



MATH DITTOS 2:

Fact Controlled
ADDITION & SUBTRACTION
for Special Learners
Version 2.7

The **MATH DITTOS 2** series is a unique, fact supported approach to teaching computation. Each page in the series presents a limited number of problems with plenty of workspace. The facts necessary to complete each problem are always presented on the page in a fact reference and practice section.

The **MD2** series currently consists of three "workbooks" published as computer documents in the Adobe PDF format, requiring only the free Adobe Acrobat Reader. A fourth is under development.

- **MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners** teaches addition and subtraction simultaneously using a unique "cluster" approach.
- **MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners** presents multiplication in a careful, step-by-step, fact supported approach.
- **MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners** can be effectively used for initial instruction in subtraction with fact support and word problems. It is quite effective for the reteach that older students beginning long division frequently need.
- **MATH DITTOS 2: Fact Controlled DIVISION for Special Learners** currently under development. The release date is not certain as yet, as the writing and testing are just underway.

The concept behind the MD2 series is the same one we've used for years in reading, using a controlled "vocabulary." The vocabulary in this context is the basic multiplication facts. Each page is limited to only the facts (much like new vocabulary) presented in the factbar or factstrip. The facts are presented, practiced, and applied to computation.

MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners is a remedial, "ground-up" reteach of addition and subtraction. It is unique in that it supplies comprehensive fact support. Addition & subtraction facts are presented in 45 "Clusters," including the fact and its complement. Practice problems are controlled, or limited, to the clusters shown on each page, allowing for review of the facts, a prompt for unknown facts, and, most importantly, allowing the student to progress operationally even though facts are not mastered. Students who have not, or **can not**, master their facts may continue to learn the processes of addition and subtraction with fact control. While designed specifically with special learners in mind, MD2:FCA&SfSpL is also a valid tool for teaching computation skills to regular education students..

Each regular cluster includes only three digits. For example, cluster 19 is comprised of 3, 4, and 7 only. Students quickly learn to look for the three-number pattern. The 9 short clusters (such as cluster 18, also pictured at the right) use the same three-number pattern. Initial instruction can be enhanced with any manipulative. Facts are presented sequentially, omitting the zeros, from the 1+'s to the 9+'s. Subtraction facts are included with their addition complement.

CLUSTER 19	
$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$

After initial fact drill, clusters should be completed and checked **before** completion of the page problems. A quick examination of each page prior to assignment should reveal anything new (ie., carrying, borrowing, long column addition). A set of No Fact pages that follow the cluster fact presentation order are included for checking student performance.

