

## COMMODORE EDUCATIONAL SOFTWARE

Thanks to Commodore Canada, and in particular to Frank Winters and Armand Aiello, TPUG has received the 58 disks and the documentation for the updated and enlarged Commodore Educational Software library. These programs will run on the following computers:

Commodore 64  
PET 2001 (BASIC 2.0)  
PET 4000 (BASIC 2.0 or 4.0)  
(9 & 12" screens)  
CBM 8032 (after loading & running CBM 4032 V2)

Because of the many changes in this series, we are changing the code we use to indicate this software. You will find that each listing now begins with an "(E)". Thus, (E)BA is the first listing under the heading of Business. You will notice that each listing (not each program) is available on 1 disk, but until we have had some experience with the series, we can not predict for sure how many tapes will be required for each listing. For now, please assume that 2 tapes are needed for one listing.

As in the previous series, the programs under any one heading, whether it be English, Mathematics, Science or Technology, are listed alphabetically. This may result in programs for several school levels appearing together in one listing.

You will find that some headings have been modified (e.g. French is now Logics Francais), some have been eliminated (e.g. History), and some have been added (e.g. Language, Logic and Problem Solving, Music, Physical & Health Education). Also, three special listings, designed specifically for the Commodore 64, have been added. You will find these at the end, listed as (E)D1, (E)D2, and (E)D3.

What follows is the listing of the programs in the "new" Commodore Educational Software library as well as the documentation for these programs, which includes:

Name of Program  
Category  
Grade Level  
PST Vector Analysis  
Memory Size  
Description

A description of the Documentation follows:

**PROGRAM TITLE** - Most program titles are followed by the designation .40 which indicates that the program runs on PETs, 8032s (after loading and running CBM 4032 V2), and the Commodore 64. Those without that designation only run on the 4032 and 8032 models. If the program has another designation (e.g. .41) it would be a more recent update of the original .40 program.

**CATEGORY** - Drill, Game, Simulation, Tutorial, Utility, Other.

**GRADE LEVEL** - Early childhood, Primary, Junior, Intermediate, Senior, College, or Trainable mentally retarded.

**PST VECTOR ANALYSIS** - 3 numeric digits.

The first digit represents PRESENTATION, and the values are:

- 0 - Page turning
- 2 - Input of single alpha/numeric
- 4 - Alpha/numeric manipulation
- 6 - Non-interactive graphics
- 9 - Interactive text/animated graphics

The second digit represents STRUCTURE, and the values are:

- 0 - Non-progressive
- 2 - Problem level progression
- 4 - Branching/remedial
- 6 - Variations teacher controlled
- 9 - Variation controlled by student interaction

The third digit represents TRACKING, and the values are:

- 0 - No marks given (no tracking)
- 2 - Marking for program only
- 4 - Cumulative marking
- 6 - Marks compared to class
- 9 - Marks compared to external standard

**MEMORY SIZE** - Minimum memory required to run the program.

**DESCRIPTION** - A short description of each program is given to indicate what the program does. Teacher instructions are included in the program itself where required.

### IMPORTANT NEWS FOR C64 USERS

Several of our members, who work with C64s in the primary school field, have been updating many of the Project 83 programs for exclusive use on the C64. By sharpening the timing, introducing color, and inserting sound cues to improve student interaction. The new disks are organized differently, so that each disk is geared to a specific topic and grade level.

Please contact the TPUG office for an updated listing of this new series.

## (E)AA - Administration

Name of Program	Cat	Grade	PST	Mem	Description
ANALYSIS.40	0		000	16k	This program takes a set of marks and calculates median, average, standard dev. and students passing/failing.
ANSWER BOX.40	U	J1	202	16k	This is a universal quiz-making utility program. Answers are stored in data lines; question worksheet required.
DOG.40	S	I	100	32k	User becomes a science teacher facing a student who wants to perform exploratory surgery on a live dog.
AMZ.40	U	C	000	16k	Teacher enters exam marks with weightings as percents or actual marks; program determines student's final mark.
GMT.40	S	I	201	32k	Simulation of a hostile student-teacher confrontation in which the user takes the teacher's role.
GRADES.40	U	C	000	32k	Allows a teacher to order and print out student marks by name and grade.
QUIZFRAMEWORK.40	U	C	000	16k	Enables the teacher to construct a multiple-choice quiz.
READABILITY.40	U	G	503	32k	This program takes a sample from a text and determines the readability level using standard measures.
SCHOOL-HARM.40	DG	PJ	400	16k	A useful fill-in-the-blanks quiz with hints, designed for teacher adaptation to various subjects and levels.
SEX ED.40	S	I	100	32k	Simulates potential situations faced by a teacher who plans to show a childbirth film in a sex education class.

## (E)BA - Business

Name of Program	Cat	Grade	PST	Mem	Description
ACCOUNTING.40	DT	S	502	32k	An excellent tutorial on basic accounting practices.
AMORT'N TABLE.40	U	S	000	16k	Constructs an amortization table from user-input data; useful for a homeowner or for checking student tables.
AMORTIZATION.40	U	IS	300	16k	Program calculates payments and amortization periods for loans, based upon user-input data.
BONDS.40	U	JIS	300	16k	Program calculates present value of bonds, including coupon values, etc.
CALENDAR.40	U		000	16k	Prints out a calendar for any given month and year.
COMMODITY.40	S	I	200	-16k	This program simulates the buying and selling of commodities.
COMP TYPING.40	D	I	322	16k	A simple variable-speed typing drill. User types letters printed by computer; mistakes are highlighted at end.
COSTGOODSSOLD.40	DT	IS	320	16k	Tutorial/drill on calculating CGS with 4 types of inventory calculations (FIFO, LIFO, Average, etc.).
CURVE.40	U		000	16k	Finds a date 'n' days from a given base date; limited application.
DEBIT&CREDIT.40	DS	S	201	16k	Given sample situations, the student must correctly debit and credit accounts.
DEBITCREDIT.40	D	S	201	16k	A program of 10 questions that test a student's accounting skills.
DEPRECPAYNT.40	U	S	000	16k	User inputs data and the computer calculates depreciation rates and payments.
DEPRECIATION.40	U	S	000	16k	Prints a depreciation schedule using straight line, sum of digits and double declining depreciation methods.
F.I.F.O.40	TU	IS	200	16k	Calculates value of inventory using 'first-in-first-out' method (F.I.F.O.).
HOSS PAY.40	D	I	200	16k	A program designed to drill the student on various simple salary problems.
ICE CREAM.40	GS	JIS	222	16k	Student manages an ice-cream parlour, attempting to maximize employee/customer satisfaction and minimize costs.

## (E)BB - Business

Name of Program	Cat	Grade	PST	Mem	Description
INVESTMENTS.40	U	S	300	16k	Calculates regular withdrawals, initial/minimum investment, effective/nominal interest, investment value, etc.
KEYBOARD TEST.40	D	I	311	16k	A program which drills various sections of the PET keyboard as selected by the user.
LEMONADE.40	GS	IS	302	16k	Student operates a lemonade stand for 10 weeks, taking into account costs, price, quantity and other variables.
LEIFE TABLES.40	U	IS	200	16k	Calculates life insurance and annuity tables for any given interest rate.
MARKET CRASH.40	S		100	32k	A stock market simulation.
MARKET.40	GS	IS	320	16k	User manages a production company by determining production and advertising budgets and setting retail prices.
KEY FLOW.40	GS	J1	202	16k	Student traces the flow of money from household to business to government.
MORTGAGE.40	U	S	000	16k	This program produces a mortgage table which would be of use to a homeowner or business student.
DECTIVE 1.1.40	DT	IS	302	16k	Program presents a lesson on the Balance Sheet, then tests the student on it.
STOCKPOLIO.40	U	IS	300	16k	Program keeps track of stock options and the total value of a portfolio.
INTEREST.40	D	I	200	16k	Presents a variety of simple interest problems for the student to solve.
STOCK MARKET.40	GS	IS	200	16k	Student buys and sells 5 stocks as the prices randomly fluctuate.
STOCK.40	S	I	000	16k	A simple game that simulates stock market activities.
TRACING DRILL.40	D	J1	200	16k	Designed to drill students on finger reaches and familiarize them with the location of graphics characters.

## (E)BC - Business

Name of Program	Cat	Grade	PST	Mem	Description
TYPING.40	T	15C	292	32k	A very good typing drill with plenty of data for practice, including 700 common words.
WATER II.40	GS	IS	320	16k	A water resource management simulation. Student must manage water supply for a town during a drought.

## (E)CA - Computer Science

Name of Program	Cat	Grade	PST	Mem	Description
BASE CONV.40	U	JI	200	32k	Converts decimal, Roman numeral, hexadecimal, binary and BCD numbers one into another.
BINARY.40	U	IS	200	16k	Converts decimals in the range from 0 to 65536 into 16 bit binary numbers.
COMMANDS.40	DT	JI	202	16k	A tutorial and drill on BASIC concepts.
COMP CONCEPT.40	ST	PJ	000	16k	A virtual machine simulation preceded by a short tutorial.
COMP. HISTORY.40	D	I	204	16k	Program quizzes the student on the history of computers.
COMPUTING.40	D	JIS	266	16k	A drill on basic computer knowledge, but adaptable to any subject.
DEMO SORT.40	S	IS	500	16k	Demonstration of a sort called 'selective replacement'.
DISK CMD.40	T	JI	100	16k	A tutorial on Basic 4.
FEATURES QUIZ.40	DT	JI	222	16k	A tutorial and quiz on the basic features of Commodore computers.
HEX DEC.40	U	IS	000	16k	Converts hexadecimal to decimals and vice versa.
HEX DEMO.40	U	SC	300	16k	Converts decimal numbers between 0 and 255 into hexadecimal, showing high and low nybbles.
HYPO ASSEN.40	ST	IS	600	32k	An introduction to assembler language. Runs a virtual machine with a small language set; good practice.
HYPO II.40	SUO	SC		32k	Allows the student to program in simulated machine language and execute programs step by step.
PETUNIA.40	T	JI	100	16k	Allows a schematic of a petunia music box and instructions on how to use it.
PILOT.40	S	JI	400	32k	A simple 'pilot' language interpreter including edit, list, load, save and run commands.

## (E)CB - Computer Science

Name of Program	Cat	Grade	PST	Mem	Description
POGO.40	U	JI	000	32k	A version of 'LOGO' using character graphics. Allows definition of 'Macro' (subroutines) in a limited way.
SIMULATION.40	ST	I	000	16k	Simulates a small BASIC program on a virtual machine with simple internal architecture.
TURTLE 1.40	P	JI	900	16k	This program mimics 'LOGO' turtle graphics using PET graphics. Draws in a limited number of directions.

## (E)D1 - COMMODORE 64

Name of Program	Cat	Grade	PST	Mem	Description
MCMASTER CAT.					Disk catalogue program designed to work with 4040 disk drive.
MCMAKE MASTER					Combines the disk and program name files & into 1 MASTER file.
COMMANDS					Do not load this program. See the following 3 programs.
COMTEXT DEMO					Demonstrates text manipulation on the C-64 screen.
COMSORT DEMO					Demonstrates sorting. A no. of student records are displayed & then sorted using different parameters.
COMHOW FAST					100 random names are created and then sorted.
HR.GRAPHICS PAL					Assembler version of machine language program, HR.GRAPHICS OBJ
HR.GRAPHICS INST					Instructions on how to use the hires package HR.GRAPHIC OBJ.
HR.GRAPHICS OBJ					Allows you to draw on the hires screen and SAVE your screens.
HR.GRAPHICS DEMO					LOADS in the graphics package and demonstrates a hires screen.
HR.GRAPHICS LOAD					LOADS a hires screen.

## CONT. (E)D1 - COMMODORE 64....

HR.PICTURE 1  
HR.HIRES TO 1525  
MU.PLAYER PAL  
MU.C64 MUSIC  
MUMACHINE OBJ  
TEXTMASTER  
TM.INSTRUCT 1  
TM.INSTRUCT 2  
TM.INSTRUCT 3  
AN.INSTRUCTIONS  
AN.ELLIPSE  
AN.WIBBLE  
AN.ANIMATION PAL  
AN.ANIMATION OBJ  
AN.ANIMATION DEM

Demo hires screen is LOAded auto matically by HR.GRAPHICS LOAD.  
Print a hires screen to your 1525 printer.  
Assembler version of the machine language program, MUMACHINE OBJ  
Instructions & demos for music package.  
Allows you to create & SAVE musical pieces with simple commands.  
Simple wordprocessing package which allows you to create, edit, SAVE and LOAD documents.  
Detailed Instructions—TEXTMASTER  
" " "  
" " "  
How to use the animation package.  
Subroutine LOAded automatically by AN.ANIMATION DEM.  
Subroutine LOAded automatically by AN.ANIMATION DEM.  
Assembler version of machine language program AN.ANIMATION OBJ  
Create and SAVE quarter graphics screens and animate them.  
Load for a demo of some screens created by the animation package.

