

CALC NEWSLETTER

USING COMMODORE COMPUTERS FOR EDUCATION

Published monthly by the Computer-Assisted Learning Center

ONE COMPUTER AND 30 KIDS

APRIL 1988

BY MARGARET MORABITO

Last month, I attended an educational computing conference held at Georgia State University, in Atlanta. Susie Ross, Computer Teacher/Coordinator from the Holy Innocents School in Atlanta gave an enlightening talk entitled "One Computer and 30 Kids".

Ross runs a computer lab for K-8 students and has a computer for each student, but for many years she was a 3rd grade teacher with just one computer for her entire class.

When You Have Just One

When you are faced with only one computer in your classroom, your initial reaction might be panic. Or perhaps, you might try to ignore it. Eventually, however, you will be faced with having to actually use the computer in an effective way with your students. As a teacher, you need to consider your temperament and your teaching style. Will movement interfere with your class? Can you handle having students walking to and from the computer? What is your own attitude toward computers, and what classroom environment do you want to establish? Answers to these questions will help you to decide on the physical placement of that one computer in your room. Then, you can think about how to coordinate it with your curriculum.

You should integrate the computer into your classroom by running programs that correlate with the skills being taught. In Ross's case, she decided upon five different programs that she would have the children use throughout the week. Each day, every child would

have 20 minutes on the computer using the program-of-the-day. This was tied directly to a particular skill being taught that day in class.

Build Self-Sufficiency

In Ross's 3rd grade, the first step was to train the students in basic computer literacy. Children needed to be able to identify the parts of the computer, learn to turn on the various parts of the system, handle disks, and load programs. Initially, this could be taught without actually being on the computer. The students in Ross's classroom had to pass a written test, similar to a written driver's test, before they could go onto the computer.

Once they knew the do's and don'ts, then the students could learn how to operate the computer. Again, using the car driver's analogy, Ross would train the students on the computer and then give them an operator's test. During the test, she would sit by the child and observe him/her doing the basics: turning on the equipment, loading programs, handling disks. If the child passed, he/she would receive a computer operator's license.

Ross points out the rationale for initial operational testing: in a classroom situation where a teacher is addressing most of the students and only one student is working on the computer, it is mandatory that each student be self-sufficient and equipped to use the computer without asking the teacher for help. It won't work if you have to run over to a student every five minutes to

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help with basic computer operation.

Scheduling

A crucial component for success is scheduling. A teacher with just one computer has to decide upon a workable schedule to get all of the students involved without disrupting the flow of the class. Ross set up a schedule that let each of her students use the computer each day. She warns against the philosophy of rewarding the good students with computer use and denying the slower students access, since it is the slower students who need the computer the most. She finds the computer to be a great motivator, and it challenges all of her students.

Ross scheduled two students at a time to work on the computer for 20-minute sessions. She paired up students of comparable ability. Don't put a high level child with a slower one as inevitably the slower child will not get enough hands-on time and will get negative reinforcement.

Since the children are removed from the regular classroom activity in order to have computer time, be sure to schedule students during their strong subject. Put them on the computer when you are discussing something that they already do well in. That way, they won't be missing important classroom learning that will be hard to make up.

Ross builds into her daily classroom schedule what she calls bump time. This is a 20-minute make up period when each student works on the subject area he missed while on the computer that day.

Tips for Success

Ross had some important suggestions to administrators for successful integration of computers into your school. Her first suggestion is to let the teachers take a computer home for the weekend to experiment with it and to get familiar with software. If you don't do this, then it becomes hard for

the teacher to feel comfortable with the computer in the classroom.

Establish a committee to help evaluate the software. Get the teachers involved: let them run some of the software and comment on it in conjunction with the media specialist (if your school has one). You should never buy a software product without first trying it out.

When you work with a program, experiment with various uses. It might lend itself to several applications for your students. Also, you can create supplemental materials to support concepts taught by the computer. Ross is well-known for creating flash cards and other games that her kids can use in the classroom which tie directly to words, characters, and concepts taught on the computer.

