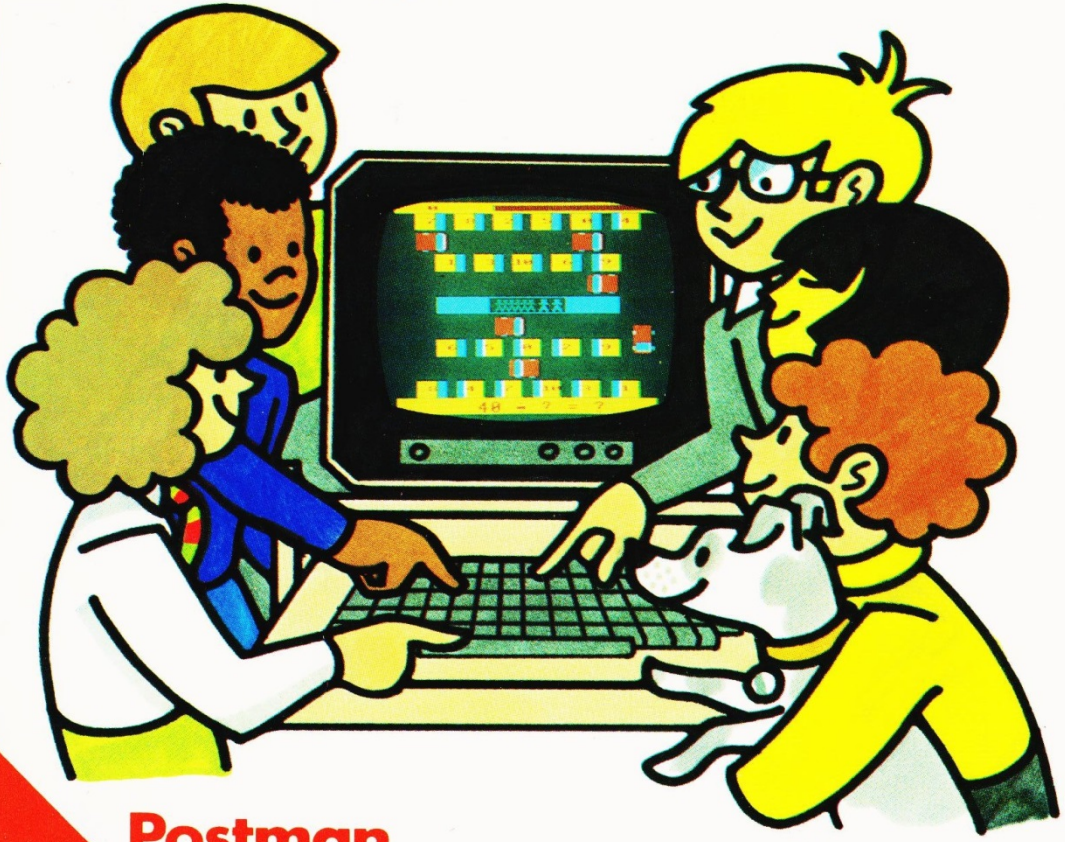
SPMG

Primary Mathematics Programs

For the BBC Model B



Postman

H·E·B

Loading and running instructions

The program is for the BBC Model B Microcomputer.

Using a cassette

1 Put the cassette in the recorder and rewind to the start if necessary.
2 If you are using a BBC micro fitted with a disk interface, type

*TAPE and press RETURN.

3 Type CHAIN" " and press RETURN.
Play the cassette recorder. Follow the instructions on the screen when the program starts.

Using a disk

1 Insert the disk in the drive.
2 Hold down SHIFT and tap the BREAK key. This should start the disk automatically. Follow the instructions on the screen.

Scottish Primary Mathematics Group

Primary Mathematics Programs

Postman

Heinemann Educational Books

Heinemann Educational Books Ltd
22 Bedford Square, London WC1B 3HH

LONDON EDINBURGH MELBOURNE AUCKLAND
HONG KONG SINGAPORE KUALA LUMPUR NEW DELHI
IBADAN NAIROBI JOHANNESBURG
EXETER (NH) KINGSTON PORT OF SPAIN

ISBN 0 435 02737 9 (BBC Disc)
0 435 02736 0 (BBC Cassette)

First published 1984

Programmed by Five Ways Software Ltd.

