

## GED 2002 Teachers' Handbook of Lesson Plans

Area/Skill - Math	Cognitive Skill Level - Application	Correlation to Framework - Math 5.04	Lesson Number - 04
<p><b>Activity Title – Working with Percentages</b></p> <p><b>Goal/Objective</b> Students will be able to complete basic operations using percentages in a variety of real world situations.</p> <p><b>Lesson Outline</b></p> <p><b>Introduction</b> Percentages are used in many areas of daily life. We often hear discounts and sales stated in the form of percentages. Evaluation of one's performance is also often stated in percentage</p> <p><b>Activity</b> Our first activity will involve computing a successive percentage discount. The price of a shirt has been reduced by 25% on the first day of a sale. After a week, the discounted price was discounted by 10%. The list price of the shirt was \$35.00. Compute the final sale price.</p> <p>Many times it is necessary to compute a percentage of a whole number. The proportion or <math>\frac{\text{Part}}{\text{Base}} = \frac{\text{Percent}}{100}</math> is useful when computing totals and amounts of percentages.</p> <p>Use the proportion to solve several these problems. John delivers packages. He has 56 stops to make today. He has already made 7 stops. What percent of his stops does he have left to do?</p> $\frac{49}{56} = \frac{\text{Percent}}{100}$ <p>7% of the students in the class have green eyes. There are 56 students in the class. How many students have green eyes?</p> $\frac{\text{Part}}{56} = \frac{7}{100}$ <p>Bill has collected 56 different postage stamps. This is 7% of the total number of stamps he wishes to collect. What is total number of stamps Bill wishes to collect?</p> $\frac{56}{\text{Base}} = \frac{7}{100}$ <p><b>Debriefing/Evaluation Activity</b> Have individual students solve and explain how they solved for each answer. Discuss if this is a valuable skill to possess, and if so how it would be used.</p>			<p><b>Materials/Texts/Realia/Handouts</b></p> <ul style="list-style-type: none"> <li>• Paper, pencils</li> <li>• Overhead/chalk board</li> <li>• Newspapers</li> <li>• Calculators</li> </ul>
<p><b>Real-Life Connection</b></p> <p>Distribute newspapers to class and have students locate ads that list “percentage-off” sales. Assign students the task of computing the actual price. From the same newspapers, assign students the task of locating a news story that uses percentages in the story. Compute the actual numerical value of the percentages.</p>			<p><b>Extension Activity</b></p> <p>Using the class members as the base number, compute the percentage of males and females, blonds and brunettes, left v right handedness and any other characteristics desired</p> <p><b>ESE/ESOL Accommodations</b></p> <ul style="list-style-type: none"> <li>• Let the student use a calculator for routine computation tasks.</li> <li>• Color-code or highlight key words in math word problems.</li> <li>• Let the student use a flowchart to follow the steps of problem solving.</li> </ul>

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<p><b>Activity Title - Working with Percentages</b></p> <p><b>Introduction</b></p> <p>Percentages are used in many areas of daily life. We often hear about discounts and sales stated in the form of percentage. Evaluation of performance and change is also often stated in percentage</p> <p><b>Main Activity</b></p> <p><i>Say:</i> Our first activity will involve computing a successive percentage discount. The price of a shirt has been reduced by 25% on the first day of a sale. After a week, the discounted price was discounted by 10%. The list price of the shirt was \$35.00. Compute the final sale price. Put all numbers and computations on chalk board or overhead as you complete the project. <i>Say:</i> To solve this problem, you must first find the amount of the first discount. You may do this by multiplying \$35.00 by .25 which gives us \$8.75. Subtracting this amount from \$35.00 gives us \$26.25. To find the next discount, multiply this amount by .10 which gives us \$2.63. Subtracting this amount from the discounted price gives us the final discounted price of \$23.72.</p> <p><i>Say:</i> We will now use percentages in several other problems. John delivers packages. He has 56 stops to make today. He has already made 7. What percent of his stops does he have left to do? To solve this problem you should divide 49 by 56. This will give the answer of .875 which converts to 87.5%</p> <p>In our next example we will try to find the approximate number of students in the class who have green eyes. We predict that 7% of the students in the class have green eyes and we know there are 56 students in the class. How many students have green eyes? To find this number we multiple 56 by .07 which equals 3.92. This would round up to 4 people.</p> <p>For our last example we will solve a different type of problem Bill has collected 56 different postage stamps. This is 7% of the total number of stamps he wishes to collect. What is total number of stamps Bill wishes to collect? We find this answer by comparing numbers, so 56 is to 7 as 800 is to 100 since we are searching for base.</p> $\frac{56}{\text{Base}} = \frac{7}{100}$ <p><b>Closure/Conclusion</b></p> <p><i>Say:</i> As you have seen, there are many uses for percentages in daily living. You can also see the need for care and accuracy when working with percentages.</p> <p><b>Follow-Up Lessons/Activities</b></p> <p>Distribute copies of newspapers to the class members. <i>Say:</i> At this time you are to find advertisements that deal with percentage discounts and savings. Compute the actual savings in one or more of these ads. You should also peruse the news articles and find a story that uses percentages to help make the point of the article.</p>			