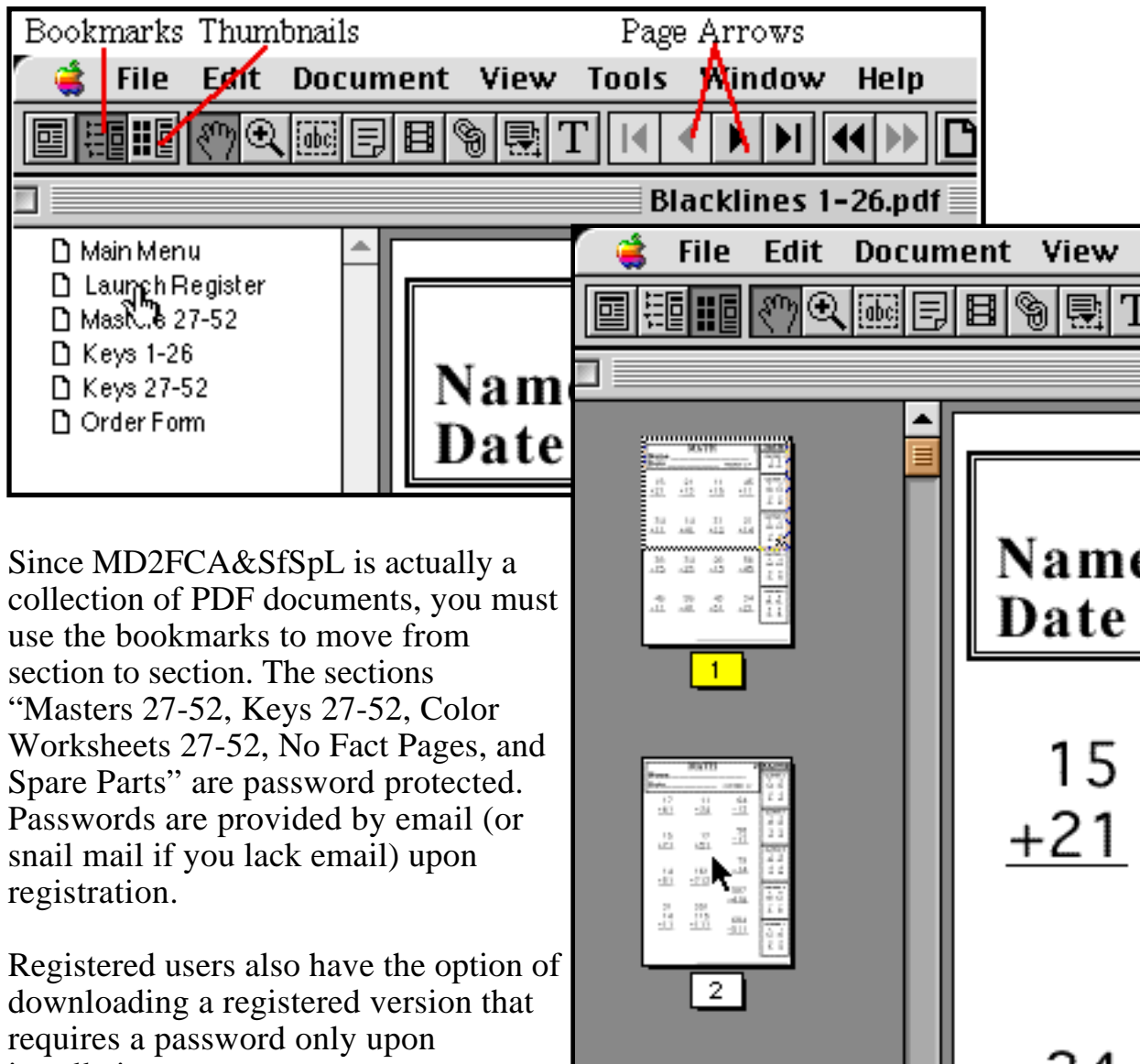
CLUSTER 18	
$\begin{array}{r} 3 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$

Few examples are included in these worksheets. These are guided practice sheets designed to be used by those who already understand the progression of computation instruction. If you're just starting out teaching and feel the need for a manual or good examples, I recommend the Spectrum Math Series, available from SRA-McGraw-Hill. It's an old Laidlaw basic math workbook series that has short, understandable examples at the top of each page.

MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners is distributed in Adobe PDF format, requiring only the free Adobe Acrobat Reader. This version of MD2:FCA&SfSpL is compatible with Macintosh and Windows 95. It may well work with other operating systems, but has not been so tested.

Navigation

Navigate through the pages of MD2FCA&SfSpL with the forward and backward arrow keys, or with Thumbnails. General areas can be selected through the Bookmarks. Select the page view from the View menu.



The image shows a PDF viewer window titled "Blacklines 1-26.pdf". The menu bar includes "File", "Edit", "Document", "View", "Tools", "Window", and "Help". The toolbar contains icons for document view, thumbnails, search, and navigation. Red arrows point to the "Page Arrows" and "Thumbnails" icons. A sidebar on the left shows a bookmarks list:

