

A carry or bringdown value may be altered by re-entering C (or B if Bringdown) followed by the new digit, but only if no other entries have been made.

Entries in the working out area of Division (L4 and 5) may be altered by entering a space followed by the new digit. This does not apply to Bringdown digits.

— CHILD EDUCATION — ARITHMETIC TUTORIAL

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WRITTEN BY PETER AIRD

Arithmetic is a highly intelligent elementary mathematics tutorial (computer assisted instruction -CAI) program designed to exercise the fundamental math skills.

The Sorcerers high resolution graphics and a unique character set provide numeric figures at four times the normal size.

There are routines at five levels for:—

- 1) Addition**
- 2) Subtraction**
- 3) Division**
- 4) Multiplication and,**
- 5) Times tables at eleven levels.**

Arithmetic simulates the solving of problems on paper by entering from the correct column, by allowing the entry of carries and by allowing working out to be entered on the screen.

On completion of the program a full report card is issued, showing which routines and levels were used by the student and the marks achieved.

There are five questions in each game except for 'times tables' which has 12 questions.

The student may quit at any time or continue into extra games and accumulate his score, and perhaps improve his percentage result.

A report card will be displayed at the end of the session.

Each game has its own set of user commands listed inside the left margin. **Arithmetic has a sound output on the parallel port, bits 0 and 7.**

The program loads from cassette with the BASIC command: CLOAD. After loading, RUN the program.

SYSTEM SOFTWARE

1 KENT STREET, BICTON
WESTERN AUSTRALIA 6157
TELEPHONE: ISD (619) STD (09) 339 3842
Sunday through to Friday.

Ask for Richard Swannell for personal service.

INSTRUCTIONS

ADDITION AND SUBTRACTION, ALL LEVELS MULTIPLICATION (LEVEL 1 TO 3)

Enter your answer one digit at a time, starting from the righthand column. If you wish to enter a carry or borrow hit C, followed by the number required then continue with your answer until you are satisfied. Enter RETURN and the computer will check your answer.

MULTIPLICATION LEVEL (4 AND 5)

These levels are long multiplication. Multiply by the first digit as you would in Levels 1 to 3, then enter W for working out. The system will enter a zero in the line below and allow you to multiply the next digit. You may enter carry digits as normal. Enter W as you complete each line. When the last digit in the multiplier is used, the system will, after the entry of W, draw a total line. You may then add the working out digits as you would in addition, including the use of carries! You may erase your entire answer by hitting E or just the line you are doing by hitting D for delete line. When your answer is complete, hit RETURN.

DIVISION (LEVEL 1 TO 3)

Enter your answer, commencing from the left end of the division line. If the first digit or digits are not divisible you may enter either a space or a zero. Carries may be entered in the normal manner. After completing the division, you may if necessary enter a remainder by pressing R followed by the remainder digits. Enter RETURN when you answer is complete.

DIVISION LEVEL (4 AND 5)

These levels are long division. Proceed as you would in Division Level 1 to 3. When you wish to enter working out, press W. The numbers entered after W will appear in the working out area, commencing directly below your last answer line entry and moving left, digit by digit. If you make a mistake in the working out area, the last entry only may be overwritten by hitting the space bar followed by the new digit. (Erase the entire answer by pressing E) when ready to subtract, enter S and the system will draw a line under which you enter your subtraction answer. Entering B when your subtraction is complete, will allow you to bring down the number below and to the immediate right of the last answer line digit, however you must still enter this

digit yourself. If you make an error in the bring down number, immediately enter B again followed by the correct number. After allowing one bring down number, the system places the next entry on the answer line. When more working out is required just follow the previous instructions. Working out will only be set out correctly if you set it out correctly to enter a remainder. Simply enter R followed by the remainder value. Press RETURN when finished.

NOTE: Only the answer is checked, not the working out.

TIMES TABLES (ALL LEVELS)

Select the table you wish to use and then choose whether you wish to do the table in sequence or at random. Answer the questions by entering the left digit first.

e.g. $12 \times 11 = 132$ (enter 1 then 3 then 2)
Press RETURN when finished.

COMMAND SUMMARY

COMMAND	GAME	FUNCTION
RETURN	All Games	Enters figures in the answer location for the computer to check.
(Q)-QUIT	All Games	End the current game.
(E)-ERASE	All Games	Erases all user entries.
(C)-CARRY	A, S, M and D (L1 to 3)	Inserts the next digit entered in the carry or borrow location.
(D)-DELETE	M (L4 to 5)	Erases current entry line only.
(R)-REMAINDER	Division	Prints R on answer line and accepts all following entries as part of the remainder.
(W)-WORKINGOUT	M (L4 to 5)	Allows entry of digits in working out area.
(S)-SUBTRACT	D (L4 to 5)	Draws a line under working out. Enters following digits under line.
(B)-BRINGDOWN	D (L4 to 5)	Inserts the next digit entered in the Bringdown location. Following digits are inserted on answer line.