## (E)D2 - COMMODORE 64

Name of Program	Cat	Grade	PST	Mem	Description
MAIN MENU 64					Instructions for Adventure Pack Reading Series
THE GAME.1					Story is displayed for reading, followed by 3 short tests.
CHOCOLATE GOO.2					Story is displayed for reading, followed by 3 short tests.
MONSTER WAVE.2					Story is displayed for reading, followed by 3 short tests.
FIREFIGHT.3					Story is displayed for reading, followed by 3 short tests.
THE HUNTER.1					Story is displayed for reading, followed by 3 short tests.
SNAIL.C64.BOOT					Will load SNAIL.C64 INST and SNAIL.C64 automatically.
SNAIL.C64.INST					Instructions for SNAIL.C64.
SNAIL.C64					Draw simple pictures on the screen by inputting the snail's direction & length of movement.
MASTERMIND					A logic game where you are challenged to break a colour code

## (E)D3 - COMMODORE 64

Name of Program	Cat	Grade	PST	Mem	Description
45.64					Class mark management program called MARK MANAGER.
AVERAGE CLASS					Example of an average class
FULL CLASS					Example of a full class
CLASS OF 20					Example of a class of 20
MM.INST.DPCLIP					Instructions for MARK MANAGER 45.64
MM.INST.1.PCLIP					Instructions for MARK MANAGER 45.64
MM.INST.2.PCLIP					Instructions for MARK MANAGER 45.64
VOWELS AT BEGIN.					Concentration type game called PHONCENTRATION, teaching phonics.
VOWELS AT MID.					Concentration type game called PHONCENTRATION, teaching phonics.
VOWELS AT END					Concentration type game called PHONCENTRATION, teaching phonics.
DOUBLE VOWELS					Concentration type game called PHONCENTRATION, teaching phonics.
CONSONANT BLENDS					Concentration type game called PHONCENTRATION, teaching phonics.
PHONCENTRATION					Concentration type game called PHONCENTRATION, teaching phonics.

## (E)EA - English

Name of Program	Cat	Grade	PST	Mem	Description
A JOURNEY.40	DG	J1	400	32k	User enters computer-specified parts of speech which are then arranged into a story, with humorous results.
A OR AN.40	DT	EP	232	16k	Student completes random sentences with 'A' or 'AN'; 2 incorrect answers bring a review of pertinent grammar.
A STORY.40	DGU	PJ	400	16k	Student fills in necessary parts of speech (nouns, verbs, adjectives, etc.) and computer generates a story.
AFFECT EFFECT.40	TD	I	402	16k	Student must choose whether to use 'affect' or 'effect' in order to correctly complete a number of sentences.
ALPHA'ZATION.40	D	PJ	63	16k	A well-written drill on 'M' letter alphabetization for 3-letter words. Good graphic prompts and rewards.
ALPHA.40	D	J	202	16k	Program requires student to alphabetize random lists of 2-9 words.
ALPHABET QUIZ.40	D	P	442	16k	This program tests the student on knowledge of the alphabet and location of library books.
ALPHABET WORM.40	DT	P	222	16k	Teaches students alphabetical order as they make alphabet 'worms'; tallies no. of completed 'worms' at end.
ALPHABET.40	D	P	422	16k	The student inputs the missing letter in an alphabetical series.
ALPHABETIZING.40	T	PJ	773	16k	A well-written tutorial in alphabetization. Has 4 levels of difficulty.
ALPHABETTER.40	DT	PJ	553	16k	A very well-written drill and tutorial in alphabetization with comprehensive marking.
ALPHASHIFT.40	DG	PJ1	412	32k	Computer reprints words according to a hidden rule. Excellent drill/game using logic, math and the alphabet.
ANTONYM.40	G	PJ1	701	16k	A 'CONCENTRATION' game for 1 or 2 players using antonyms as the final objective.
ANTONYMS CONC.40	GDT	PJ1	403	32k	A 'CONCENTRATION'-type antonym drill with musical rewards (except on C-64).
CINQUAIN.40	GT	PS1	300	32k	Allows user to write a seasonal poem of 5 lines (cinquain).

## (E)EB - English

Name of Program	Cat	Grade	PST	Mem	Description
CLOZE TESTY1.40	U		557	32k	Write a cloze test to printer with x copies, answer sheet and test analysis (reading level, etc.) for teachers.
CONTRACTIONS.40	DT	I	400	16k	Teaches students the correct formation of contractions and drills them on same.
CRYPTO.40	GU	PJISC	400	16k	Student devises own cryptogram and solves it. Program can find the frequency counts of the cryptogram as well.
DEF-IN-SPELL.40	U	C	462	16k	Enables teacher to create and use a file of words for testing vocabulary and spelling.
DEFIN'N MATCH.40	D	J1	202	32k	Student must match 6 words with 6 definitions within a self-appointed time limit of 15, 25 or 35 seconds.
DEFINESPELL.40	TU	PJISC	462	16k	Given a user-input file of words, this program creates a test on vocabulary and spelling. Useful for teachers.
DEFINITION.40	D	I	202	16k	Program selects 10 of 30 multiple-choice vocabulary questions which may be modified by teacher, if desired.
ENGLISH.40	D	J1	200	16k	Student matches a pair of words with 1 of 4 other pairs that exhibits a similar relationship.
FLASH.40	D	PJ1	452	16k	A word or phrase is flashed on the screen for a specified time. User must correctly retype what was flashed.
FLOOGEPRINTER.40	U	S	060	16k	Prints out about 700 nonsense words of 3 phonemes each. Uses: character names, action words for games, etc.
GRAMMAR 2.40	DT	J1	202	16k	Tutorial/drill on parts of speech. Student categorizes 60 words as verbs, adjectives, prepositions, etc.
GRAMMAR.40	D	I	202	16k	Student names various parts of speech in highlighted sections of a sentence - nouns, verbs, prepositions, etc.
GUESSTHATWORD.40	G	I	442	16k	A vocabulary game in which the student must discover a word by guessing letters.
HAIKU.40	TU	J1	000	16k	Program explains and 'writes' Haiku, randomly selecting stored words to produce poems with a computer theme.
HANGMAN (6).40	DG	J1	500	32k	A 'HANGMAN' game with graphics and wide range of words. No. of errors allowed before 'hanging' is adjustable.
HANGMAN 1.40	G	J1	322	16k	A game of 'HANGMAN' with graphic support and 5 categories of words.

## (E)EC - English

Name of Program	Cat	Grade	PST	Mem	Description
HANGMAN 2.40	G	J1S	501	32k	Traditional 'HANGMAN', complete with graphics. The computer knows 215 unusual words.
HANGMAN 3.40	DG	I	222	16k	Student tries to identify a hidden word by guessing letters; too many guesses and player is 'hanged'.
HANGMAN 5.40	DG	J1	502	16k	A traditional 'HANGMAN' game which features 40 words and allows up to 11 incorrect guesses.
HANGMAN 6.40	DG	J	422	16k	A game of 'HANGMAN'. Student inputs letters until he/she is able to guess the secret word, or chances run out.
HANGMAN 7.40	G	I	400	16k	The traditional guessing game - solve the hidden word to avoid 'hanging'.
HOMO CONC.40	G	J	202	16k	A 'CONCENTRATION' game in which the student matches up words that sound the same.
HYPHEN.40	D	I	400	16k	The student is required to hyphenate a displayed word. Words are randomly chosen and hints are available.

CONT. (E)EC - ENGLISH...

INIT DIGRAPHS.40	D	P	302	16k	A simple, well-written drill on the digraphs 'TH', 'SH' and 'CM'; multiple-choice questions.
INSERT.40	OG	J	200	16k	Student inserts letters from a list into a given word, making a new word. Program hints at nature of new word.
JOTTO.40	G	PJ1	402	16k	Player tries to match PET's hidden 5-letter word. Computer reveals number of correct letters in each guess.
KEYWORDS.40	D	J	442	16k	An interesting three-part test of student spelling skills.
LETTER RECOG.40	D	P	222	16k	Tests students' ability to recognize letters of the alphabet and the numerals 1-9.
LETTER SEQU.40	D	JIS	402	16k	Student must recall random letters flashed on screen. Choice of up to 25 letters and 5 flash speeds.
MACBETH QUIZ.40	D	IS	402	16k	Program poses questions on the content of Shakespeare's 'MACBETH'; student has 3 chances to answer correctly.
MADLIB.40	OGU	PJ	400	16k	Enables student to create 3 short stories by inputting nouns, adjectives, verbs, etc. requested by the program
MATCH LET.40	D	P	202	16k	This program drills beginning students of the alphabet on letter matching.

## (E)ED - English

Name of Program	Cat	Grade	PST	Mem	Description
MATCH MEAN 5.40	D	J	202	32k	Student has to match a given word with its synonym, chosen from a list. Grade 5 level, 30 questions.
MATCH MEAN 6.40	D	J	202	32k	Student has to match a given word with its synonym, chosen from a list. Grade 6 level, 30 questions.
MATCH MEAN 7.40	D	J	202	32k	Student has to match a given word with its synonym, chosen from a list. Grade 7 level, 30 questions.
MEDIAL VOWELS.40	D	PJ	402	16k	After reading a sentence, the student chooses the best word to fill in the blank.
MISSING LET.40	D	EP	200	16k	Computer displays an alphabet missing 1 letter, which the student must enter. Used letters are not repeated.
MISSPELLING.40	D	I	402	16k	Student is given a list of 5 words, one of which is misspelled. This word must be identified and corrected.
MM ADVFORMS.40	D	PJ	202	16k	Mr. Mugs: Drilling students on correct application of adverb forms. Refer L6 P201: 'IT'S SATURDAY'.
MM AYB FORMS.40	D	P	202	16k	Mr. Mugs: Drilling students on correct application of adverb forms. Refer L5 P14: 'MR. MUGS IS KIDNAPPED'.
MM CR COMP.40	D	PJ	202	16k	Mr. Mugs: Identification of question types (who, what, when, where). Refer L6 P101: 'MR. MUGS IS KIDNAPPED'.
MM CRL 1.40	D	P	202	16k	Mr. Mugs: Reading comprehension based on current story. Refer L6 P5: 'MR. MUGS IS KIDNAPPED'.
MM DARK WOOD.40	D	PJ	222	16k	Mr. Mugs: Vocabulary drill. Refer L4 P281: 'IN A DARK WOOD'.
MM HOMONYMS.40	D	PJ	202	16k	Mr. Mugs: Choosing the correct word of two that sound the same. Refer L6 P202: 'IT'S SATURDAY'.
MM LAD VF.40	D	P	202	16k	Mr. Mugs: Drilling students on applying verb forms. Refer L3 P348: 'MR. MUGS IS LOST'.
MM SAG STORY.40	D	P	202	16k	Mr. Mugs: Student selects ending to complete sentence. Refer L3 P333: 'MR. MUGS IS LOST'.
MM SHARE TIME.40	D	PJ	202	16k	Mr. Mugs: Vocabulary/comprehension drill. Refer L4 P39: 'SHARING TIME'.
MM VB FORMS 1.40	D	P	202	16k	Mr. Mugs: Drilling students on applying verb forms (fill-in-the-blanks). Refer L5 P95: 'MR. MUGS AT SCHOOL'.
MM VB FORMS 3.40	D	P	222	16k	Mr. Mugs: Drill on correct verb forms from Series 3. Refer L5 P61: 'MR. MUGS AT SCHOOL'.
MM VB FORMS 4.40	D	P	222	16k	Mr. Mugs: Drills students on verb forms of the Fourth Series. Refer L5 P191: 'IN THE RAIN'.

