

LEARNING and TEACHING POINTS
for
Chapter 19
Proportions and Percentages

Use the four-cells diagram to make clear the structure of direct proportion problems and encourage children to use the most obvious relationships between the given three numbers to find the fourth number.

Encourage children to find examples of percentages used in newspapers and advertising and discuss with them what is being claimed.

Repeatedly emphasize the meaning of *per cent* as 'for each hundred' and show how percentages are used to describe a fraction of a quantity or of a set.

Show children how simple it is to change a percentage into an equivalent decimal, and vice versa, by moving the digits two places.

Encourage the use of ad hoc methods for expressing a proportion as a percentage, using numbers that relate easily to 100.

Encourage children to memorize common equivalences between fractions, decimals and percentages and reinforce these in question-and-answer sessions with the class.

Allow children to use calculators to express more difficult proportions as percentages, showing them the various different ways of doing this. Be aware that not all calculators follow the same key sequences for finding percentages.

Make a special point of explaining to children that 10% being equivalent to $\frac{1}{10}$ is a special case and warn them not to fall into the trap of thinking that, for example, 20% is equal to $\frac{1}{20}$.

Being numerate includes having confidence with percentages, because they are used so widely in everyday life. In their professional lives teachers will need to understand percentages in such contexts as assessment data, inspection reports, budgets and salaries; and they should be able to express proportions as percentages and calculate percentages, including percentage increases and decreases.

In your teaching show that you value informal, intuitive methods for finding a percentage of a quantity; teach children some of these strategies, particularly building up a percentage using easy proportions such as 10% and 5%.