Recommended software

Ross has access to a wide variety of educational software and works hand-in-hand with her local education dealer who is a former teacher. Here are some of her favorites: "Writer Rabbit", "Friendly Filer", "Math Maze", "U.S. Atlas Action", "Where in the USA is Carmen Sandiego?", "Teddy Bear-Rel's of Fun", "Garfield", "Math Shop", "Oregon Trail", the Hartley simulation programs, and "LogoWriter".

Some new programs that she recommends are "Word Munchers", "Bake and Taste", "Think Quick", "Cross Country", "Amazing Reading Machines", and "Easy Street". Not all of these are available for the Commodore.

Wrap it up

In a nutshell, the thrust of Susie Ross's talk is that you CAN successfully integrate one computer into your classroom of 30 kids. It can be done with careful planning and creativity. Just 15 or 20 minutes a day working on the computer will benefit your students. △

QUESTIONS AND ANSWERS

Each month, CALC answers questions submitted by readers who are using their Commodores for education. If you have a question, mail it in to us.

Q. Could you please refer me to any materials describing modems and their use? I am a relatively new C-64 user and am considering getting one. Also, do you have any information about QuantumLink? Thanks.

Patricia
Bellflower, CA

A. For a detailed overview of telecommunications, you could get a book or two covering that topic. Alfred Glossbrenner's "How To Look It Up Online" (St. Martin's Press) and Elizabeth Ferrarini's "Infomania" (Houghton Mifflin) are two books worth reading; however they will probably cover more material than you need to know. It might be even better for you to just jump in and experience the online world first-hand. You can subscribe to the Commodore network, QuantumLink, for \$39. You get a modem and the communications software thrown in for that price. The network is simple to use and will give you an idea of what telecommunications can add to your computer activity. You can contact Q-Link at 800-782-2278 Ext. 1502.

Q. A few years ago, I read about the Spartan which could be connected to the C-64 to run Apple software. At the time, however, it was only compatible with Apple II+ software. Was this product ever made to run Apple IIe software with a C-128? I enjoy my C-128 very much; however, there are times that having Apple II compatibility would be desirable, since Apples are the only machines our school has.

Barbara
Livonia, NY

A. Mimic never upgraded their Spartan

add-on to allow Commodores to emulate the Apple IIe. Also, their II+ emulator had some problems running commercial software. There used to be an Apple-emulator via software for the C-64, called "Ap-Soft" from FS Software, but that was limited by its inability to actually read Apple disks. You had to type in Applesoft BASIC programs using your C-64 and run them under the Ap-Soft program. At this point, the only way to share files between the two computers would be via modem transfer, and that would be limited to text files.

Q. At the high school where I teach, we use Apple computers and MECC software. One of the MECC programs can be used for making tests, and also several versions of the same test. Do you know of any software made for the C-64 which is similar to this?

Samuel
Valparaiso, IN

A. In the public domain/shareware category, you should check out "A-Plus" on CALC Volume 8. This lets you create tests of multiple choice, true/false, short answer, or any combination of these. On CALC Volume 5, we have "Test Writer", which also lets you create several different kinds of tests. On the commercial side, Gamco produces a test generator for the C-64 called, "Test Generator" (\$54). It lets you enter up to 500 questions and then design tests from those questions. It handles fill-in-the-blank, matching, multiple choice, true/false, and short answer/essay questions. A test can be composed of one type of question or a mixture of types. For more information, contact Gamco at 800-351-1404.

Q. I am searching for a software program that can help a person in reviewing for the GED Exam. I would appreciate any help in my search.

Paul
Brooklyn, NY

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IN THE NEWS

AMIGA 500 FOR EDUCATORS AND SCHOOLS

Commodore is offering educators and schools a package deal. For \$999, you can get the Amiga 500, 1084 color monitor, A1010 external 3.5 inch disk drive, and A501 memory expansion/clock board. For more information, contact your Commodore regional sales office: South/East (215) 431-9163; Midwest (312) 527-4646; West (213) 498-9455.