## (E)EE - English

Name of Program	Cat	Grade	PST	Mem	Description
MM VB FORMS 5.40	D	P	222	16k	Mr. Mugs: Drills students on verb forms from Series 5. Refer L5 P203: 'IN THE RAIN'.
MM VB FORMS 6.40	D	P	222	16k	Mr. Mugs: Drills students on verb forms from the 6th Series. Refer L5 P230: 'IN THE RAIN'.
MM VB FORMS 7.40	D	P	222	16k	Mr. Mugs: Drills students on verb forms to be found in Series 7. Refer L5 P256: 'MR. MUGS TO THE RESCUE'.
MM VB FORMS 8.40	D	P	222	16k	Drills students on verb forms to be found in the 'Mr. Mugs' text, 8th Series.
MM VB FORMS 9.40	D	P	222	16k	Drills students on verb forms found in the 9th Series of the 'Mr. Mugs' book.
MM VERB FORMS.40	D	PJ	202	16k	Student selects the correct conjugation of a verb to complete sentence; 3 tenses of the verb are offered.
MM WORD 2.40	D	P	202	16k	Mister Mugs: Drilling students on sentence completion.
MM WORD MEANS.40	D	P	202	16k	Mr. Mugs: Drill on word meanings. Refer L3 P328: 'MR. MUGS IS LOST'.
MM WORDS 1.40	D	P	202	16k	Mr. Mugs: Sentence completion. Student fills the blank in a sentence by choosing a word from the list provided
NEW TACHISTO.40	G	JISC	922	16k	Words are flashed on screen and student must enter each one; speed of flash increases as player improves.
NOT SO EASY.40	G		400	16k	User attempts to find the 'secret' underlying a mysterious paragraph.
NOUNS.40	DT	J1	222	16k	A tutorial and drill on nouns which provides definitions, questions and multiple-choice testing.
OLD PROVERBS.40	U	JIS	000	16k	Provides the student with a number of 'old proverbs' to read.
P'BLEM P'NOUN.40	D	I	204	16k	A multiple-choice drill of variable difficulty which gives the student practice in pronoun usage.
PARTS SPEECH.40	D	I	202	16k	Student determines whether a word is an adjective, verb, noun or preposition in this multiple-choice drill.
PAWS.40	D	PJ	412	16k	User corrects unpunctuated quotes selected by Toby the Tiger from the Jungle of Punctuation.
PETPITPATPOT.40	OG	I	402	16k	Student must guess 10 words having the prefixes 'PET', 'PIT', 'PAT' or 'POT'.

## (E)EF - English

Name of Program	Cat	Grade	PST	Num	Description
PLURALS.40	0	P	602	32k	Drills student on the basic plural forms. Excellent graphics encourage and reward answers to the 42 questions.
POEMS.40	6	J1	000	16k	A random poetry generator which can be easily altered.
POET.40	U	I	000	16k	Computer randomly arranges lines of poetry. The probability of line repetition, etc. is shown.
POETRY.40	T	J1	400	32k	Allows user to write simple poems using either 'is like' or 'I used to/ but now' constructions. User-friendly.
Q'S AND Z'S.40	0	J	400	16k	The student tries to find words beginning with the letters 'Q' or 'Z' which match given meanings.
READ LEVBEVAL.40	TV	PJISC	462	16k	This program enables the teacher to analyze the student's reading level.
READER.40	0	PJISC	100	32k	The program is designed to improve reading speed and comprehension. Teacher may modify text to required level.
RHYMING.40	0	P	292	32k	Program is a test, with graphic rewards, of user's rhyme-identification skills. Keeps score and elapsed time.
ROMEO&JULIET.40	0	SI	312	32k	A quiz on Shakespeare's 'ROMEO AND JULIET'.
S-SPELL.40	06	J	202	16k	Student finds hidden word by filling in letter blanks; 20 letter guesses allowed; point bonus for getting word.
SCRAMBLE 4.40	06	J	402	16k	Student must unscramble 10 randomly-chosen words, Grade 4 level. The first letter is given.
SCRAMBLE 5.40	06	J	402	16k	Student must unscramble 10 randomly-chosen words, Grade 5 level. The first letter is given.
SCRAMBLE 6.40	6	J	402	16k	A well-designed word puzzle game, for Grade 6, which asks student to decipher a scrambled word (no time limit).
SCRAMBLE 7.40	6	I	402	16k	A well-designed word puzzle game, for Grade 7, which asks student to decipher a scrambled word (no time limit).
SCRAMBLE 8.40	6	I	402	16k	A well-designed word puzzle game, for Grade 8, which asks student to decipher a scrambled word (no time limit).
SCRAMBLE.40	6	P	400	16k	Student types in lines and they appear scrambled on the screen; letters then creep 'home' to re-form sentences.
SCRAMBLEWORD.40	6	I	402	16k	Student is called upon to correctly unscramble various words.

## (E)EG - English

Name of Program	Cat	Grade	PST	Num	Description
SENT ANALYSIS.40	0		400	16k	Student is called upon to input various parts of speech into a given sentence.
SHAKESPEARE.40	0	IS	462	16k	Consists of 'Who am I' and 'Who said' questions about Shakespearean dramas. Requires some study/preparation.
SHERD.40	T	PJ	400	16k	A writing program which encourages student creativity and use of descriptive words.
SHOWDAYNOUNS.40	06	P	400	16k	This program challenges the student to find all the hidden nouns in a picture.
SP'G ERRORS 5.40	0	I	402	16k	Student identifies and corrects various misspelled words.
SP'G ERRORS 6.40	0	I	402	16k	Student identifies and corrects various misspelled words.
SPEED READ 2.40	0	PJIS	300	32k	A short phrase is flashed briefly on screen; student must repeat it. Variable levels of speed and difficulty.
SPEED READING.40	0	PJ1	494	16k	Program flashes 1-9 digits which the user must recall. Duration of flash is variable.
SPEED SPELL 2.40	06	P	422	32k	A word flashes on screen and the student types it. Flash speed is determined by spelling accuracy (Grade 2).
SPEED SPELL 3.40	06	J	422	32k	A speed-spelling drill for Grade 3 (see 'SPEED SPELL 2.40'). Has 350 words.
SPEED SPELL 4.40	06	J	422	32k	A speed-spelling drill for Grade 4 (see 'SPEED SPELL 2.40'). Has 403 words.
SPEED SPELL 5.40	06	J	422	32k	A speed-spelling drill for Grade 5 (see 'SPEED SPELL 2.40'). Has 483 words.
SPEED SPELL 6.40	06	J	422	32k	A speed-spelling drill for Grade 6 (see 'SPEED SPELL 2.40'). Has 450 words.
SPEED SPELL 7.40	06	I	422	32k	A speed-spelling drill for Grade 7 (see 'SPEED SPELL 2.40'). Has 447 words.

## (E)EH - English

Name of Program	Cat	Grade	PST	Num	Description
SPEED SPELL.40	0			16k	A word-flash spelling drill.
SPELL BEE.40	0	PJ1	410	16k	A word is flashed on the screen and the student must type it correctly; 6 levels of difficulty, modifiable.
SPELLER.40	0	J	402	16k	This program is a quiz on the meanings of 20 words; data may be modified to suit any grade level.
SPELLING 1.40	0	P	402	16k	A word is flashed on the screen and the student is asked to re-type it exactly.
SPELLING 2.40	0	P	402	16k	Computer scrambles various words entered by the student, who must then spell the words correctly.
SPELLING.40	0	PJ	202	16k	Student responds with 'Y' or 'N' depending on whether a given word is spelled correctly or incorrectly.
SPELLINGTUTOR.40	P	PJ	401	16k	A teacher inputs up to 50 words. The student must unscramble these words and also correct those misspelled.
STORY WRITER.V11	U	P	100	16k	A very popular simple word processor designed for primary students. Prints out in enhanced print if desired.
SWAP OLD ROM.40	0	J	422	32k	Student must swap word positions on a list until it has been put in alphabetical order.
SWAP.40	6T	J	420	16k	Specific words entered by the student are moved into alphabetical order to sound accompaniment.

**CONT. (E)EH - ENGLISH...**

SYLLABLES.40	0	J	602	32k	Student has to state the number of syllables in a word, then divide the word in the appropriate places.
TACHISTISCOPE.40	GD	PJ	551	16k	Increases reading speed by flashing short phrases on the screen; duration of flash varies with user's accuracy.
THEIR THERE.40	DT	J	402	16k	Presents a review and drill on the meanings and uses of 'THEIR', 'THERE' and 'THEY'RE'; 25 questions in all.
THEWORDMARKET.40	G	J	402	16k	Student must correctly spell a given word in order to 'purchase' word from the 'Word Market'.
TYENTY QUESTN.40	G	J	400	16k	Student selects a category; the computer poses questions entered beforehand by the teacher.
TWO TO TOO.40	DT	JJ	402	16k	Teaches student the correct uses of 'TO', 'TOO' and 'TWO'.
UNSCRAMBLE.40	0G	I	402	16k	The student is required to unscramble words of various types.

**(E)EI - English**

Name of Program	Cat	Grade	PST	Mem	Description
VERB CHOICE.40	D	P	302	16k	Student fills in the blank with the correct one of three verb tenses presented; there are 10 questions.
VOCABULARY3.40	D	P	312	32k	A Grade 3 vocabulary test in multiple-choice form.
VOCABULARY4.40	D	J	202	16k	A Grade 4 vocabulary test which focuses on synonyms.
VOWEL MAGIC.40	D	PJ	260	16k	Student enters any word and is quizzed by the computer on the number of vowels the word contains.
WORD DEMO.40	0	JIS	400	16k	User enters up to 10 phrases and the computer rearranges them in different orders; no instructions.
WORD DRILL.40	DT	JJ	202	32k	Student selects one of two homonyms to complete a sentence; if answer is incorrect, definitions are displayed.
WORD HUNT.40	D	JJ	400	16k	The program gives clues in 'wanted poster' format. Student must identify the fugitive word.
WORD INVADERS.40	G	PJ	700	16k	The student must shoot the empty space in a moving word, then guess the missing letter that completes the word.
WORD MACHINE.40	0G	EP	302	16k	User must select 5 correctly spelled words from various 3-letter combinations that move across the screen.
WORD POWER.40	U	ISC	402	16k	Student or teacher can write word files or prepare a test on definitions. A good test-writing program.
WORD POWER2.40	T	JJ	202	16k	Student selects proper definition of given word; adapts to all levels. For sample data load 'WORDPOWERSAMPLE'.
WORD QUEST.40	G	I	424	16k	Program creates a word-search puzzle. Student must locate the hidden words within a group of random letters.
WORD SEARCH.40	GU	JISC	000	16k	Program creates a search game by hiding user-selected words inside a crossword puzzle; print-out if desired.
WORDSHOOT.40	G	PJJ	200	16k	Student 'shoots down' misspelled words and must spell them correctly afterwards.

**(E)FA - French**

Name of Program	Cat	Grade	PST	Mem	Description
FRENCH DRILL.40	D	JJ	432	16k	A thorough drill in simple French vocabulary.
FRENCH NUMS.40	D	P	102	16k	A simple drill on French numbers.
INTERET CMPSE.40	DT	SC	311	16k	Questions relating to compound/accrued interest, capital and percentage. Interest table + calculator required.
LE PENDU.40	0G	JJ	332	32k	A French version of 'HANGMAN' which utilizes common words and offers clues.
LES FRACTIONS.40	D	I	411	16k	Drills +, -, * and / with fractions; correct answers provided.
MATRICES MATH.40	DT	S	412	16k	Gives 10 examples on how to solve matrices. Allows student to input answers, then gives solutions.
PROGRES. GEOM.40	D	IS	202	16k	Drills student on problems of geometrical progression.
RACINE CARREE.40	D	I	202	16k	Student must calculate the square root of a given number.
REVUE PASSE.40	0	JJ	220	16k	A good review of passe compose (requires instruction in passe compose beforehand).
SERIE 1.40	DT	I	000	16k	This program teaches student how to recognize patterns in a series.
VERBES.40	0	I	100	16k	Student must select the verb form (past and present are given) which correctly completes a sentence.

**(E)GA - Games**

Name of Program	Cat	Grade	PST	Mem	Description
ABSTRACT.40	G	JJ	422	16k	A 'MASTERMIND' game with 3 numbers; a good test of logic and memory.
AF01.40	G	PJ	000	16k	A Japanese variant of an 'invader' game. Player tries to down the 'AF0' with a laser, without being hit.
ARROW.40	G	PJJ	211	16k	Player guides a 'snake' to hit target boxes while avoiding boundaries and the snake itself.
ATTRIBUTE BLK.40	G		200	16k	A logic game in which the player must find out which items belong to each card.
BATTLESHIP.40	G		212	16k	User plays against computer. Each has 5 ships hidden on a grid; winner is first to find and sink other fleet.



## CONT. (E)GA - GAMES...

310COMPAT.40	G	IS	402	16k	Calculates the compatibility of 2 persons according to their biorhythms.
30WLING.40	S	PJ	202	16k	A bowling simulation for 1-3 players.
3BREAKOUT.40	G	PJI	212	16k	Player's paddle deflects a ball into a wall of blocks until a 'break-out' is achieved.
3CAREFUL.40	G	J1	000	16k	A fast action game whose objective is to avoid the perimeter and the obstacles which are continually appearing.
3CASTLE QUEST.40	G		012	16k	An adventure game set in a castle.
3CHASE.40	G		222	16k	A 2-person game of computer chase in which each player attempts to 'tag' the other.
3CONCENTR'M 2.40	G	JIS	212	16k	A game which challenges the player to recall pairs of matching patterns.
3CRAZY BALLON.40	G		112	16k	Player has 4 chances to guide a balloon through some prickly stars without hitting any of them.
3CYCLON BATTLE.40	S	J1	902	16k	Player attempts to center cyclon fighters in a gunsight and shoot them down.
3DRACULA.40	G	PJ	200	16k	Player searches a haunted house for Dracula's resting place, which must be found before midnight.
3DRAGON ISLAND.40	G	J	000	16k	An unseen dragon is chased through its caves until either player or dragon is destroyed, or time has expired.

