



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2004 Volume V: The Craft of Word Problems

The Art of Interpreting Percent

Guide for Curriculum Unit 04.05.04
by Diane Elizabeth Powers

The goal of this unit is to introduce, support, and expound on the meaning of percent for fifth-grade students. I utilize many problem solving strategies to teach students that the "meaning of percent" is per 100. Percent means per hundredths. Therefore, one whole is equivalent to 100 hundredths. Any percent less than 100 hundredths or 100% is equivalent to a fraction with a value less than 100%. When a percent is greater than 100% it represents an equivalent improper fraction. This curriculum should be utilized after fractions have been taught, as I relate percent to fractions and decimals throughout the unit.

This unit provides an assortment of word problems, beginning with those for remedial students. Students that have success in solving these problems will be excited to continue to solve progressively more difficult word problems. The word problems initially are divided into simpler parts, whereby the student can easily identify each step of the problem. Eventually, the lessons evolve into word problems utilizing formulas with algebraic equations and solving for the unknown.

Students will visualize the use of number lines indicating fractions and their corresponding percentages. There is integration of the metric system of measurement, as it relates to fractions and percentages.

Students will change fractions to decimals and percentages and vice versa. Once the foundation of percent is understood then I introduce word problems. First, students will solve for the unknown incremental part of the whole when the whole quantity and the percentage are known. Then they will solve for the unknown percentage when the whole quantity and the incremental part of the whole are known. Finally, students will solve for the unknown whole quantity when the percentage and incremental part of the whole are known.

When students are comfortable with the above calculations I introduce the whole quantity as a percentage of another quantity, followed by a lesson on percentage change. There are simple interest calculations for the borrower and the lender. The last section of the unit is a series of related, progressively more difficult word problems. All of the problems relate to the lessons and can easily be solved by following the formulas.

(Recommended for Mathematics, grades 5 and 6.)

<https://teachersinstitute.yale.edu>

©2019 by the Yale-New Haven Teachers Institute, Yale University

For terms of use visit <https://teachersinstitute.yale.edu/terms>