Filmset by Northumberland Press Ltd, Gateshead
Printed in Great Britain by
Paradigm Print, Gateshead

Contents

About the program

The aim of this program is to give further practice in basic number facts through the medium of an enjoyable and motivating game. The game involves a postman who has to call at houses with particular numbers—those that complete the 'basic number fact' problems. The postman travels from house to house on moving post vans.

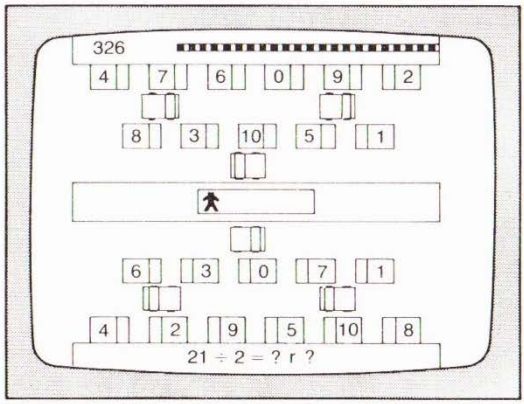


Fig. 1

To play the game successfully, the child has to have good recall of either basic addition, subtraction, multiplication, or division facts.

There are eight different number options available (see Appendix 1). For each one children can choose to play the easier or harder version, according to their degree of manipulative skill.

The game is suitable for children aged from 7 upwards, depending on the option and version chosen.

Context

To play any version of the game a child has to be reasonably familiar with the appropriate set of number facts. An option should therefore only be played once the child has been taught and had practice using these facts.

The program can be used in a variety of situations. It might be used by a child who has finished a particular task, as a reward for good work, or as a team game, etc. The easier versions which require less manipulative skill, or the easier options, could be used by older remedial children.

Teachers using the SPMG series *Primary Mathematics—A development through activity*, should read Appendix 2 which indicates the stages at which the work for the various options of the game is introduced, although each option will probably be played for a considerable time after this.

Program description

The teacher or child first chooses one of the eight possible options and then decides whether to play the easier or harder version.

Points are scored for each correct or partially correct answer to a question. Bonus points are scored depending on the time taken to answer the question.

Screen layout

When the game starts the question appears on its own at the bottom of the screen, e.g. $? \times ? = 24$, and remains for a few seconds to give the child time to consider various possible answers, e.g. $6 \times 4 = 24$; $4 \times 6 = 24$; $8 \times 3 = 24$, etc. The answers must be selected from the house numbers on display. In the case of

$$? \times ? = 24$$

the child will lose a life if 2 is selected as the first factor, since there is no house with the number 12 available to complete the statement. However, points will be scored for the first factor 2.

The remainder of the screen then appears. There are 22 numbered houses (see Appendix 3), a central pavement, and 6 vans. In the middle of the pavement there is a Post Office with 3 postmen. The score and diminishing time line are given at the top of the screen.