## (E)GB - Games

Name of Program	Cat	Grade	PST	Mem	Description
DRAGON MAZE.40	G	PJ	200	16k	Object: escape an invisible maze before dragon arrives. Sections of maze walls become visible when struck.
DRAM 3.40	U	PJIS	200	16k	Permits the user to draw pictures on screen using graphic characters.
DRAM POKER.40	S	S	602	16k	Simulates a one-on-one game of 'DRAM POKER', with 5 cards and one draw of 3.
3DROIDS.40	G	J1	212	16k	A game for up to 4 players. Object is to mine the most ore.
DUCK SHOOT.40	S	PJ	202	16k	The object is to hit a flying duck in the body (head and tail don't count). Bird dog retrieves downed ducks.
DUNGEON.40	G	JIS	242	32k	A adventure game of dungeon escape, with interesting creatures, a map and a key.
ELIZA.40	GS	IS	300	16k	User reveals personal problems to 'ELIZA' and receives sympathetic responses which encourage self-analysis.
FACES TO MAKE.40	G	P	100	16k	Enables user to make up a variety of faces by choosing from a collection of different noses, eyes and mouths.
FISH.40	S	J1	202	16k	Player tries to estimate number of trout in 3-20 lakes by catching, marking and returning fish.
FOOTBALL.40	S	PJI	204	16k	A simulation of American football. User has 7 plays to call on; probability of success differs with each.
FROG RACE.40	G	P	202	16k	Program allows 1-16 players to bet on a frog race. The different odds on each frog in the race are supplied.
HAMLET.40	G	JIS	422	16k	The game of 'OTHELLO' (which is a version of the Chinese 'GO') played against the computer.
HARD INVADERS.40	G	I	312	16k	A 'SPACE INVADERS' game done completely in machine language.
HURKLE.40	G		010	16k	Find the 'hurtle' hiding in a grid. One of the better grid/search games.
KENO.40	G	PJ	202	16k	A roulette-type board game. Player chooses up to 9 numbers to bet on; computer chooses 20. Match to win.

## (E)GC - Games

Name of Program	Cat	Grade	PST	Mem	Description
KINGDOM.40	S	J1	332	32k	Player governs an agrarian kingdom, making decisions concerning food production, land purchases, etc.
LETTER 15.40	G	PJ	332	16k	A version of the logic game '15' using letters.
MARTIANS.40	G	J	222	16k	Player strives to catch the last remaining 'Martian' hiding in a grid.
MASTERMINDSP.40	G	JIS	345	32k	The game of 'SUPER MASTERMIND' with C-64 color.
MAZE.40	G	J1	100	16k	Program generates a maze (3 sizes), then times progress through it. Player may watch generation if desired.
MAZES.40	G	I	100	16k	Draws 3 different sizes of maze for player to traverse.
MILLE BORNES.40	G	JIS	232	32k	Reproduces the original card game. Player and computer vie to be the first to go 1000 miles by 'automobile'.
MIMIC.40	G	PJIS	952	32k	The game of 'SIMON' with music and graphics, offering 5 levels of play on a 3x3 grid.
MOUSE MAZE.40	G	IS	602	16k	Player/'mouse' must negotiate a maze in order to reach some cheese waiting at the exit.
NERVES.40	G	PJ	252	16k	A simple game that tests the user's ability to judge short intervals of time; 3 play levels.
NIN.40	G	PJI	240	16k	Player competes with the computer to be the last one to remove an object from 3 piles.
NUMBER-TOE.40	OG	PJ	222	16k	A version of 'TIC-TAC-TOE' in which player must make the first two numbers in a row add up to the third number.
OSCAR LUNAR.40	S	JIS	222	16k	A lunar-lander simulation in which all relevant information is updated on the screen during the descent.
PETALS-ROSE.40	G	J1	302	16k	A puzzle involving the scoring of 5 dice. Can you figure out how the total score is calculated?
PETMAN 2.40	G	J1	200	16k	A 'PAC-MAN' game for the PET or C-64. One screen with 3 levels of difficulty.

## (E)GD - Games

Name of Program	Cat	Grade	PST	Mem	Description
PINBALL.40	S	JI	111	16k	A simulation of a 'PINBALL' game.
PLANET PROBE.40	S	PJ	201	16k	Player must apply correct thrust against gravity to make a close pass over a planet. Gravity is variable.
PONG.40	G		201	16k	A game in which a bouncing ball is deflected to hit a target.
POSTAL ROUTE.40	G	JIS	122	16k	Player attempts to drive through a postal route without using the same path twice.
RAGING ROBOTS.40	G	JI	202	16k	Player tries to survive inside an enclosure by destroying 'raging robots' that are programmed to attack.
ROAD RALLY.40	G	JI	112	16k	Player attempts to drive a car five kilometers on one half-litre of gas.
ROAD TRACK.40	S		111	16k	A solo game in which player tries to move a 'car' around a track without hitting any walls.
ROADRACE.40	S	J	200	16k	Player attempts to negotiate track without colliding with the walls; speed is variable.
ROCKETS1.40	G	P	232	16k	A 1-player game in which the object is to guide a rocket through stars, etc. to the top of the screen.
ROTATE.40	G	JIS	200	16k	Player attempts to arrange letters in alphabetical order within a square by rotating 4 at a time, clockwise.
SHOOT.40	G	JI	000	16k	Two lines shoot across the screen; player presses 'F' and tries to hit the top line.
SNAKES.40	G	JIS	312	16k	Player tries to entrap opponent by creating a maze. 3 modes: comp. vs comp., player vs comp., or 2 players.
SPACE ATTACK.40	G	PJI	112	16k	A variation on the 'SPACE INVADERS' theme.
SPACE PILOT.40	S		212	16k	Player attempts to destroy arms warehouses by means of aerial bombardment.
SPADES.40	G	JISC	202	16k	A card game for 1 player. User must know rules of 4-handed spades to play; instructions included.
STAR TREK IV.40	S		222	32k	A passable 'STAR TREK' game which lacks the 'galaxy scan' feature of the Butterfield version.
STAR TREK.40	S	JIS	332	16k	A classic 'STAR TREK' game which puts player in command of a well-armed starship with a mission to fulfill.

## (E)GE - Games

Name of Program	Cat	Grade	PST	Mem	Description
SUPERDRAW1.40	GU	PJ	200	16k	A drawing program in which user is able to change the character under the cursor.
TIC-TAC-PRO.40	G		222	16k	User plays 'TIC-TAC-TOE' with the computer, which 'learns' from its mistakes after a number of games.
TICTACTOE 2.40	G	PJ	221	16k	A variation of the game 'TIC-TAC-TOE'.
TORCH MAN.40	G	I	122	16k	Player must find Lois Lane in a 100 x 100 palace and rescue her from the evil 'Torch Man'.
TORP. BOMBER.40	S	PJI	902	16k	Player, as the pilot of a torpedo bomber, attempts to hit submarines lurking beneath the ocean surface.
WAREHOUSE.40	S	IS	552	32k	Simulates a day at a warehouse experiencing various levels of activity. User co-ordinates orders and shipments.

## (E)RA - Geography

Name of Program	Cat	Grade	PST	Mem	Description
AFRICA & ASIA.40	D	I	202	16k	Quizzes students on their knowledge of Asian and African capitals.
ANCHORAGE-2.40	S	IS	300	32k	Simulates the navigation of a boat to a safe anchorage. Student has to take bearings, set course and speed.
CAN GEOG QUIZ.40	D	I	201	16k	Quizzes the student on miscellaneous Canadian geography facts.
CANADA QUIZ.40	D	JIS	302	16k	Asks 10 questions concerning Canada's political personalities, provinces and capitals.
CANADA.40	D	I	212	32k	A quiz on parts of Canada displayed on a map. Student must identify provinces, then name and locate capitals.
CAP CITIES.40	D	I	211	32k	Quizzes student on the capitals of world regions; choice of region is left to the student.
CAPITALS.40	D	I	211	32k	Allows student the choice of being drilled on Canadian, American or world capitals.
CITY SMOG.40	S	JIS	200	16k	Uses graphs to simulate various conditions that affect smog. The student inputs all data.
CLIM GRAPHS.40	D	JIS	202	16k	Tests a student's skill at reading and analyzing climate graphs.
FOREST FIRE.40	S	I	202	16k	Simulates a forest fire whose outcome depends on student's decisions.
GEO QUIZ.40	D	J	202	16k	A multiple-choice Canadian geography quiz.
GEOG. TEST.40	D	I	202	16k	A quiz on miscellaneous facts of American geography.
GEOGRAPH QUIZ.40	D	I	302	16k	A general quiz on Canadian geography.
GEOGRAPH.40	D	I	201	16k	A quiz on general geographic facts - exports, capitals, etc.

## **(E)RB - Geography**

Name of Program	Cat	Grade	PST	Mem	Description
GEOGRAPHY.40	D	I	202	16k	A general quiz of miscellaneous geographical knowledge.
NAJOURABI.40	S	I	300	16k	Player 'rules' a country, making economic decisions concerning land management, distribution of food, etc.
HISTOGRAM.40	U	S	000	16k	Groups data into a histogram.
ICE.40	ST	S	000	32k	A good graphic simulation of glacier formation and behaviour.
ITALIAN QUIZ.40	D	I	201	16k	A general quiz on Italian geographic facts and aspects of Italian life (in English).
KOPPEN.40	D	IS	322	16k	Asks 10 questions on classifying weather patterns (temperature, precipitation, etc.) under the Koppen System.
LAKE DISTRICT.40	DG	JIS		16k	A 'HANGMAN'-type game, testing knowledge of mountains, towns and waterfalls in the Lake District of England.
LIMITS.40	S	IS	200	16k	Determines population-related growth rates. Factors include birthrate, deathrate, food, pollution, etc.
MALI LIFE.40	S	I	202	16k	Simulates the decision-making process faced by a Mali tribesman selling cattle to support his family.
MAP DIRECT.40	D	J	302	16k	Tests the student's ability to find directions using a compass.
MILEAGE.40	U	IS	200	16k	Student keys in latitude/longitude of 2 or more places; computer returns distance between them in miles/km.
NORTH EAST.40	DG	JIS	202	16k	A 'HANGMAN'-type game, testing knowledge of rivers, towns, landmarks, etc. in north-eastern England.
OCEAN QUIZ.40	D	I	202	32k	Tests student's knowledge of ocean geography.
OPEN PIT MINE.40	GS	S	990	16k	A game simulating some of the hazards of open pit mining.
POP DYNAMICS.40	GS	JIS	200	16k	Simulates an ecological system involving rabbits, hawks and wolves. User manipulates various key factors.

## **(E)RC - Geography**

Name of Program	Cat	Grade	PST	Mem	Description
POP LIMITS.40	S	S			Simulates population-related growth rates using student/standard sets for births, deaths, indust. output, etc.
POPULATION.40	S	JIS	200	16k	Draws a graph of population distribution by age from set data, or data input by the student.
STATES & CAP.40	D	I	312	16k	Tests user's knowledge of American states and capitals. Offers option of fill-in-the-blanks or multiple choice.
STATES & REG.40	D	I	200	16k	Quizzes the student about which region a particular state is found in.
SYMBOLOLOGY.40	D	JIS	202	16k	Students have to read a map, identifying symbols used on it.
U.S. POP.40	S	IS	320	16k	Student adjusts factors such as birth and mortality rates in order to alter human population and distribution.
VOLCANO SIMU.40	GS	JIS	220	32k	Player attempts to escape a volcanic eruption by making rational decisions as to a course of action.
WEATHERMAN.40	U	I	300	16k	Permits conversion between temperature scales; computes wind chill factor and humidity index.
WORLD ATLAS.40	T	I	000	16k	Graphically depicts maps of various countries on the screen.
WORLD CAPS.40	D	I	212	16k	Quizzes students on their knowledge of world capitals.

## **(E)JA - Language**

Name of Program	Cat	Grade	PST	Mem	Description
FILIPINO.40	D	J	201	16k	A basic drill on common Filipino words. Simple format: a word is presented and user enters the translation.
FINGER SPELL.40	DT	J	100	32k	Uses graphics to teach the hand symbols for letters, and tests the student's recognition of these symbols.
LATIN 123.40	D	S	210	32k	Drills student on translation from English to Latin, or vice versa. Gives levels of difficulty & hints.
LATIN VOCAB.40	B	I	101	16k	Drills translation of simple English words into Latin. Displays words missed on first try at the end.
SMEDISH QUIZ.40	D	I	101	16k	Presents the student with English words to be translated into Swedish; no levels of difficulty provided.