OPTIMUM RESOURCE'S LAB PACKS

In response to requests from educators and administrators, Optimum Resource, Inc. has announced lab packs for its entire line of Weekly Reader Software. The Weekly Reader lab packs are designed for in-school use where multiple disks are required. Each pack has five disks and one set of documentation for a cost of \$75. The Weekly Reader Software line includes the popular Stickybear series of programs for math, reading, language arts, science, and various utilities. Contact Optimum Resource, Inc. at 800-327-1473.

BRODERBUND'S TEACHER GUIDES

Teacher guides for several of Broderbund Software's educational programs are now available for individuals. In the past, the guides were only available as part of Broderbund's Lab Packs and School Editions. Teacher guides can be bought for "Dazzle Draw", "Fantavision", "Science Toolkit Master Module", "ShowOff", "The Print Shop", "Type!", "Where in the USA is Carmen Sandiego?", and "Where in the World is Carmen Sandiego?". Each guide contains materials to help teachers adapt the software to their students' needs: reproducible worksheets, lesson plans, extension activities, and other suggested classroom activities. The suggested price of each guide is \$10. You can order these from any Broderbund Education Dealer, or from the company itself. Contact Broderbund Software-Direct, PO Box 12947, San Rafael, CA

94913-2947 or phone (415) 492-3500.

LINC'S DIRECTORY

LINC Resources, Inc. publishes a directory of "Education Journals and Newsletters" which is available in printed and electronic forms. The directory lists over 400 periodicals covering education and related topics, such as special education, educational technologies, education media and materials, early childhood development, rehabilitation services and vocational training. Each listing includes the periodical name, publisher, address and phone number, a brief description of the content, subscription information, and a contact name. The printed directory costs \$20; the disk version costs \$25; or you can get both for \$35. Contact Jack Moore at LINC, Publications Division, 91 Vine St., Pawtucket, RI 02861, or phone (401) 725-3973. Δ

Q & A - cont. from pg. 3

A. I haven't seen any computer programs for GED preparation, but there are ones for preparing for the SATs and ACTs. Mindscape's "Mastering the ACT" is one program which covers many of the materials normally found on the GED tests, but it is fairly expensive: \$80. You might consider investing in a GED preparation class at your local high school and then using individual public domain and shareware computer programs to supplement your basic skills in math and English. Δ

REVIEW - MOUNT MURDOCK

BY EDITH CHASEN

"Mount Murdoch" is a versatile, large character text adventure game and game builder. It is a wonderful idea, providing large on-screen characters for the vision-impaired as well as for children. You can create simple to complex games and you need no programming skills. The games may be created with an educational slant or just for pure fun. Younger children will need some guidance to type the usual adventure game commands, but older children should be able to create and play their own games and share them with friends. The manual is written in large type, and the large characters display 12 screen lines at one time. On a 14 inch monitor, that would be about 5/8" for the actual character size.

The package comes with two single-sided disks. The first disk, the master, contains instructions to make your own games and two short sample games. One of these is pure fun; the other illustrates how to work educational ideas into a game. The second disk is a full-fledged ready-to-play game. You proceed along a path on Mount Murdoch to find shelter from a storm in a deserted mountain hut. From there, you begin a series of adventures with quite a few imaginative twists.

I noticed only a few errors in the disks (such as the misspelling of the word "sentence") and one rather confusing direction about inserting the game disk into the drive. However, there is no harm done here: putting the wrong disk into the drive simply produced "system terminated" on the screen, and I had to start again.

I especially like the sample program which shows how to introduce educational concepts into a game. For example, when walking along a path, you find seven balls separated by equal spacing blocking your way. You must then type the total number of spaces between them in order to proceed. If you put in the wrong answer, the program prompts you for the correct one; it even illustrates

the balls on the screen with seven large circles and lets you count the six spaces. There is also a bit of geography trivia illustrated: to cross a river, you are asked which state in the U.S. has the most coastline. The bridge keeper here becomes appropriately overjoyed when you correctly answer his home state of Hawaii, and you are on your way across the river. This game builder has great potential to be a quiz builder, which could be an excellent way to use it in the classroom or as a study aid at home.

