Title: Finding the Percent, the Part, and the Whole

Objectives	Time frame to Complete
Students will correctly solve percent problems finding the percent, the part, and the whole.	30-40 minutes
	NRS EFL 4

Stackable Cert. Documentation	Technology	Study / Life skills	EL-Civics	Career Pathways	Police	Paramedic	Fire Rescue	Medical Asst.	EKG / Cardio	Phlebotomy	Practical Nursing	Healthcare Admin	Pharmacy Tech	IMT	AMT	HVAC	Welding	Other:
		x		x														

Standard(s) Addressed in Lesson
Use Math to Solve Problems and Communicate

Benchmark(s) Addressed in Lesson
M.4.5 Estimate (when appropriate) and compute solutions to problems involving fractions, decimals, ratios, proportions and percents.

Materials
Handout (attached), paper, pencil

Learner Prior Knowledge
Multiplication, division, decimals, part, whole

Activities
Step 1 Ask students to identify times they have needed to calculate percentages (such as leaving a tip in a restaurant). After a few examples are shared, explain that today's lesson will provide them with a simple method to understand percentages.

Step 2 Teacher will model the pattern to use to find the percent, the part, or the whole. Teacher will explain that if this pattern is followed, the student won't need to worry which number should be divided into which number. Write $\frac{is}{of} = \frac{\%}{100}$ on the board. Explain that once you know three of the four numbers, you multiply the two that are diagonally across from each other and divide by the remaining number to find the missing number.

Step 3 Teacher will model problems using all three types of percent problems.

Step 4 Students will work problems on handout, asking for assistance as needed.

Assessment/Evidence
At least 80% mastery of worksheet. Worksheet can be checked by students when class goes over it as a group.

Adaptations for Beginning Students
Beginning students will work with a partner.

Adaptations for Advanced Students
Advanced students can create additional problems for the class to work or can find additional resources from which to create problems (real estate ads, new car sale ads, loan information from a bank, clothing sale ads, etc.)

Teacher Reflection/Lesson Evaluation
This lesson was created by Middletown ABLE.

$$\frac{is}{of} = \frac{\%}{100}$$

1. What percent of the <u>total</u> students in this classroom are women? (E.g. 10 women and 15 men).

2. Because of the economy, a manufacturing plant will need to lay off 12 % of their employees. If there are 300 employees, how many will be laid off?

3. It is expected that 55% of the registered voters will vote in the election. If there are 45,000 registered voters, how many are expected to vote?

4. What will be the final price of an item that originally sold for $50, is marked 30% off, and has 7% sales tax?

5. 530 students earned diplomas in the GED program this school year. If 212 attended the graduation ceremony, what percentage was in attendance?

6. Of 3500 employees, 700 are under contract. What percentage of the employees is under contract?

is = %

of 100

1. What percent of the total students in this classroom are women? (e.g. 10 women and 15 men).   40%

2. Because of the economy, a manufacturing plant will need to lay off 12% of their employees. If there are 300 employees, how many will be laid off?   36

3. It is expected that 55% of the registered voters will vote in the election. If there are 45,000 registered voters, how many are expected to vote?   24,750

4. What will be the final price of an item that originally sold for $50, is marked 30% off, and has 7% sales tax? $37.45

5. 530 students earned diplomas in the GED program this school year. If 212 attended the graduation ceremony, what percentage was in attendance?   40%

6. Of 3500 employees, 700 are under contract. What percentage of the employees is under contract?   20%