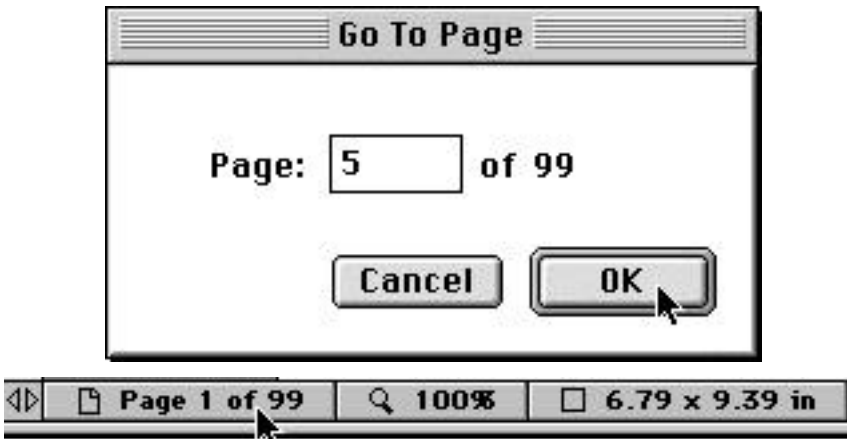
- Main Menu
- Launch Register
- Master 27-52
- Keys 1-26
- Keys 27-52
- Order Form

The main content area displays a page with a table and a large text area. The table is labeled "MATH" and contains numerical data. The text area shows "Name" and "Date" with a large "15 +21" calculation. Two yellow boxes labeled "1" and "2" are placed below the table.

Since MD2FCA&SfSpL is actually a collection of PDF documents, you must use the bookmarks to move from section to section. The sections “Masters 27-52, Keys 27-52, Color Worksheets 27-52, No Fact Pages, and Spare Parts” are password protected. Passwords are provided by email (or snail mail if you lack email) upon registration.

Registered users also have the option of downloading a registered version that requires a password only upon installation.

You can also navigate to a specific page by clicking on the bottom strip to bring up the "Go To Page" window and type in the page number you wish. This will not, however, allow you to switch between, for example, blacklines and answer keys. You must use the bookmarks for this switch.



1. Click here first.

File

- Open... ⌘O
- Close ⌘W
- Document Info ▶
- Page Setup... ⌘⇧P
- Print... ⌘P
- Preferences** ▶
- Quit ⌘Q

If the text and numbers of a page appear slightly blurred, clean your glasses and screen! Sorry, couldn't resist that one. The answer really lies in the "File" menu under "Preferences," and then "General." You will be presented with the window below. Uncheck the "Smooth Text and Monochrome Images" box. The screen clarity will improve without adversely effecting printing sharpness.

Preferences

- General... ⌘⇧G
- Notes...
- Full Screen...
- Weblink...

Single Page

on: 100 %

Max "Fit Visible" Magnification: 800 %

Substitution Fonts: Sans & Serif

Page Units: Inches

Display Large Images

Greek Text: Below 6 Pixels

Smooth Text and Monochrome Images

Use Calibrated Color for Display

No check here!

4

What do you get?

MATH				
Name	Class			Date
187	897	522	896	825
+822	-222	+276	-224	+262
382	262	242		
+226	+426	+825		
712	1,087	418	1,098	267
+258	-265	+252	-276	+422
852	1,079	272	1,077	124
+227	-222	+627	-225	+482

The Basic Stuff:

A set of 52 blackline worksheets, a set of color worksheets with identical content to the blacklines, and a set of complete answer sheets are included. Answers are set in red outline type, but will print nicely in black and white if you wish. These items are virtually unchanged from the last major revision in 1996!

MATH				FACTS
Name	Class			Date
15	21	11	45	
+21	+13	+15	+11	
34	14	31	21	
+11	+41	+12	+14	
36	34	26	56	
-15	-23	-15	-45	
45	55	43	34	
-11	-41	-31	-21	

SPARE PARTS FOLDER:

This is where I've placed all the "goodies" below. Most of these items have been included in previous ClarisWorks version releases. A few are brand new additions.

Clusters: I've included the 45 addition and subtraction clusters from which MD2:FCA&SfSpL was built. While not useable in the PDF version for building your own pages (which you can still do with ClarisWorks versions), they are a good reference.

Novelty Pages: These are a few pages where I gave in and jazzed them up a bit. The "Dino" review pages were created to add a bit of zip to the subtraction review pages.

Flashcards: A set of addition and subtraction flashcard masters are included. The individual cards are approximately 2" x 3", so that they can easily fit in a student's pocket. I print ours on heavy paper stock called bookcover stock (60 lb.).

"No Fact" pages: During the last revision of the multiplication book, I added a "no fact" section of pages that followed the fact presentation progression of the fact supported pages. It was a tremendous success. I've done that with this book as well. Although no clusters appear on the pages, facts are still controlled to those you have taught up to that point in the book.