The game builder itself takes you step-by-step through the process of constructing your own game. It took me three tries to catch onto the method, but after that, the steps just fell right into place. You can have the program format your own disk and place on it the necessary files to run your game. This is a great idea, since you can share your game with others without giving away your master disk. There is a simple word editor built-in so you can fix any typing errors. What you type on the screen will be what you see in the final version of your game.

You can produce quite a complex game if you want to: rooms can be created and connected by passageways; objects can be collected or used in certain combinations; magic spells can help if you get stuck; clues (encoded for you to decipher with a help screen) can be provided; and passwords can be entered to examine the game files. There are room maps provided in the manual for the first sample game to help you get started, and even a utility for you to list the commands on your printer. I found the sample maps a bit complicated for the younger child, but older children should have no problem following them.

You can print out blank maps, too, to aid in your own game creation, as well as your list of commands, magic words and objects. You can print all this in regular type or in expanded type

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CALC EDUCATION DISKS

- See pgs. 10-11 for more info. -

on your particular printer. By doing this, you can provide your own guide for others to use while playing your game.

The large character environment can have many uses in education and games. Kidsview also produces a large character word processor ("Kidsword") and a program that supports normal use of the keyboard but displays large characters to the screen ("Kidsview"). I did not see this other software, but judging from "Mount Murdoch", I feel that Kidsview Software has some real winners here with their large character products. Each of these three programs costs \$39.95 and they are available from Kidsview Software, Inc., PO Box 98, Warner, NH 03278 or phone (603) 927-4428.

Edith Chasen has been teaching earth science at the college level for 18 years. She also teaches earth science and astronomy at QuantumLink Community College on the QuantumLink telecommunications network. She can be reached on Q-Link under the screen name QTUTOR ec

CALC CLASS ADS

THE WRITE STUFF

Word processing system for the C-64 and C-128. Word processor with speech capabilities is \$24.95. Non-speech version is \$19.95. Busy Bee Software.

\$5 The Write Stuff \$5

This coupon good for \$5 off the retail price of *The Write Stuff* when ordered directly from:

Busy Bee Software	MC/VISA
P.O. Box 2959	C.O.D.
Lompoc, CA 93438	Free
(805) 736-8184	Shipping

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pf-spirit 80.d
pf-6400 asc.d
cross.pf.maker.z
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cross.pf.ins 5.w
pf info.d
(calc puzzle

VOL 8

a+
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a+ 4x
a+ obj.p6.3.2
boot a+ c6.0.1
def
change disk name
read/del p6.0.1
gen p6.2.3
mb c6.0.2
print p6.2.1
default c6.0.1
turbo a+ c6.0.1

side 2

lexikos (4/88)
menu
lex.obj.p9.0.2
util.lex
ed/rst c9.0.1
read/plx
read/hs
rst/xfer
set
dox
edb
ml
dir 4x
dir 8x
rst
pwlex
plx
def
+sample
#sample

REVIEW - MAXI MATH

BY JONATHAN EVANS

"Maxi Math" is a math teaching system developed for the C-64. It is an extremely comprehensive math program directed primarily towards the elementary school student. "Maxi Math" is also an excellent program for review and practice of basic math operations by older students and offers a wonderful opportunity for those going back to school or working towards their high school equivalency exam. Besides the basic math operations, the system includes a business program that covers percentages and loan interest calculations.

"Maxi Math" consists of four separate programs. There are counting problems for the kindergarten child, 14 levels of addition, 12 levels of multiplication, five levels of subtraction, 10 levels of division, 10 types of common fractions, decimal fractions, percentages, interest computation, eight printer utilities for making worksheets that consist of 16 different types of problems, and four written lessons.