## **(E)LA - Logic and Problem Solving**

Name of Program	Cat	Grade	PST	Mem	Description
A V OR N.40	G	PJ	202	16k	Program gives the name of an object and student decides whether it is animal, vegetable or mineral.
ANDROID MIN.40	G	JL	212	16k	Player and computer take turns eliminating androids. The one who eliminates the last android wins the game.
BOTTLECAPS.40	G	JL	102	16k	Player and computer take turns removing bottlecaps; the one to take the last bottlecap loses the game.
BUTCH & SLIM.40	G		322	32k	Given certain facts about a robbery, the student uses logic to answer relevant questions.
CHUCK BOARD.40	G	JIS	3??	32k	A computer game of chess for two players.

## CONT. (E)LA - LOGIC AND PROBLEM SOLVING....

CONCENTRATION.40	6	PJI	312	16k	Player must remember an assortment of patterns and match them up once they have been concealed.
CRAPS.40	5	JIS	202	16k	A simulation of the dice-rolling game called 'CRAPS'.
CRYPTOGRAM.40	6	IS	492	16k	Student tries to decipher a message by solving the encoding method.
CUBE.40	6	JIS	232	32k	The computer scrambles a Rubik's cube, and user attempts to solve it.
DRAW CAYE.40	6	JJ	312	16k	An adventure game set in a maze. Player has to find treasures before starving, dying of thirst or being eaten!
ENERGY.40	6		332	16k	Requires the student to use logic to reason out various thermometer settings, given a number of clues.
FLIGHT SIMUL.40	5	JIS	432	16k	The computer simulates the flying of a small plane.
FUR TRADE.40	6S	JIS	312	16k	A simulation of fur trading in Early Canada. Player sells furs while trying to avoid disasters, ambushes, etc.
GUNNER.40	6S		222	16k	User tries to hit a target by providing the correct angle of fire for a cannon.
HI-Q.40	6S	JIS	502	16k	A simulation of the game 'HI-Q'. Object is to remove as many pegs as possible by jumping into empty holes.
IN-ORDER.40	6	JJ	422	16k	Computer 'thinks' of a 3-digit number and the player tries to guess it with the aid of clues.

## (E)LB - Logic and Problem Solving

Name of Program	Cat	Grade	PST	Mem	Description
IQ-TEST.40	06	JISC	219	16k	Asks 20 mathematical sequence questions on each run and gives their solutions.
KALAM.40	6		332	16k	The ancient Egyptian 'pit-and-pebble' game. Player distributes pebbles so as to take over an opponent's pits.
KNIGHT'S TOUR.40	6	JISC	100	16k	A chess game which uses Warnsdorf's rule. Computer moves a 'knight' to every position on the chessboard.
LABYRINTH.40	6	JJ	231	32k	The object, as the title suggests, is to find one's way through a maze.
LOGILOCK.40	6	I	422	16k	Player attempts to guess the two attributes of a block that the computer is 'thinking' of.
MAGIC SQUARE.40	6	PJIS	722	16k	A fascinating, frustrating logic puzzle.
MASTERMIND 2.40	6	JIS	432	16k	A computer version of 'MASTERMIND', involving the breaking of a code through use of logic.
MASTERMIND 3.40	6	JIS	432	16k	Computer version of the logic game 'MASTERMIND'. Player tries to break a 5-color code; variable difficulty.
MATCHES.40	6	JJ	322	16k	A 'NIM'-type game played against the computer. Object is either to take the last match, or not to take it.
MAZE GENERAT.40	6U		200	16k	Generates mazes and draws them out on a printer.
MUGWUMPS.40	6	JJ	322	16k	Object: find 4 hidden 'mugwumps' on a co-ordinate grid in 10 moves. Computer advises on proximity of targets.
OBJECT.40	06	PJ	622	16k	A program for testing pupils' ability to distinguish between various shapes in groups.
OSERO.40	6	JIS	222	16k	The game of 'OTHELLO' played against the computer.
OTHELLO 2.40	6	JIS	200	16k	A computer version of the popular game of logic and capture. Opponent's pieces are taken by enclosing them.
OTHELLO FOR 2.40	6	JIS	212	16k	A 2-player game whose object is to capture an opponent's tokens by enclosing them.

## (E)LC - Logic and Problem Solving

Name of Program	Cat	Grade	PST	Mem	Description
OTHELLO.40	6		232	16k	In this version of 'OTHELLO', player and computer attempt to capture each other's tokens by enclosing them.
PUZZLE.40	6U	JIS	000	32k	Allows student to design and solve crossword puzzles. Sample data may be obtained by loading 'PUZZLE.DATA'.
QUEST 3.40	6	JJ		16k	An adventure game in which the player searches for treasure in a pirates' cave.
REMEMBERING.40	6		222	16k	Student, playing against the computer, tries to match hidden objects.
REVERSE.40	6	JJ	202	16k	Player attempts to put 9 numbers in numerical order by reversing the first 'N' numbers.
RHYMECONC.40	6	JJ	210	16k	A version of 'CONCENTRATION' with 2 players, using hidden rhyming words instead of cards or objects.
SEVEN GABLES.40	6	ISC	442	32k	An adventure game which traps the player in an old house containing numerous treasures.
SLOT MACHINE.40	5	JIS	402	16k	Offers a graphic simulation of playing a slot machine.
SNARK.40	6	J	322	16k	Player finds a 'snark' on a grid by entering the center and radius of a circle in which it might be hidden.
SOLITAIRE.40	5	JIS	732	16k	Lets user play all 3 versions of 'SOLITAIRE' on the computer.
TIC TAC TOE.40	6	PJ	202	16k	Student plays 'TIC-TAC-TOE' against the computer.
TOWER HANOI.40	6	JIS	332	16k	Move a pile of different sized blocks from one peg to another, without putting large blocks on smaller ones.
TRACE-A-WORD.40	6	PJ	402	16k	Student tries to find hidden words within a time limit.
TWENTY QUEST.40	6	PJ	592	16k	Computer acts as an 'artificial intelligence', asking questions to increase its knowledge in various areas.

## (E)LD - Logic and Problem Solving

Name of Program	Cat	Grade	PST	Mem	Description
US CIVIL WAR.40	S	JIS	322	16k	A Civil War simulation. Object is to win as many battles as possible. Facts and figures have historical basis.
WATCHPERSON.40	G	JIS	221	16k	Player tries to find a way to walk through town without retracing steps.
WEIGH.40	S	JI	000	16k	User must find the odd weight, and determine if it is lighter or heavier, given only 3 chances at the scales.
WESTWARD HO.40	GS	JI	442	32k	An entertaining adventure program which simulates life in the Wild West at the time of the Gold Rush.
WUMPUS.40	G	JI	332	16k	An adventure game in a dodecahedron. Player hunts the 'wumpus' through a series of imaginary tunnels and rooms.
YANTZEE.40	G	JIS	322	16k	A computer version of the game of 'YANTZEE' in which player tries to roll various combinations with 5 dice.

## (E)MA - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
ADD AND SUB.40	DT	I	402	16k	Drills the student on addition and subtraction of signed numbers.
ADD DRILL.40	O	J	202	16k	Student has option of doing addition problems with 0 to 9 rows of numbers, or 0 to 9 digits in each number.
ADD TEACHER.40	DT	P	224	16k	Teaches student how to add numbers together and provides cumulative marking.
ADDING DRILL.40	O	P	202	16k	A simple drill on adding two numbers in the range 1-100.
ADDING QUIZ.40	O	P	202	16k	An adding drill which utilizes numbers with up to 4 digits and points out incorrect digits in the answers.
ADDITION GAME.40	D	P	202	16k	Student is given 10 timed addition problems.
ADDITION RACE.40	DG	J	202	16k	Addition drill game. Players advance the two men on the screen by correctly answering addition problems.
ADDITION.40	D	IS	202	16k	A drill made up of 10 random addition problems; entry of digits is left-to-right.
ADDS AND SUBS.40	O	PJ	200	16k	Drills addition or subtraction and lets student count objects if answer is incorrect; good incentive graphics.
AGENT BLOTTO.40	D	P	222	16k	This program uses math questions to solve a mystery. Each correct answer reveals a letter in a secret message.
ALG. VECTORS.40	O	S	202	16k	Drills nine sub-topics under algebraic vectors.
ALGEBRA DRILL.40	DT	I	440	16k	A drill/tutorial in simplifying algebraic expressions.
ARITH DRILL.40	O	J	202	16k	A timed drill on +, -, and * with optional levels of difficulty.
ARITHMETIC 1.40	O	J	422	16k	A drill in +, -, and * with levels of difficulty.
ARITHMETIC.40	D	J	202	16k	Practice with simple +, -, and *.
B.T.C. ADD.40	O	J	16k	16k	A drill in addition facts against user-set time limit.
B.T.C. DIVIDE.40	D	P	202	16k	Poses division questions which are to be answered within a time limit set by teacher or student.

## (E)MB - Mathematics

Name of Program	Cat	Grade	PST	MEM	Description
B.T.C. FRACT.40	D	J	222	16k	Practice in multiplying fractions within a user-set time limit.
B.T.C. MULT.40	DG	PJ	422	16k	Multiplication questions must be answered within a time limit specified at the beginning of the game.
B.T.C. SUBTRT.40	D	P	202	16k	Subtraction facts with up to 2-digit regrouping flash against the clock. In second part, player vs computer.
BAIRSTOW MTH.40	U	SC	200	16k	Uses Bairstow's iterative method to find successive quadratic factors of an nth order polynomial.
BALANCE.40	DS	JI	422	16k	Drills student in balancing various metric weights on simulated scales.
BASIC MATH.40	D	PJ	202	16k	A drill in basic +, -, * and /.
BEADS IN JAR.40	T	JI	200	16k	Provides an illustration of probability by drawing beads from a jar at random.
BETWEEN.40	O	P	200	16k	Student attempts to guess a secret number between given limits: 0 < number < 10.
BIG BINARY.40	U	IS	200	16k	Converts decimal numbers (up to 511) into binary form.
BIG DIVIDE.40	D	J	200	16k	A drill in simple division yielding 1 to 2-digit results.
BIG MATH.40	D	P	202	16k	Responses to 5 vertically arranged math problems (choice of +, -, * or /) are keyed in from right-to-left.
BIG SUBTRACT.40	D	I	200	16k	Drills the subtraction of whole numbers using large numerals in the screen display.
BIGTIME.40	DGU	P	200	16k	Creates a large 12 or 24 hour digital clock, with alarm.
BINOM. EXPAN.40	DT	S	302	32k	A drill in expanding binomial products using 'F.O.I.L.'
BINOMIAL DRIL.40	D	IS	202	32k	A drill on expansion of binomial multiplication.
BINOMIAL EXP.40	TU	I	200	16k	Explains and calculates binomials using Pascal's triangle and large graphics.

## (E)MC - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
BOOMAS.40	D	J	202	16k	A drill on the order of operations.
BOMB ADDITION.40	DG	J	200	16k	A drill/game using 2-digit addition problems. If answer is incorrect, a 'bomb' explodes.
BRAIN CRANE +.40	D	J	200	16k	This program builds up student addition skills by drill method. Graphics feature a crane which moves numbers.
BRAIN CRANE /.40	D	PJ	222	16k	Uses drill method and incentive graphics to 'build up' student's division skills.
BRAIN CRANE X.40	D	PJ	222	16k	This program 'builds up' the student's multiplication skills by drill method.
CALCULUS.40	DT	S	422	16k	A drill on simple calculus problems involving acceleration and velocity.
CAR RACE MULT.40	DG	P	202	16k	Two players race their 'cars' across the screen by answering multiplication questions.
CASH REGISTER.40	D	P	202	16k	After a 'purchase', user is required to give out correct change in the smallest number of bills and coins.
CHANGEMAKER.40	ST	J	200	16k	Simulates the buying of items in a store. Computer totals prices, adds sales tax and shows how to make change.
CHOICES.40	T	I	200	16k	A study in probability. Illustrates the number of ways to select 'R' items from 'N' items.
CLOCK.40	D	P	202	32k	Computer displays a clock face and student enters appropriate digital time. Total of 10 questions.
CO-ORDINATES.40	DT	JJ	922	32k	A good introductory lesson on the cartesian coordinate system.
COIN PUZZLE.40	DG	JJ	200	16k	Student must weigh coins on a balance in order to discover odd coin.
COLLECT TERMS.40	D	JJ	200	16k	A drill in collecting like terms in algebraic expressions; three levels of difficulty.
COLLECTERMS 1.40	D	I	202	16k	A drill in collecting coefficients of like algebraic terms.