MATH				
Name	Class			Date
109	698			
-87	-375			
238	90	543	1,181	739
+732	-32	+335	-239	+232
529	897	233	107	212
+342	-523	+853	-24	+389
237	1,176	248	80	233
+852	-943	+732	-38	+745
818	869			
-325	-332			



NAME	DATE
1,754	10,000
-897	-4,601
3,106	-1,129
90,183	25,220
-59,092	-717
80,121	-9,037
8,426	46,003
-4,768	-45,984
12,715	-4,815



Why am I locked out of some pages in the PDF version?

I have published complete, active versions of the MATH DITTOS 2 series at various times. Each time I have done so, registrations have effectively stopped! What a sad comment on all of us! So...I've tried to give you a good look at what MD2:FCA&SfSpL is. Twenty-six pages should be enough to tell if you wish to purchase the entire version.

Unfortunately, once registered in the PDF version, you will need to use the password each time you access the locked files. I don't know another way to do it using Adobe Acrobat. But, as a registered PDF user, you will have the option of downloading the complete PDF version without locks from my private, registered users upgrade site. I know that's a hassle, and I am working on another way. My programming skills simply aren't up to writing a routine to permanently unlock the files.

Why Adobe Acrobat?

The entire MATH DITTOS 2 series is now distributed only in Adobe's PDF (Portable Document Format). The change from ClarisWorks to PDF was precipitated primarily by the need to create cross-platform compatible documents.

- The MD2 series now requires only the free Adobe Acrobat Reader. Acrobat Reader is available for Macintosh, Windows 3.1, 95, NT, and other operating systems.
- Acrobat PDF documents offer greatly improved organization and navigation through their bookmarks and thumbnails.
- Acrobat seems to be a more stable format than the everchanging ClarisWorks (AppleWorks).

Editable versions in ClarisWorks 4.0 may continue to be available as time permits. At this writing, there are absolutely no plans, intent, or promise to continue support of the old ClarisWorks versions. Apple and Claris's constant file format changes and near-total lack of support of ClarisWorks developers make any further persuasion of that format impossible.

Read on for the downside of PDF!

The Downside of PDF's

With every file format there are plusses and minuses. The Adobe PDF format is no different, and there are some problems using PDF files.

Printing:

- When printing to a postscript printer, you may get all manner of error messages! I about went nuts trying to get an Apple LaserWriter 310 to correctly print the pages. The “fix” is to go back to the Acrobat Reader version 3.0 instead of 3.0.1! Whatever Adobe introduced in 3.0.1 isn't there in 3.0.
- Another trick with older LaserWriters that use their own print driver is to disable the LaserWriter extension. You can do this easily by opening the Extensions Manager control panel (or Conflict Catcher, if you have it).
- You may need to adjust the darkness setting on some printers. You'll know if the pages turn out too dark.

Editability:

- With PDF files, there is only limited text editability. To change numbers, you also must have Adobe Acrobat 3, which isn't free. But, if you're involved in education, you may be eligible for educational prices. While Acrobat runs around \$190 retail, education versions identical to the retail except for an “E” in the license number run \$39-49! I bought mine from Scantron Quality Computers. If its not in their catalog, ask! I've purchased lots of education versions from them over the years and many were not listed, but they were able to order them.

Column Problems:

- In the transfer from ClarisWorks to PDF, the right-alignment gets lost on numbers over 4 digits, numbers with commas, and numbers with the digit one! I've had to go back into each file after conversion and edit all such numbers. If I've missed one (some--hopefully not bunches), please drop me an [email](#) so that I can correct the next release.

If you find other issues with any of the MATH DITTOS 2 series that you wish I would address, again, please let me know via [email](#). This series is not a money-making operation, but I do strive to make it the very best I can. Every improvement helps us and the kids we teach daily!