Each of the four programs must be loaded separately. The programs are menu-driven and display the list of different operations and types of problems in that group. As a teacher/parent, you can decide which set of problems the student needs the most help or review in. Getting in and out of the problems is quite simple; all you have to do is type an "X" at any point of the problem and the screen returns to the main menu.

Many of the lessons are designed in different ways, allowing a choice as to which might best help the student learn to do the type of problems he/she is working on. The lessons offer support and help in solving the problems in a drill and practice format. Each lesson also offers an unlimited number of problems the student can work on. The student can either work on as many as he/she wishes, or the teacher can preset a certain number.

The first program on the disk starts out with a few counting activities and games for the kindergarten and preschool child. It uses shapes and colors to attract the attention of the child. It contains math problems ranging up to the third grade level, but students in the middle grades could also find this first program very useful. Also, there are addition, subtraction, multiplication, short division and worksheets that can be generated on the printer.

The second program consists of long division and fractions. In this program, there are sections where the student has to use an old-fashioned pencil and paper to work out the problems. The third program consists of decimals, percents and problems on figuring out interest loans. This is not only a nice tool for students, but also useful for adults. The fourth program is an introduction to business math and includes interest programs and a calculator.

As an educator, I find "Maxi Math" to be a very useful tool in the classroom. It offers students who need a little extra help some good drill and practice problems. It offers parents a tool to use at home when their child needs afterschool reinforcement.

For the versatility "Maxi Math" offers, it also carries a nice price tag: only \$9.95. It would make a valuable addition to any classroom or home computer learning center. You can get more information about this program from MAXI MATH, 4328 Ridgecrest Circle, Amarillo, TX 79109-5418, or by phoning (806) 359-6412.

Jonathan Evans is an elementary school math teacher for the Cleveland Public Schools with the Mathematics Assistance Project. He also teaches general math in the Tutoring Center on the QuantumLink network and can be reached there as QTUTOR je, or by mail

PROGRAMMER OF THE MONTH - ROBERT CROSWELL

Robert Croswell wrote the popular "Lexikos" program on Volume 1 and the "A-Plus" program on Volume 3 of the CALC disks. He was one of the first contributors to the original Resource Center program library back in 1985, which has now become the CALC Library. Robert has an AA degree in math and science from Chesapeake College and a BS degree in education from Salisbury State College. He has been a middle school science and health teacher for 16 years at Easton Middle School in Easton, Maryland. Before going into education, he was a lab technician and production supervisor for an electronics firm.

Back in 1984, Robert bought a C-64 and a tape drive for his personal use and then set out to "find something useful for it to do". Says Croswell, "Not being able to find suitable software, a big problem with the cassette tape format, I decided to write my own. So you might say that I got into programming out of necessity." The tape drive was soon replaced with a disk drive; a printer was added; and a second complete system was purchased for use in the classroom.

It became clear that the computer could be put to good use by the students when it was not being used by teachers for word processing or some other administrative task. Croswell tried out various science-related programs with his students, but he discovered that most did not fit his curriculum - a problem facing many teachers today. He also discovered that with many programs, students would quickly lose interest because they were not challenged by doing the same things over and over.

"Lexikos" was Croswell's attempt to solve this problem. "Lexikos" was designed to provide a learning experience within the classroom for all grades. The user is presented with 10 problems selected at random from the library of Lexikos game files previously created by the teacher. The student has up to three clues to help in determining

the answer. The types of problems range from simple vocabulary or spelling to complex problem solving questions with short specific answers.

Says Croswell, "I think the success of Lexikos is largely due to two features: allowing the teacher to determine the game content rather than the programmer; and allowing the students to challenge other students on a long-term basis." The program was written for optional use with the speech synthesizers, ComVoice and ProVoice (no longer in production). Croswell has also written programs to calculate the efficiency of transportation systems, to monitor and graph pulse rates, to instruct in metric measurement, and to develop math skills. Some of these programs require a special speech interface, or a ComVoice cartridge.