## (E)MD - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
COLLECTERM 2.40	D	I	202	16k	Gives practice collecting coefficients of like algebraic terms.
COPY CAT.40	D	JJ	200	16k	Drills student in remembering numbers and letters.
COUNT 1 to 10.40	T	P	200	16k	Teaches student counting from 1-10.
COUNT FIVE.40	T	P	000	16k	This program uses graphics to aid the student in learning how to count to ten.
COUNT TEN.40	D	P	200	16k	This program uses graphics to drill student in counting from 1-10.
COUNTING.40	D	EP	202	16k	This program helps youngsters learn counting by asking them how many objects are on the screen.
CURVE FIT.40	TU	SC	500	32k	Teaches evaluation of a polynomial to fit a set of points, integration and plotting included.
DARTS.40	DGS	JJ	202	16k	Student answers problems in +, -, * and / in order to score points on a dart board; good range of difficulty.
DECIMAL ARITH.40	D	JJ	402	16k	Computer generates random decimals for a quiz made up of 4 math problems (+, -, * and /).
DECIMAL SIZE.40	D	J	202	16k	The student selects the largest of three numbers with identical digits, but with different decimal position.
DECOMPOSE.40	DT	I	201	16k	This program teaches and drills the factoring of trinomial equations using the method of decomposition.
DERIV OF POLY.40	U	S	200	16k	This program finds the derivative of polynomials entered by the user.
DICE THROW.40	S	IS	000	16k	Demonstrates distribution of dice-sum frequencies using variable no. of dice and no. of sides to the dice.
DIY DRILL.40	D	J	202	16k	A drill in basic division with divisors from 1-10.
DRILL.40	D	P	202	16k	Drills addition, subtraction (to 20), division and multiplication (to 9 times table).
DRILLS.40	D	PJ	202	16k	Provides practice in +, -, * and /.
ELLIPSE TRANS.40	U	S	200	16k	Student inputs the variables (values less than 12) for computer-drawn ellipses and transformations.

## (E)ME - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
ENGGAME TWO.40	D	J	200	16k	User performs 4 operations on 5 numbers to solve a mathematical puzzle.
EQU'M MANIP.40	DT	JJ	202	16k	Drills student on problems involving the isolation of a single variable in a simple equation; poor explanation.
EQUATION EXA.40	DGS	I	222	16k	Student finds how many marbles are in a bag by balancing bags against loose marbles on a simulated scale.
EQUATION X-Y.40	U	I	200	16k	User inputs A, B and C for linear equations and the program graphs the resulting line.
EQUATION.40	DT	I	202	16k	Student solves a linear equation in 1 unknown. Computer shows solution if requested.
EQUATIONS.40	D	I	200	16k	Emulates equation-solving procedure by asking student to find number of marbles in each bag on a balance scale.
EXPONENT MULT.40E	D	I	220	16k	A program which drills a student in simple algebraic multiplication involving monomials.
EXPONENTS.40	DT	I	202	16k	This program instructs and drills the student in multiplication and division of exponents.

**CONT. (E)HE - MATHEMATICS....**

FACTOR DRILL.40	D	IS	202	16k	A drill on factoring polynomial equations to the 6th degree. Requires 32k memory for higher option levels.
FACTOR TRI.40	D	I	200	16k	Provides practice in solving quadratic equations.
FACTOR TRINO.40	D	IS	202	16k	A drill on factoring trinomials into linear equations.
FACTOR WHOLE.40	D	J	200	16k	Student must break various numbers down into their prime factors.
FACTORIAL.40	U	IS	200	16k	Provides answers to factorial up to 500.
FACTORS.40	U	JIS	200	16k	This program calculates the prime factors of whole numbers input by the user.
FAST MATH.40	DG	J	202	16k	Players compete in a game/drill whose object is to answer addition problems as quickly as possible.
FC'N GRAPH.40	U	I	200	16k	A good graphing utility. Self-modifying; inserts user-input functions into line 1025.
FLASHCARDS.40	D	J	202	16k	Drills students on +, -, and *.

### (E)MF - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
FRAC EST/SOUN.40F	DG	J	822	16k	A fraction estimation game in which the student must guess the correct fractional distance to a target.
FRACTION GAME.40	DG	J	000	16k	A target appears on a number line from 0 to 2; user must guess the fractional value the target represents.
FRACTION PRAC.40	D	J	202	16k	Drills the user on conversion between decimals and fractions.
FUNC MACHINE.40	D6S	J	500	32k	A simulated machine cranks out a number; student must guess the secret operation that's been performed on it.
FUNC PLOT.40	T	S	200	16k	Student can request examples of functions (circle, parabola, ellipse, etc.) and change the defining equations.
GAUSS REDUCT.40	U	S	200	16k	Student enters the coefficients of a system of linear equations and the computer calculates the answer.
GEOMETRY.40	D	J	602	16k	A geometric shape recognition drill in which the student must name various polygons.
GEOMETRYTERMS.40	DT	J	202	16k	Explains the geometric terms angle, point, line, line segment and ray and presents a quiz afterwards.
GRAPH PLOT.40	U	I	200	16k	Plots the graph of a user-defined function.
GRAPH PRINTER.40	U	JIS	200	16k	Program draws a graph according to user-specified parameters.
GRAPH SNAP.40	S	IS	300	16k	Graphs any equation. Allows the user to move a window around on the graph and to change the window's specs.
GRAPH.40	T	I	200	16k	User inputs co-ordinate and the computer plots it OR computer plots co-ordinate and the user names it.
GRAPHING.40	T	I	200	16k	Illustrates and compares 3 methods of graphing points.
NI-CALC.40	D	IS	200	16k	Student must use calculus to maximize an algebraic equation.
NI-LOW.40	G	PJ	200	16k	Computer guesses a number between 1 and 1,000,000 in less than 20 guesses.
HYPERBOL TRANS.40	U	S	200	16k	From coefficients input by the student, a graph is plotted in standard position and with transformation.
IN-BETWEEN.40	G	J	101	16k	Player bets on whether or not a third card's value is going to fall between that of two cards dealt face-up.
INDIRECT EVID.40	D	I	202	16k	Gives student practice in formulating hypotheses and drawing conclusions.

### (E)MG - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
INT.ADD.FAST.40	D	JOI	202	16k	Drills students in integer and whole number addition.
INT/EX ANGLES.40	D	J	200	16k	Drills students on the relationships between interior and exterior angles.
INTEGER ADD.40	D	J	202	16k	Drills student on the addition of single-digit signed numbers.
INTEGER ARITH.40	D	I	202	32k	A good drill in integer addition and subtraction.
INTEGER LINES.40	U	J	400	16k	Student inputs the coefficients of two linear equations and the computer gives their point of intersection.
INTEGERS 2.40	D	J	202	32k	Drills student in +, -, * and / of integers.
INTEGERS.40	D	J	202	16k	Program offers a series of problems in +, -, and *.
INTEGRATION.40	T	I	200	32k	Demonstrates calculation of areas under curves by summing increasingly narrower strips of rectangles.
INTERPOLATION.40	DT	S	16k	A program on interpolation and determination of a circle.	
INTERSECT LIN.40	U	IS	200	16k	Finds intersection point of two lines input by user.
INTERSECT PT.40	D	I	200	16k	The student finds the point of intersection of two lines by inference from information about the points input.
INTERSECTION.40	D	I	202	16k	A drill on the angles formed by intersecting lines.
INTR PYRMD.40	D	I	202	16k	For each correct answer to an addition or subtraction problem, another level is added to a 'pyramid'.
LADDER MULT.40	DG	J	202	16k	Drills multiplication tables. Correct answers move student up steps of a ladder.
LAZER MATH.40	DG	PJ	202	16k	Student must answer an addition problem before a laser destroys the block. Choice of number of digits (1-9).
LIMIT CIRCLE.40	TU	IS	400	16k	Calculates the limit of an equation for the area of a circle.

## (E)MH - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
LIN EQN.40	D	IS	200	16k	Drill on solving linear equations.
LINE INTERSECT.40	U	J	200	16k	User inputs the parameters for two lines and the computer returns point of intersection.
LINEAR EQUAT.40	U	I	200	16k	Draws a graph of linear line with values for A, B and C supplied by the user.
LINEAR SYS.40	D	I	202	16k	Student can choose to solve up to 4 equations and 4 unknowns at one time; correct answer follows each turn.
LONG DIVISION.40	D	JI	202	16k	Drills student in integer long division with selectable levels of difficulty.
MAKING CHANGE.40	D	P	202	16k	Student must give out correct change using the fewest bills and coins possible.
MARBLE STAT.40	S	S	500	16k	Simulation of a probability machine with marbles dropping over a matrix of pegs.
MATCH UP NUM.40	DG	P	000	16k	Student is required to determine which two numbers on the screen are the same.
MATH DICE.40	D	P	200	16k	Develops counting skills by requiring the student to total the dots which come up with each throw of 2 dice.
MATH DRILL.40	D	P	204	16k	Drills basic addition, subtraction, multiplication and division using large-sized graphics.
MATH FACTS.40	D	PJ	202	16k	Drills students in +, -, * and /.
MATH MANIA.40	DG	J	000	16k	Student moves a character about the screen until a question mark is hit; a simple arithmetic question follows.
MATH PACK.40	T	S	200	32k	This program evaluates prime factors, cubic/quadratic equations, combinations & permutations, factorials, etc.
MATH SWIM.40	DG	PJ	202	16k	Drills 2 players on +, -, * and /. Entertaining graphics of swimmers act as an incentive.
MATH TUTOR.40	D	PJ	202	16k	Drills student in +, -, * and /.
MATRIX MATH.40	DG	JI	000	16k	Provides factoring practice within the context of a game.

## (E)MI - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
MATRIX.40	I U	S	200	16k	Adds, subtracts, multiplies and determines matrices.
MEASURE.40	DS	PJ	000	16k	Student must read a ruler measuring various objects.
MET/STD CONV.40	U	JI	200	16k	Program performs metric/standard conversions for temperature, length, weight, area and volume.
METRIC (EC00).40	D	JI	202	16k	Student is required to convert between various metric units.
METRIC CONVER.40	D	J	000	16k	Drills student in metric conversions within metric.
METRIC DRILL.40	D	PJ	200	16k	Program drills conversion of all units within metric, including volume.
METRIC DRILLS.40	D	JI	202	32k	Drills the user in metric conversions within the metric system.
METRIC M.40	D	PJ	202	16k	This program drills conversion of units of distance within metric.
METRIC TEST.40	D	JI	202	16k	Drills students in converting between various units of length within metric.
METRIC VOLUME.40	D	JI	422	16k	Practice in converting between units of volume within metric.
MICRO MATH.40	DT	I	401	32k	A drill/lesson on finding the coordinates of a point on a cartesian graph.
MICROMATH +- .40	DT	I	200	16k	Teaches and drills the addition and subtraction of integers.
MISSING NUM.40	D	EPT	200	32k	Student must identify the missing number in a series from 1-10. A happy/sad face indicates right/wrong answers.
MISSING NUMB.40	D	P	200	16k	Given a list from 1-20, student must type in the missing number.
MON.PRODUCT.40	DT	I	400	16k	Provides instruction and practice in multiplying 2 or 3 monomial factors.
MONOMIAL MULT.40	D	I	202	16k	Program allows practice in multiplying two or three monomial factors with exponents.

## (E)MJ - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
MONSTER MULT.40	DG	PJ	701	32k	User builds wall to repel monster by correctly answering multiplication questions. Variable time, difficulty.
MULT BINOMIAL.40	D	IS	202	16k	Student must provide 3 coefficients corresponding to each binomial equation presented.
MULT DRILL.40	D	PJ	202	16k	A timed multiplication drill involving 2 numbers. Their values are set by student, as is no. of questions.
MULTIPLY.GS.40	DU	J	202	16k	For drilling in multiplication; saves results of test to disk or tape.
MUNCHKIN MULT.40	D	PJ	202	32k	A drill on times tables using a student-selected number from 1-99 and the numbers 1-10.
NUMBER GUESS.40	DG	EP	200	16k	Student is asked to guess a number from a number line.
NUMBER SEQ.40	D	J		16k	Student must supply the correct number sequence of 2-digit numbers.



