35 correct questions. Therefore, 78% of 45 questions must be 35 questions.

45 (0.78) is about 35 questions!

Summarize what you have taught them—Assess for understanding by show of thumbs up/down.

Unit Percents-**(6.RP.3c)** **Saturday, December 7, 2013**

Name: _____ Class: _____ Date: _____

Guided Practice 1: (We do):

Problem 1:

Marilyn saves 30% of the money she earns each month. She earns $350 each month. How much does she save?

Solution:

Step 1: How much money does Marilyn save?

Step 2: Save 30% of $350 each month.

Step 3: We are going to use a percent-proportion to solve this problem. Since the problem is stating that Marilyn saves 30% of $350 each month, we know that the $350 represent the whole (100%). We are looking for a part of $350.

$$\frac{Part}{Whole} = \frac{\%}{100}$$

Where x is the percent part (number) we are looking for.

$$\frac{x}{\$350} = \frac{30}{100}$$

Now, I am going to use cross multiplication to find the #%.

100x = ($350) (30)

100x = $10,500. Divide both sides by 100, we find that

***x* = $105**

Marilyn saves $105

Let's check the answer:

We know that Marilyn saves 30% of % 350. Therefore, we divide $105 by $350 the quotient should be equal to 0.30 or 30%.

$$\frac{\$105}{\$350} = 0.3 = 0.30 = 30\%$$

Summarize what you have taught the students one more time—Assess for understanding by show of thumbs up/down

Name: _____ Class: _____ Date: _____

Independent Practice (You Do):

Problem 1:

Marilyn saves 30% of the money she earns each month. She earns $1350 each month. How much does she save?

Show your work

Problem 2:

In Ms. Noel's Class, 65% of the students are boys. There are 16 boys in the class. What percent of the total number of students in Ms. Noel's class?

Show your work

Name: _____ Class: _____ Date: _____

Problem 3:

Mr. Roberts is going shopping. He has a budget of $150.00. He will buy **either** a painting **or** a lamp.

If he spends 80% of his money on a painting, how much money will Mr. Roberts spend?

Show your work.

Answer $ _____

If he spends 50% of his money on a lamp, instead of buying a painting, how much money will Mr. Roberts spend?

Answer $ _____

Problem 4:

Louis is climbing steps to the top of a monument. After climbing 15 steps, Louis stops to tie his shoe. If there is a total of 75 steps on the monument, what percent of the total number of steps has Louis climbed when he stops to tie his shoe?

A 90%
B 60%
C 20%
D 5%

Name: _____ Class: _____ Date: _____

Problem 5:

At Anthony's school, 25% of the 72 sixth-grade students wear either glasses or contact lenses.

Part A

How many sixth-grade students wear either glasses or contact lenses?

Show your work.

Answer _____ students

Part B

There are 9 students who wear glasses. Of the students who wear glasses or contact lenses, what percent wear glasses?

Show your work.

Answer _____ %

Unit Percents-**(6.RP.3c)** **Saturday, December 7, 2013**

Name: _____ Class: _____ Date: _____

Final Summary

In a U-Shape:

1. Re-state the objective to assess if students learn it
2. Elicit from students what they have learned and what they want to learn more about.
3. Tie what they learn to the lesson, and upcoming lessons (Next Saturday, they will learn about proportion, a comparison of two ratios!)