Robert Croswell's second CALC donation, "A-Plus", is a system designed to help teachers create and administer objective tests. Tests may be either multiple choice, true/false, short answers, or any combination of these. The tests may be printed on paper or on spirit masters, or taken by the student on the computer. The program has a student record management feature which lets you print or save to disk a record of a student's progress.

Both of these programs have been updated over the years by Robert. He recently sent CALC these upgraded versions, which are now on CALC Volume 8. Look for more quality programs coming from this dedicated educator. If

If you have written or acquired a public domain or shareware educational program for the Commodore, please submit it to CALC for distribution to schools, homes, community groups, and libraries. Thank you for sharing! Send disks to: CALC NEWSLETTER, P.O. Box 132, Rindge, NH 03461.

LETTERS FROM CALC READERS

DEAR MARGARET: I have done some educational programming for Oregon schools - tutorials with appropriate tests. Since I am retired and enjoy programming with a purpose, I thought I'd drop you a note to ask if there is any particular kind of educational program you need: even specific ones for specific groups. I program on the C-64, the C-128, and have recently acquired an Amiga. Any programs I write would, of course, be donated to CALC.

Bill
22 S. Main Dr., Bandon, OR 97411

DEAR MARGARET: In the March issue, F. Fazio of Stamford, Connecticut asked about crossword puzzle generators. I have had quite a bit of experience with these. At first, I purchased "Crossword Magic" and was very disappointed that it would not save puzzles as it claimed. Next, I purchased two more commercial offerings which were inferior in quality. I then received a superior quality public domain release through my TPUG subscription which I am enclosing for you. This crossword puzzle generator allows the word to be typed in first and then the definition is immediately requested. This is in contrast to the commercial products which rearrange the terms and then ask for the definitions! In addition, this program generates printed copies with far less wasted ribbon because only the immediate square is outlined as the crossword is generated on paper. It also allows for changes or additions to the previously saved crosswords by simply loading the old file and then choosing EDIT and pressing return through all of the previously saved material; even the name of the puzzle may be changed. I use this feature to add the next week's vocabulary list to the previous week's words. The program will display the creation of a crossword right on screen and make as many fits as possible; it seldom has trouble eventually fitting in

20 words at a time in the small choice size. I don't believe any of the commercial generators allowed me to select the puzzle size nor the length of definition. Long live public domain! Needless to say, I am pleased with this product and use it regularly.

William
Merced, CA 95340

Thanks, William, for the excellent review of the TPUG crossword program. I have included this fine program on CALC Volume 7. We also received this program from another CALC subscriber, James Dean, from Burlington, Vermont. Thanks to you, too, Jim!

DEAR MARGARET: I teach at a private Lutheran school, the Reformation Christian School, in Ashtabula, Ohio. This year, my class consists of eighteen 5-10 year olds. We have three computers: an Apple, a C-64, and a Plus/4. We don't have any commercial programs for the Plus/4, so my father has written some for it. Because our educational program is highly individualized, we manage to keep the computers busy most of the time. The Apple impresses visitors, but the kids are very partial to the C-64. That is the computer they use for their own programs, for typing spelling words, general typing practice, making designs, etc. During free time, it is the Commodore that they prefer to use. All but the 5 and 6 year olds change disks and load programs independently. They are all very careful, and also very competent. When I introduce a new program or activity, I teach it to one or two kids and then leave them to spread it to the rest of the group. I've found that even the youngest are thoroughly hooked on the machines and want to learn to do everything!

Penny
Jefferson, OH 44047

CALC EDUCATION DISKS

The CALC public domain program library is composed primarily of C-64 programs. We welcome program donations for all Commodore computers. Each CALC disk holds two sides of programs and costs \$10. Just specify which volume you want and send your order to: CALC, P.O. Box 132, Rindge, NH 03461.