**CONT. (E)MJ - MATHEMATICS...**

NUMBER TRAIN.40	D	P	502	16k Student gives the number coming before and after a given one. A graphics 'train' arrives for a correct answer.
NUMBER-TOE 2.40	G	JT	202	16k Similar to 'TIC-TAC-TOE', except that player must make the first two numbers in a row add up to the third one.
NUMBER.40	U	S	200	16k Finds the mean, standard deviation, maximum and minimum of a user-input set of numbers.
OPERATIONS.40	D	JT	222	16k Explains order of operations. Questions become harder if user gets 3 corrects in a row; 5 levels of difficulty.
ORDERED PAIRS.40	U	JT	000	16k Generates ordered pairs once given function and starting point.
PARABOLA.40	U	S	700	32k Plots and re-plots parabolas according to student-input parameters.
PARALLEL LINE.40	DT	I	202	16k A drill in the $\theta$ angles formed by a line intersecting 2 parallel lines.
PERIMETER.40	D	J	200	16k Student must find perimeter of displayed rectangle. Dimensions are printed on 2 or 4 sides at user's request.
PERM AND COMB.40	U	IS	000	16k Program computes permutations and combinations given size of set and subset.
PERMS & COMBS.40	U	S	200	16k User inputs the variables n and r, the program computes the number of combinations (nCr) and permutations (nPr).
PI CALCULATOR.40	U	ISC	200	16k Calculates pi to as many decimal places as requested. Slow - calculation to 40 places takes 7 minutes.

**(E)MK - Mathematics**

Name of Program	Cat	Grade	PST	Mem	Description
PIZZA.40	D	I	202	16k Student must deliver pizza to houses located on the 1st quadrant of a cartesian coordinate plane.	
PLACE VALUE#3.40	G	P	200	16k Using random digits, player and computer compete to make 2 numbers with the largest difference between them.	
PLACE VALUE.40	DT	J	202	16k Student is taught the significance of a digit's position in a decimal number and is drilled on same.	
PLANES.40	D	S	402	16k A drill in evaluating equations dealing with planes.	
PLANET INTEGR.40	DGT	I	712	16k A graphing game whose object is to reach a certain point on a grid. Teaches graphing using X-Y axis.	
POLAR I.40	U	I	200	16k Student may enter the parameters for equation $R=ACOS(\theta)$ and see function plotted.	
POLICE SUBTR.40	DG	J	202	16k Student must correctly answer subtraction problems in order to save a town from robbers.	
POLY PLOT.40	TU	IS	200	16k Plots polynomials up to degree 5.	
POLYFIT.40	U	S	200	16k Finds the polynomial of best fit for a series of data.	
POLYGON SECT.40	U	IS	200	16k Calculates centroids and moments of inertia of polygons.	
POWER-FACT.40	U	S	100	16k Computes factors or powers up to 250 digits in length.	
POWRS & ROOTS.40	D	I	202	16k A drill in squares, cubes, square roots and cube roots of small and large numbers.	
PRIME # SIEVE.40	T	I	200	16k A tutorial on finding primes using the sieve of Eratosthenes.	
PRIME FACT.40	U	JIS	000	16k This program resolves any number into its prime factors.	
PRIME FACTOR.40	U	JT	200	16k Finds the prime factors of numbers entered by the user.	
PRIME NUMBERS.40	U	JT	200	16k Finds all prime numbers up to that entered by the student.	
PROBABILITY.40	S	PJ	000	16k Illustrates the random distribution of balls cascading between obstacles on the screen.	
QUAD. EQ'N.40	T	S	200	16k Student inputs the coefficients of an equation, solves it and compares the result with the computer's answer.	

**(E)ML - Mathematics**

Name of Program	Cat	Grade	PST	Mem	Description
QUAD.40	DT	IS	202	16k Asks student to determine the number and form of the roots in a given quadratic equation.	
QUEUE.40	S	I	000	16k Simulates queuing at a bank with 5 tellers' windows.	
QUIZ ADD.40	D	EP	202	16k Presents the student with a series of addition problems.	
QUIZ DIVISION.40	D	J	200	16k A simple division drill.	
QUIZ MULT.40	D	PJ	202	16k A straightforward drill on a series of multiplication problems.	
QUIZ SUBTRACT.40	D	J	200	16k Provides practice in simple subtraction.	
R-PLOT.40	U	IS	200	16k Takes sets of points and picks line of best fit; also gives statistics on each point.	
RANDOM.40	S	PJ	000	16k A poor simulation of a random generator, giving frequency of numbers.	
RECIPES.40	U	J	200	16k Converts kitchen measurements from Standard to S.I. or vice versa.	
REDUCE FRACT.40	D	J	202	16k A drill in reducing fractions.	
RESULTANTS.40	U	S	200	16k Resolves user-input vectors on a cartesian or polar grid.	
REVERSE 1.40	G	JT	200	16k Student must rearrange numbers or letters so that they are in the proper order.	
RND GENERATOR.40	S	JT	200	16k Program allows user to experiment with random number generator statement.	
ROLLS TIL ONE.40	S	I	200	16k Simulates the roll of a die, keeping track of the number of rolls needed to roll a one.	

**CONT. (E)ML - MATHEMATICS....**

ROMAN.40	D	J1	402	16k	Practice in conversion of Roman numerals to decimals and vice versa.
ROOTFINDER.40	U	IS	200	16k	Finds the roots of a polynomial up to the 20th degree.
ROOTS QUIZ.40	D	IS	202	16k	Drills students in finding roots to trinomial equations.
S.W.MATH.40	D	J	200	16k	Story-book math problems using data (animals, people and food) input by the student.
S.N.B'KETBALL.40	DG	IS	002	16k	A drill in the conversion of numbers to scientific notation.

**(E)MM - Mathematics**

Name of Program	Cat	Grade	PST	Mem	Description
SCIENTIFIC.40	D	I	202	16k	Provides practice in scientific notation.
SHAPES.40	DT	E	200	16k	Teaches the student to distinguish between various objects.
SI.CONVERSION.40	D	J1	202	32k	Drills students in metric conversion within metric.
SIEVE.40	T	J1	200	16k	Demonstrates method of determining prime numbers by eliminating multiples of integers.
SIGNIF DIGIT.40	D	IS	002	18k	A drill on the number of significant digits in various numbers.
SIMEQ. SOLVER.40	U	IS	200	16k	Solves up to 5 unknowns with 5 equations.
SIMP.SUBST.40	D	I	220	16k	A quiz in evaluating monomial expressions.
SINE GRAPH.40	TU	IS	200	16k	Student sets the parameters for a sine curve which is then plotted by the computer.
SLOPE AND INT.40	D	I	000	16k	Drills students on line equation forms and intercepts.
SLOPE/INTRCPT.40	T	I	200	16k	A tutorial on slope, x-intercept and y-intercept of linear equations.
SMALL MATH.40	D	P	220	16k	Drills students on addition and subtraction.
SNOOPY.40	DG	PJ	202	16k	Player keys in a number corresponding to Snoopy's relative position along a line in order to hit the Red Baron.
SPLASHDOWN.40	DG	J	200	16k	Student sums divers' scores. Each correct sum gives a letter of a mystery place-name which student must guess.
STATISTICS 1.40	U	IS	200	16k	Compares sets of numbers according to PMI correlation.
STATISTICS 2.40	U	IS	200	16k	Compares sets of numbers through the coefficient of determination.
STATISTICS 3.40	U	IS	200	16k	Compares sets of numbers through the correlation coefficient.
STATISTICS.40	U	IS	200	16k	Calculates median average, frequency and standard deviation.

**(E)MN - Mathematics**

Name of Program	Cat	Grade	PST	Mem	Description
STORY PROB.40	D	J1	202	16k	Student enters favorite friends, foods and animals and story problems are created using this data.
SUBTRACTION.40	D	J	402	16k	Drills subtraction with 4 digits.
SURVEY.40	U	IS	200	32k	A utility for taking surveys.
SYMMETRIC.40	D	J	200	16k	Draws a symmetrical pattern on the screen.
TABLES.40	D	J	422	16k	Drills multiplication of positive and negative numbers from -100 to 100.
TIC TAC ARITH.40	DG	PJ	500	32k	Math version of 'TIC-TAC-TOE' for 2. Player must answer arithmetic problem (+, -, *, /) to occupy a space.
TIC TOC CLOCK.40	DT	P	123	16k	A game designed to teach the student how to tell time.
TIME OF DAY.40	GT	P	200	16k	Instructs and tests the student in clock reading.
TIMES TIMER.40	D	PJ	220	16k	A multiplication drill in which the student tries to answer as many questions as possible in 60 seconds.
TRANSLATION.40	S	S	200	16k	Shifts Y=X squared according to user-chosen shifts in the 'X' and 'Y' directions. Shift is animated.
TREASURE ADD.40	D	P	202	16k	Student must add numbers in order to cross a stream; too many mistakes bring a 'dunking'.
TRIGONOMETRY.40	D	IS	202	16k	Drill on sine, cosine and tangent at 30, 45 and 60 degree angles.
TRINOMIAL FAC.40	DT	I	442	16k	This program gives practice in trinomial factoring, with excellent tutorial hints if required.
TWELVE BLOCKS.40	G	IS	600	16k	Student has 3 weighings to discover which one of 12 blocks is heavier/lighter than the others. Good graphics.
UP THE LADDER.40	DG	PJ	202	16k	Problems in addition of numbers from 0 to 99. Student goes up one rung of a ladder for each correct answer.
VECTOR ALGEB.40	D	S	400	32k	Drill in cross, dot product, addition and subtraction of vectors up to 12 dimensions.

## (E)MO - Mathematics

Name of Program	Cat	Grade	PST	Mem	Description
VECTOR.40	U	IS	000	32k	A good utility package for manipulating vectors.
VELOCITY PROB.40	D	IS	202	16k	A drill in problems on velocity, time and distance.
Y EQUALS MX+B.40	U	I	200	16k	This program graphs lines, given slope 'M' and Y-intercept 'B'.
ZERO IN.40	G	J	200	16k	The computer picks a number and the student attempts to guess it.
ZONE X.40	DG	P	202	16k	A plotting game. The computer draws two invisible lines on a grid; student uses clues to find intersection.

## (E)NA - Music

Name of Program	Cat	Grade	PST	Mem	Description
MUSIC FILE.40	U	JIS	400	32k	This program is a music file management system.
MUSIC MACHINE.40	U	JIS	800	32k	Program enables user to play/write music on a staff, and load/save compositions. Good features and graphics.
MUSIC THEORY.40	D	J	202	16k	A basic introduction to musical notation.
PUNK ROCK.40	T	IS	402	16k	A quiz on facts concerning punk rock.
SERIALISM.40	T	S	100	32k	Demonstrates the 12 tone row, including inversion, retrograde and retrograde inversion. A good tutorial.
SOUNDS.40	T		000	16k	A demonstration of PET sound effects.

## (E)PA - Physical and Health Education

Name of Program	Cat	Grade	PST	Mem	Description
CHILD ABUSE.40	D	IS	202	16k	Program asks a series of questions to test the user's awareness of child abuse, teenage pregnancy and adoption.
DRIVER EO.40	O	IS	222	32k	A drill very similar to a beginner's permit test, based on the Driver's Handbook, Ministry of Transportation.
LIFE STYLES.40	GU	IS	200	16k	Offers an assessment of lifestyle, based on user-input data regarding health, exercise, personal habits, etc.
LIFESPAN.40	GU	IS	200	16k	Given user-input data on schooling, exercise, mental state, stress, etc., program estimates life expectancy.
METEOR.40	O	JIS	000	16k	Gauges reaction time and hand/eye co-ordination. User presses a key as soon as a 'star' on the screen 'falls'.
REACT.40	O	JIS	000	16k	Tests user's reaction time (reflexes) by timing how long it takes her/him to hit the space bar after a signal.
REACTION TEST.40	D	JI	202	16k	A test of student's reaction time to a stimulus.
REFLEX TIMER.40	O	JIS	002	16k	Tests user's reflexes by measuring reaction time.
RUNNING QUIZ.40	D	JIS	202	16k	A quiz on various aspects of running and jogging.
YELLOW LIGHT.40	SS	JIS		16k	Simulates a car approaching an intersection. When light turns yellow, player must decide whether to stop or go.

## (E)SA - Science

Name of Program	Cat	Grade	PST	Mem	Description
ACCELERATION.40	GS	ISC	200	16k	Player estimates what the initial velocity of a ball must be for it to fall into a cup.
ALT. SAZIMUTH.40	U	ISC	200	16k	Calculates the positions of several stars.
BALANCE CHEM.40	DT	IS	200	32k	A tutorial/drill on balancing equations.
BIG OHM'S LAW.40	D	JI	302	16k	A drill on Ohm's law, using large numbers.
BROWNIAN.40	ST	JI	300	16k	A good simulation of Brownian motion.
BUOYANCY.40	DT	ISC	250	32k	A tutorial/drill on the concepts of mass, weight and buoyancy.
CASCADE.40	S	J	110	16k	X simulation of a waterfall.
CHARGED PART.40	ST	ISC	250	32k	A simulation and tutorial focusing on electron mass measurement.
CHEM 12.40	D	JIS	202	16k	A drill on nomenclature and the ratio of atoms from different elements in a compound.
CHEM CALC.40	U	JIS	200	16k	Calculates various chemical ratios and quantities given other known quantities.