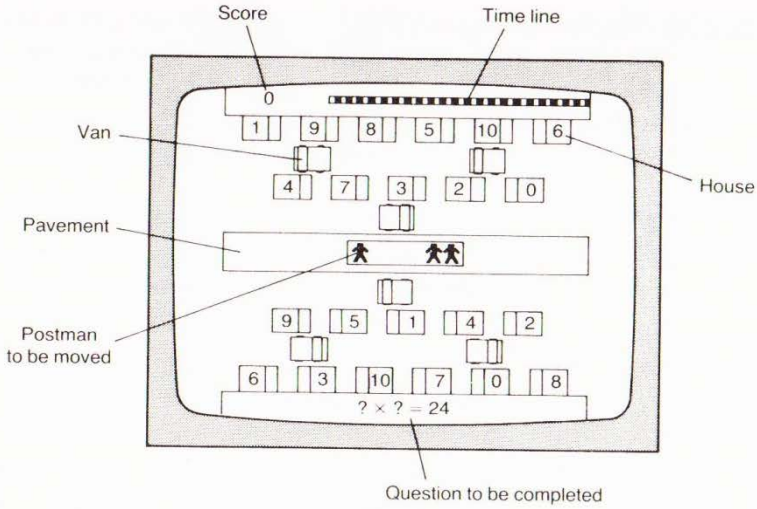


Fig. 2

Answering a question

A question is answered by replacing each question mark (?) with an appropriate number. This is done by moving a postman from the Post Office to the houses containing the desired numbers by means of the moving vans.

The vans do not start to move immediately—there is a delay of a few seconds to allow the child to work out which houses the postman must visit. The time line starts to diminish when the vans move.

Moving a postman

The first postman moves to the left end of the Post Office and flashes. He can then be transferred to a van by using the ⇧ key to jump him up or the ⇩ key to jump him down. In the easier version of the game the postman can jump into any part of the van. In the more difficult version he must jump into the blue section of the van (Fig. 3).

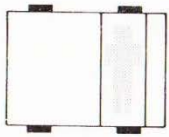


Fig. 3

The postman is now carried round the houses in the van which can be speeded up if desired by pressing the SPACE BAR. This may help the child to obtain a better score. **The vans are programmed to change direction without warning.** When the postman is opposite a house with the desired number he can be moved into it using either the ⇧ or the ⇩ key.

In the easier version he can jump into any part of the house; in the more difficult version he just jump into the blue section (Fig. 4).

Fig. 4

When the postman has landed successfully the number in the house will disappear and a '?' in the question will be replaced by that number (Fig. 5).

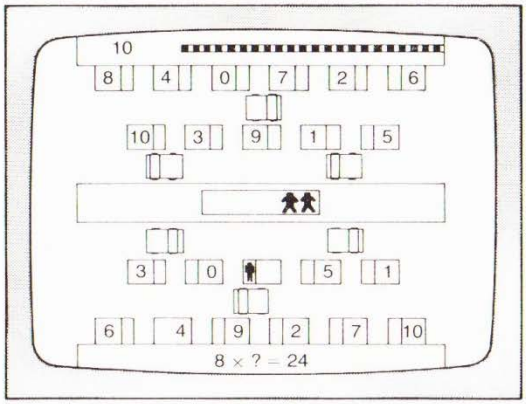


Fig. 5

The same postman now has to be moved from the house back onto a moving van and then to a house containing the other desired number. To do this, the postman may occasionally have to be moved from a house in the top part of the screen to a house in the bottom part or vice versa (e.g. for ? × ? = 49). This can be achieved by first moving the postman on to the pavement in the centre of the screen.

When the postman lands in a house with the second appropriate number, a bell will ring to indicate that the question has been answered correctly, and the total score so far will be shown.

A new question appears and the game continues as before until the maximum of ten questions are answered or until all three postmen have

been lost. The latter is most likely until the necessary manipulative skill has been acquired.

A postman is lost if

1 he does not jump into the van successfully. He then falls onto the road and is knocked down by an oncoming van.
2 he does not jump into a house correctly. Again he lands on the road and is knocked down.
3 he jumps into a house with a 'wrong' number, e.g. if the question was ? × ? = 24 and he jumped into a house with the number 7.
4 the question is not completed in the given time.

When a postman is lost the screen clears to a 'Please wait' instruction, which is followed by a new question. The positions of house numbers are changed and the next postman is moved to the starting position.

The end of the game

At the end of a game, a child whose score is in the top ten scores has his or name in the score frame. This frame keeps a record of the top ten scores for any particular session in which the game is played.

