

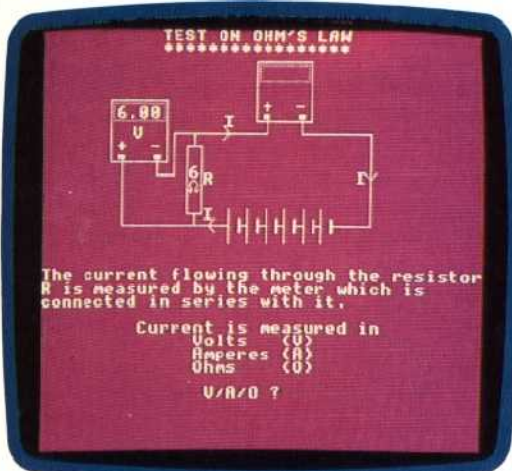
The application of simulation methods to the classroom is proving as popular with teachers of science as it is with their counterparts in industry, for the simple reason that it allows a much greater degree of experimentation within the class — especially in areas where either the cost, or the dangers inherent in the use of reactive chemicals, would otherwise render it impossible.

Let's now consider the three major age groupings for which educational packages are produced, in order to compare the similarities and differences of the software.

EIGHT AND UNDER

Most software packages designed for the younger child are concerned with the development of basic skills in shape and pattern recognition. Many use simple arithmetic and spelling as the objects to be recognised or matched, thus reinforcing the familiarity of these symbols. Many programs that fall within this category make use

'D.C.', SciCAL Software



of games-like 'scripts' in an attempt to hold the child's attention more securely. Some assume the presence of an adult or older child.

Particularly popular amongst this age group are programs that teach the child how to tell the time, practise counting, add and subtract (one interesting method involves an animated balance, which tips one way or the other depending on the load in the pans), construct short sentences and spell common words — often using the Hangman game as a stratagem.

NINE TO FOURTEEN

Within this age group the emphasis changes slightly, away from learning through play towards a rather more disciplined approach, and thus replicates the child's experiences in the classroom. Not surprisingly, given that software of this type is expected to keep the child motivated to use it, a considerable amount of effort has been devoted to incentives and rewards. One method that has proved popular and reasonably successful presents the child with a screen-based game after he or she has completed a section of the learning program within the time allowed and with a given

measure of success.

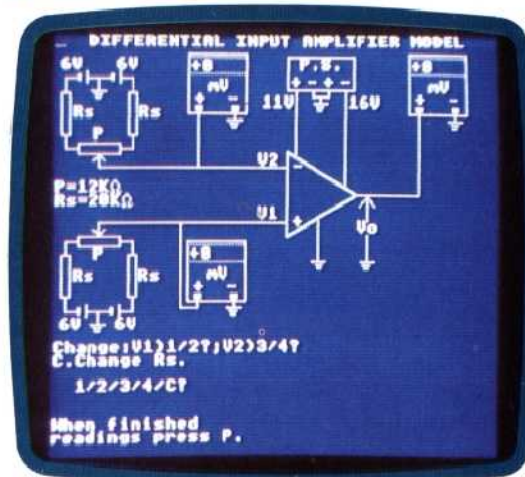
Arithmetic and spelling and the use of language are still the most popular subjects for children in this age group. But in addition there are a variety of historical and geographical packages available, some that teach basic theory of music and a number of simple simulations.

FIFTEEN AND ABOVE

It is at this stage, where General Certificate of Education and Certificate of Secondary Education examinations loom, that the expert system type of educational software comes into its own. Basic skills reinforcement packages are available, of course, but more producers concentrate their efforts on particular subject areas. These are geared not just to a particular examination paper, but, in the case of GCE revision software, to the syllabus set by a particular Examination Board. At this level individual programs will typically offer a resumé of expected background knowledge, give the theory and methodology of the topic under consideration, and then provide a lengthy multiple choice test based on the subject matter. In subjects such as English literature they will also offer an analysis of style and content, just as a teacher would.

By this stage the student is expected to have reached a certain level of self-motivation, and little or no effort is made to keep him or her interested in the task at hand by artificial means.

'Ampli.', SciCAL Software



This is not to say that the subject matter is generally presented simply at face value. On the contrary, an inventive approach to static and animated graphics and the use of synthesised sound is universally encouraged. There is a wide variety of software packages available for this age group, and as many are very subject-specific it is wise to consult a professional dealing in educational software in order to decide on their relative value.

In a future instalment of THE HOME COMPUTER ADVANCED COURSE, we will look in more detail at the range of educational software packages available for the most popular home computers.