**CONT. (E)SA - SCIENCE...**

CHEM QUIZ.40	D	SC	203	16k	A drill on symbols, valences and names of elements.
CHEM. PROB.40	DT	IS	202	32k	A drill on the 'mole' concept, and on conversion from and to particles, mass and volume.
CHEMIST.40	S	JISC	101	16k	Student attempts to dilute a dangerous acid to the correct chemical ratio.
CHEMISTRY.40	D	IS	202	16k	A drill on various aspects of chemistry. The questions are randomly chosen.

**(E)SB - Science**

Name of Program	Cat	Grade	PST	Mem	Description
CIRCUIT 3.40	U	ISC	200	16k	Calculates current through a resistor given its resistance and the voltage.
CIRCUIT 4.40	T	ISC	200	16k	Tutors the student on capacitors.
COMPOUNDS.40	D	ISC	202	16k	A drill on chemical nomenclature.
COMPRESS.40	U	I	200	16k	Converts measurements in one unit of pressure to another.
CYLINDER.40	DT	J1	322	32k	A drill/tutorial on reading graduated cylinders.
DECAY.40	U	I	200	16k	Calculates and graphs half-life and mass for decay.
DEFECT.40	TU	ISC	200	16k	Calculates and reviews concepts dealing with mass defect of isotopes.
DENSITY.40	U	ISC	200	16k	Calculates density given mass and volume.
DRILL SI.40	DT	IS	342	16k	A drill on metric conversion within metric.
E- CONFIGUR'N.40	T	ISC	300	32k	A tutorial on Schrodinger's model of the atom and placement of electrons in orbitals.
E.M.T.40	GS	ISC	210	32k	Student assumes the role of a doctor asked to diagnose various cases.
EARTHQUAKE.40	DT	ISC	210	32k	Tutors student on finding epicenters of earthquakes. Requires a handout.
ELECT. QUIZ.40	D	IS	201	16k	A drill on Ohm's law.
ELECTRICITY.40	TD	ISC	212	32k	A tutorial and drill on Ohm's law, energy, power, and energy cost problems.
ELECTRO MAG 2.40	ST	ISC	100	32k	A tutorial, with good graphics, on the applications of electromagnetism.

**(E)SC - Science**

Name of Program	Cat	Grade	PST	Mem	Description
ELEMENT QUIZ.40	D	ISC	201	16k	A quiz on chemical elements and symbols.
ELEMENTS.40	D	ISC	210	16k	A drill on the chemical symbols.
ENZYMES.40	ST	ISC	200	16k	Demonstrates the effect of various factors on the functioning of enzymes.
EQUIVALENTS.40	DT	ISC	243	32k	A tutorial/drill on chemical equivalents, molarity and normality.
FAST FOURIER.40	U	CS	200	16k	Fourier transformations and analysis of curves. The computer decomposes complex waves into components.
FISHING.40	GS	IS	202	16k	Player tries to estimate the number of trout in each of several lakes by catching, marking and returning fish.
FOOD CHAIN.40	D	JIS	200	32k	A drill having to do with the placement of organisms in a food chain.
FORCE CONY.40	U	JISC	100	16k	Performs conversions from one unit of force/mass to another.
FREQ & TIME.40	ST	ISC	300	16k	The student must estimate the period of a revolving square. Reviews the basics of frequency and period.
FUSE.40	D	J1	201	16k	A drill on choosing the appropriate fuses to handle a given current.
GAS EQUATIONS.40	D	ISC	200	16k	A drill on gas volumes, temperatures and pressures.
GEIGER.40	ST	IS	200	16k	An accurate simulation of a Geiger counter sensing radioactive samples.
GRAD CYLINDER.40	TD	ISC	210	16k	A tutorial and drill on reading graduated cylinders.
GRAVITY QUIZ.40	D	ISC	201	16k	This program is a quiz on planetary orbits and gravity.

**(E)SD - Science**

Name of Program	Cat	Grade	PST	Mem	Description
HARMONICSPLY.4	U	ISC	200	16k	Graphs the effect of harmonics on the fundamental wavelength.
IDEAL GAS LAW.40	S	ISC	890	16k	A simulation of an experiment involving Boyle's and Charles' law (PV=nRT).
INTERFERENCE.40	U	ISC	200	16k	Program graphs waves separately along their interposed image.
INTERMODUL'N.40	T	ISC	200	16k	Calculates the intermodulation distortion products for every combination of frequencies entered by the user.

CONT. (E)SD - SCIENCE....

IONS.40	D	ISC	203	16k	A drill on the formulae and valences of ions and radicals.
KINEMATICS.40	D	ISC	203	16k	A drill on kinematic problems concerning the motion of a ball thrown vertically upwards.
LEVER.40	DS	JISCT	302	16k	Student learns to balance a simulated lever by altering the distance between the weight and the fulcrum.
LOCK-KEY.40	ST	ISC	200	16k	Shows the effects of inhibitors on the enzyme acetylcholinesterase.
MAGIC POWDER.40	G	JIS	202	16k	Student deduces the identity of a mystery powder by the process of elimination.
MALARIA.40	GS	ISC	203	16k	Player administers funds to build hospitals and provides medical supplies to combat an outbreak of malaria.
MASS.40	U	ISC	200	16k	Calculates the gram molecular mass of any compound, given the number and type of elements it contains.
MATCHING QU.40	D	J1	16k	Student matches questions on dispersion, solute, suspensions, etc. to correct answers. Responses are timed.	
MATCHING SOL.40	D	ISC	201	16k	A drill in which the student is required to match questions to answers.
METRIC CONV.40	U	JISC	300	16k	A program which performs interactive metric conversions.
MILLIKANS EXP.40	S	ICS	800	16k	Simulates Millikan's oil drop experiment.
MINI EDISON.40	GS	ISC	202	16k	Student is put in charge of operating a simulated power station.
MITOSIS.40	ST	ISC	010	32k	Tutors the student on mitosis, using good graphic presentations.

**(E)SE - Science**

Name of Program	Cat	Grade	PST	Mem	Description
MOLARITY.40	U	IS	200	16k	A program which converts mass to moles to molarity.
MOLE CONCEPT.40	D	ISC	412	32k	A drill on converting from moles to gram molecular mass. The program has a built in calculator mode.
MOLECULAR LES.40	DT	ISC	230	32k	Tutorial and drill on VSEPR (Valence Shell Electron Pair Repulsion) method of determining shapes of molecules.
MOLECULE RACE.40	ST	ISC	300	16k	Simulates diffusion of molecules across space.
MOMENTUM CAL.40	DT	ICS	252	16k	Computer assisted instruction on momentum problems.
MOMENTUM TEST.40	D	ISC	202	16k	A quiz on momentum. Student should be familiar with 'MOMENTUM CAL.40' beforehand.
MOTION PROB.40	DT	ISC	200	32k	A tutorial and drill on problems in kinetics.
MUTANT.40	S	ISC	200	16k	Simulates the mutation of peppered moths to black moths within a population.
NICHE.40	S	ISC	201	32k	Simulates the effects of placing organisms in different habitats, with user controlling several variables.
NUC REACTOR.40	GS	ISC	311	32k	A simulation game in which the student controls the operation of a nuclear reactor.
OHM2.40	D	ISC	302	16k	Asks random questions on Ohm's law, with a time limit and scorekeeping provided.
ORBIT PLOT.40	S	JIS	200	16k	Plots the orbit of a satellite around a mass.
ORBIT.40	G	JISC	200	16k	User must locate and destroy an invisible spaceship by guessing its distance and angle in degrees.

**(E)SF - Science**

Name of Program	Cat	Grade	PST	Mem	Description
PALKO'S AUDIT.40	U	ISC	200	16k	Calculates average energy consumption given the frequency of use of several different appliances.
PERCENT COMP.40	U	ISC	200	16k	A chemistry utility program which calculates percent composition of each element in a compound.
PERCENT.40	U	ISC	200	16k	Calculates the percent composition of an element in a compound.
PERIODIC PROP.40	T	ISC	600	16k	Generates bar graphs of periodic properties vs atomic number.
PH PROBLEMS.40	DT	ISC	241	32k	A tutorial and drill on pH concepts.
PHOTEL.40	DS	ISC	200	16k	Given frequency of x-rays, user must find the voltage setting which causes a collector current to reduce to 0.
PHOTOSYNTH.40	S	ISC	210	16k	Simulation of an experiment varying the factors affecting the rate of photosynthesis.
POLLUTION.40	S	IS	200	16k	Simulates the depletion of oxygen in water systems by factors such as waste, temperature, treatment, etc.
PROJ.MOTION.40	S	JIS	200	16k	Plots trajectory of a projectile given initial height, angle of elevation and velocity.
PROJECTILE.40	DT	ISC	542	32k	Computer-assisted instruction on projectile problems.
RADIO DECAY.40	T	ISC	200	16k	Calculates one of the unknowns in the formula for radioactive decay.
RATE 1.40	T	JIS	200	16k	Demonstrates the effect of different factors on the rate of a reaction.
REG.POW.SUP.40	U	SC	100	32k	Prints out circuit diagrams for specified power supplies.
RESIST TEST Y.40	D	IS	202	16k	A timed quiz on resistors.

## (E)SG - Science

Name of Program	Cat	Grade	PST	Mem	Description
RESISTANCE.40	DT	ISC	250	32k	A tutorial and drill on series and parallel circuits.
RESISTORS.40	DT	IS	211	16k	A tutorial/drill on parallel and series circuits.
RMDL CHEMIST.40	DT	ISC	413	32k	A tutorial/drill on elements, radicals and acids.
SOLAR SYSTEM.40	ST	PJIS	200	32k	Displays a diagram of the solar system and provides information about it.
SPECIFIC HEAT.40	U	C	200	16k	Helps teacher to calculate and mark specific heat problems.
STOICHIOMETRY.40	U	ISC	200	16k	Calculates stoichiometric unknowns given information input by the user.
TEMP. CONY.40	DT	JIS	210	32k	A tutorial/drill on Kelvin and Celsius temperature scales.
TITRATE.40	ST	ISC	302	16k	A simulation of a titration experiment designed to give the student practice in that procedure.
VELOCITY.40	S	ISC	200	16k	Simulation of an experiment involving a cart. Requires a stop-watch, graph paper and a calculator.
VERNIER SCALE.40	DT	JISC	202	16k	A tutorial/drill on reading a vernier scale.
WAVES 3.40	ST	JIS	300	16k	A tutorial on, and simulation of, interference patterns.
WEATHER MAN.40	U	IS	200	16k	Converts temperatures and calculates humidex, wind chill factor, etc.
YOUNG'S.40	S	IS	200	16k	A simulation of double slit diffraction.

## (E)TA - Technology

Name of Program	Cat	Grade	PST	Mem	Description
BRAILLE.40	DT	PJISC	200	32k	A tutorial and drill on Braille.
CIRCUITS.40	DS	JISC	722	32k	Drill on current flow through circuits. From a circuit diagram, student determines whether a lamp is on or off.
HOME.40	U	JISC	201	32k	Generates a graph of energy consumption in a typical home in Peterborough.
METER READING.40	D	IS	302	32k	Review and drill on the reading of a multimeter voltmeter scale.
MORSE CODE.40	D	JISC	202	16k	Program presents a letter in Morse code and gives the student 3 chances to identify it.
MULTIMETER.40	DT	ISC	312	32k	Tutorial and drill on reading voltmeters and micrometers.

## (E)UA - Utilities

Name of Program	Cat	Grade	PST	Mem	Description
ALPHA SORT.40	U		410	16k	Sorts a list of names in alphabetical order.
BASE CHANGE.40	U	JIS	200	16k	A utility program which changes numbers from base 10 to bases 2-16. Input number range is 1 to 16,775,215.
COPY-ALL (HO)	U	JISC		16k	A utility for copying programs from one disk to another.
DISK DISPLAY.40	U		000	16k	A demonstration of PET disk drive commands.
DISK LISTER.40	U		000	32k	Stores directories of several disks on one disk.
GRAPH SUBRT.40	U	IS	000	16k	A subroutine which permits plotting in quarter character graphics; can be merged into a user's program.
HEXADECIMAL.40	U	J1	100	16k	A utility which enables conversion between hex and decimal numbers.
KEYBOARD.40	U		110	32k	Provides instruction in the use of the keyboard - cursor controls, graphic characters, etc.
MEMSEE.40	TU	IS	200	16k	Demonstrates how basic is stored in a microcomputer. Displays basic text and numeric storage; printed output.
UNCOMPACTOR	U		200	16k	Uncompacts programs from multi-statement lines to single statement lines.

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