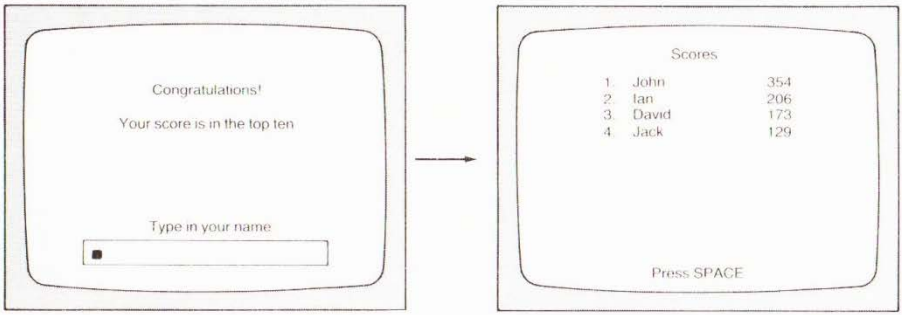


Fig. 6

The child is then offered the choice to

1. play again
2. change the game
3. end the program

If 1 is pressed the child plays the same option again, 2 recalls the menu of options, and 3 displays the message 'Goodbye'.

From the 'Goodbye' screen, pressing the space bar or CTRL B will restart the program. CTRL F will end the program, and it cannot then be re-run without re-loading.

Appendix 1: Game options

1 Addition to 20
2 Subtraction within 20
3 Multiplication by 2, 3, 4, and 5
4 Multiplication by 2, 3, 4, . . . , 10
5 Division by 2, 3, 4, and 5
6 Division by 2, 3, 4, and 5 with remainders
7 Division by 2, 3, 4, . . . , 10
8 Division by 2, 3, 4, . . . , 10 with remainders

Appendix 2: Relation to SPMG Primary Mathematics

Schools following the SPMG course *Primary Mathematics—A development through activity* will find that the Stages listed below include number work relevant to the various game options.

1	Addition to 20	*Infant Mathematics* Stages 1 and 2
2	Subtraction within 20	*Infant Mathematics* Stages 1 and 2
3	Multiplication by 2, 3, 4, and 5	*Primary Mathematics* Stage 1
4	Multiplication by 2, 3, 4, . . . , 10	*Primary Mathematics* Stage 2
5	Division by 2, 3, 4, and 5	*Primary Mathematics* Stage 2
6	Division by 2, 3, 4, and 5 with remainders	*Primary Mathematics* Stage 2
7	Division by 2, 3, 4, . . . , 10	*Primary Mathematics* Stage 3
8	Division by 2, 3, 4, . . . , 10 with remainders	*Primary Mathematics* Stage 3

Appendix 3: Screen data

There are 22 houses on the screen. Each set of 11 houses in the top and bottom parts of the screen is numbered from 0 to 10. These numbers are positioned randomly and the positions change for each question. The *given* number (or numbers) in each question is selected randomly, e.g. for questions of the type '? + ? = *x*', the value of *x* could be any whole number from 0 to 20.

Teacher's keys

CTRL B	will re-start the program from the beginning.
CTRL F	will finish the program.
CTRL N	will switch the sound off/on.
CTRL C	will switch between colours suitable for a coloured monitor and ones which produce contrasting shades in black and white.
ESCAPE	should have no effect.
CTRL BREAK	will reset the computer. The program cannot be recovered by using OLD but must be re-loaded.

Primary Mathematics Programs

These programs are part of a series for teaching and learning mathematics. They have been developed by the Scottish Primary Mathematics Group, authors of the famous *SPMG PRIMARY MATHEMATICS* scheme used with great enthusiasm in thousands of schools.

The programs are for the Acorn BBC Model B microcomputer (disc or cassette versions). **'Issue One'** includes:

Pack 1 **Metric units of weight** plus **Recipes** (2 programs)
Pack 2 **Area** (2 programs)
Pack 3 **Shape 1** (4 programs)
Pack 4 **Postman** (1 program)

Each Pack is available individually, or as a combined **Issue One Pack**.
More information, or details of future Issues, can be obtained from:

SPMG Information Service
The Windmill Press
Kingswood
Tadworth
Surrey KT20 6TG

Heinemann Educational Books