REGISTRATION



Paying for **MD2** with the included Register application is fairly simple. Open the Register program (you may click on the icon at left) and enter your name, email address, mailing address, and the number of licenses you desire for each program you wish to purchase. If paying with Credit Card, you may email the information by copying the information from Register and pasting it into an email message to: sales@kagi.com. By U.S. Mail, simply save and print the data (your credit card numbers are bar coded for security) and mail to:

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Register To: Steve Wood

Email Address: swood@gte.net

Postal Address (optional): po 12
london, England

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[0] Single User @US\$10 Site @US\$125 World-Wide @US\$350

Add & Sub ClarisWorks 4 Version (Mac) by Steve Wood Bonus US\$ []

[0] Single User @US\$25 Site @US\$250 World-Wide @US\$400

Subtraction PDF Version by Steve Wood Bonus US\$ []

[0] Single User @US\$10 Site @US\$125 World-Wide @US\$350

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<http://www.kagi.com/swood/>

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I've tried to deliver a worthwhile product at a price close to what you might pay for something similar, if it existed, at your local "teacher store." Please support all shareware by paying your fees.

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No warranties are made with this product. If it blows your machine, printer, or budget totally out-of-the water, you're on your own. However, if you are dissatisfied with this product, it may be returned for a full refund. I don't need unhappy customers!

Some personal observations

These materials were originally created using ClarisWorks 2.1 on a Macintosh Performa 575. MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners was the first of the series to be released (in 1995) as shareware. I now write, revise, and assemble the series on a Power Macintosh G3 minitower equipped with an Orange Micro PC card for work on the Windows side. Windows PDF versions are also tested on an Acer Aspire.

I continue to use ClarisWorks as the base application before conversion to Adobe PDF documents, along with a host of other applications...mostly shareware. I may not to upgrade to ClarisWorks 5.0 (even though I have 2 licensed copies of it), as the change in file format would require another revision of the series only to correct graphics problems caused by the Claris converters from version 4 to 5. It would also seem that much of the education word has followed that practice and has stayed with version 4.0.

The Math Dittos 2 series was first created out of pure desperation. After 24 years of teaching mostly regular ed, I took my school's LD job for a change-of-pace and a new challenge. I had no money to purchase appropriate materials, few supplies, a hostile principal, and what my kids needed simply didn't exist on the market anyway. These pages are the result of that.

The series is designed to give fact support and to present just a few practice problems so the ADHD students won't be overwhelmed by the usual page of 25-30 itty-bitty problems with no work space. At times the series may be used with little initial instruction. It really wasn't designed as a programmed material or tutorial. It was designed to give achievable, meaningful practice/seatwork for students after direct instruction had taken place. The old truism of "Teach, Practice, and Apply" holds true here. I find when my kids performance falls off, I have often forgotten the "Teach" part and have gone directly to "Practice!"

Initially designed as a reteach or repair program for students who had an incomplete math experience (read that as "tried and failed"), the series has matured into a tool for both remedial and initial instruction for both special learners (aren't we all) and regular ed students. I have been amazed at the positive academic and attitudinal response of the kids.

During the past summer ('98), my focus changed a bit due to accepting an offer to become a regular columnist for the [MacTimes Network](#) (No, I haven't quit my day job :-). I've been accused of being rather opinionated at various times in my life: Now, someone pays me for it!

While my role at MacTimes is not primarily education oriented, many of my columns do touch such issues when I can slip it past my editor (Sorry, Jonah). Several of the articles to date deal with Macintosh sharewares and freewares that would be quite useful to teachers. My editorial index has links to all of the MacTimes columns:

<http://home1.gte.net/slwood/editorials.htm>

Questions and comments can be emailed to me at:

swood@kagi.com This address is a permanent remailer address, so that if/when I change ISP's, it stays the same.

The MD2 website is at:

<http://www.kagi.com/swood/>

The above address also links to my personal site where I have various odds and ends that may be of interest. It can also be directly accessed via:

<http://home1.gte.net/slwood/index.htm>

As with most shareware authors, the response in terms of registrations is terribly disappointing. I continue to support the MD2 series as it is something I would be doing for my classroom anyway. There certainly is no net profit. There never has been, nor will there be. However, let me encourage you (and thank those of you who do) to register the sharewares you use--mine and others. In some of our private news and discussion groups, I see an increasing tide of frustration from authors of superb products who are seeing little or no return from their efforts.

Steve Wood

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