VOL 1	VOL 2	VOL 3	* VOL 4	VOL 5	VOL 6
disk menu	menu	menu	add problems	menu	menu
spelling	usa	money	48 additions	clock teacher	plurals
lexikos	elem add/sub	story writer	fifty add prob	math for kids	vowel magic
phoncentration	alphabet	cluesearch	sp add problems	shape count	word ladder
brainstorm	guess number	fur trader	addition spec ed	shapes	homonyms.2
speller	tree tutor	sprite tutor-1	subt 3 digits	math then draw	wordfind rev.3
word scramble	robot math	sprite tutor-2	subtraction 8	random antonym	whatzit
findword	division tutor	add concepts	subtraction	verb forms	musicmaster
cell quiz	homonyms	64-stats	subtraction 2	synonyms	dreamer's adv
graphic math	munchmath	graph stats	subtraction sp	pt pepper b	elmer logo
one col math	fast reading	ruler fractions	two digit mult	word whiz	fraction action
tictacarith	page printer	countdown	mult spec ed	abc	equations 1
math worksheet	spanish	pt pepper a	3x2 mult spc	word comp safety	spedgames i
	quick check	word match	division r	computer head	alphabet letter match
side 2 menu	48 add prob	word match ii	division two	test writer	random letter match
math facts	add special ed	spelling tutor	large mult 3x3	txtmaster	letter drop
add & sub	subt 3 digits	geogramania	large mult 3x2	tm-sampletext	screen color match
49 x 51	decimal adds	color changer	large additions	lesson plan print	symbol match
35 x 35	dec div-1361	long a	large div	metronome	column calc
mul by 11	dec mult rd	muppet key read	big div rem	pitch switch	periodic table
mul x 25	fract reduce		line dec rem	joystick doodle	motion problems
combination	averages	side 2 menu	decimal mult		bloopers
bases	percent of	grades (C64 grbk)	dec mult rd	side 2 menu	
measurement	circle cir/area	grades. docs	dec line add	vocab 1-5	* side 2 menu
sequences	gradebook 128	letter grades	dec/line/add 30	vocab 6-10	PRGS For BLIND
averages	spell it	total points	decimal adds	vocab 11-15	type say/print
percent		abc123-c128	dec mult 40	vocab 16-20	fast type say/pr
fractions	side 2 menu	sprites/a-h.bin	dec/line/add1361	vocab 21-25	letter say
metric	flashquiz 64	sprites/i-p.bin	metric sheet	vocab 26-30	easy edit say
decimals	typing practice	sprites/6-9.bin	metric equals	hidden words	easy edit ltr
remainders	letter attack	sprites/q-x.bin	metrics 3x	madlib	spell blind say
roman	keybd intro	sprites/y-5.bin	range-med-aver	rhyme concen	blind/mute say
square/roots	keyboard	a+ (C64 test gen)	averages		keyboard print
fract./dec.	bilingual spell	a+ obj.p5.0.5	medians		keyboard say
perimeter	new states/caps	default c5.0.1	range/median/ave		32 wants say
distributive	new zealand	def	multi average		yes/no say
mul by 8ths	name records(grbk)	del p/c5.0.5	7 number averages		big count say
add sequences	analogies	mb c5.0.5	prime factors		samterm
	analogy practice	gen p5.1.0	fraction add		big alpha say
	comal80.can	print p5.1.0	**PLUS 68 MORE MATH PRGS		blind/deaf read
	microscope quiz	boot a+ c5.0.1			instructions.ct
	periodic loader	read p5.1.1	side 2		list/dir say.ss
		turbo a+ c5.0.0	THE WRITE STUFF DEMO		prgm inst.ct
		a+ 40	bb writer/tk.sda		easy edit.ss
		a+ 80	bb tutorials/sda		touch type.ct
			bb helpfiles.sda		sam/reciter

* VOL 4 Side 1 runs on PET, 64, 128, Plus/4, VIC-20 and requires a printer.
 * VOL 6 Side 2 donated by the Computer Foundation For Handicapped Children.

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