

Exploring Numbers - Introduction

One of the most important aims of adult numeracy education is to build students' confidence with numbers and their associated language. This means first acknowledging students' existing knowledge, then building on this to expand their understanding of the number system and how it works. Understanding of the patterns of tens within our number system provides the basis for a range of 'In the head' calculation strategies described in other sections of this resource.

The intention of this section, *Exploring Numbers*, is to bring together a collection of favourite activities which encourage students to become more familiar with the properties of numbers, the operations used with them, and their associated language.

Language and properties of numbers

These activities include a variety of games, problems solving tasks and small group and pair activities. Some explore the common, everyday language of number by encouraging students to listen to, and read numbers aloud, progressing from smaller, familiar numbers to those in the millions. These activities also highlight the importance of place value, the position of the numbers which determines their size. Other activities highlight the language of comparison and meaning of number properties such as odd, even, greater or less than, between.

Exploring operations, symbols and calculators

The words, symbols and meaning of arithmetical operations (+, -, x and ÷) and their associated calculator buttons are also explored in this section. Activities provide space for students to clarify, or perhaps learn for the first time, the many different ways in which a simple mathematical process, such as addition, can be expressed. For example '+', 'plus', 'add', 'and', 'total', 'the sum of', are all commonly used in everyday English to express the same operation.

Arithmetic operations (+, -, x and ÷) are also explored through *Number Patterns*, and *What's the rule?* Activities. These activities also highlight the inverse relationships of addition / subtraction and multiplication / division, which provide an important way of checking subtraction and division calculations, so often a source of difficulty for numeracy students.

The section also includes techniques and games for helping students learn and recall multiplication tables and addition facts.

Introducing estimation and approximation

Exploring Numbers also contains activities that lay the groundwork for estimation techniques by introducing the idea of approximating large numbers to make them easier to understand and compare.

