

MATH DITTOS 2: Fact Controlled

SUBTRACTION for Special Learners

version 1.4

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MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners is a group of worksheets designed to allow students to learn to compute while learning their facts. The fact bars, strips, etc. included on each page include all and only the facts used on the page.

These worksheets are designed to be as uncluttered as possible, with large numbers and very few problems on each page. Fact support is included on all pages. These pages **were not** designed for initial instruction in subtraction, but as a review for students who had tried and failed with a traditional approach. While I do use these materials now for some initial instruction in subtraction, their best use is still as a reteaching material. **MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners** provides a much more comprehensive approach to initial instruction.

Students should first complete, grade, and correct the fact strip and then work on the computation problems.

Repeated reference to the fact supports bars and strips serves as a complement

or substitute for flash cards and other traditional fact drills. Most of the fact bars are set up in descending order of answers. This is done to make it easy for the student to complete them. The gleam in their eye tells you they've "figured out the system." They never catch on to the fact that repeated reference to the fact bars is about the same as flash card drills!

All facts presented in a factstrip or factbar are tested at least once on the page. Emphasis is usually given to the newest facts. No other facts should be on the page. The "zero minus zero" fact is assumed, and if necessary, should be directly taught.

The problems on this page use only the facts below:

12	11	10	9	8	7	6	5	4	3
-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
0	0	7	0	0	0	8	8	1	0
13	12	11	10	9	8	7	6	5	4
-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
0	0	7	0	8	0	8	8	1	8

There are no unsupported fact pages in the basic worksheets. While transition to subtracting without fact support is a goal of this program, that level will occur at different points for different students. There are lots of materials that can be used for that purpose. Almost all the materials available are not fact supported. That's why the **MD2** series was written. You may, of course, strip the fact bars and/or strips from these pages to retain the same format. There are a few unsupported pages in the extra pages folder. Fact support allows students who have not, or **can not**, master their facts to continue learning the process of subtraction.

MATH		
Name _____	Date _____	
1,068 - 322	494 - 322	1,148 - 322
1,229 - 323	568 - 233	3,573 - 3,222
1,711 - 303	1,011 - 303	1,211 - 203

Use pencil on this page and only the lines below.

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Word problems accompany each fact page. The word problem pages carry the same page number as the preceding page with a “W” appended to the number. They follow the same facts as their companion page, and do not have their own fact bar. I usually print the pages front and back and use them as a single lesson I’ve tried to keep the vocabulary level fairly low on them.

Math Word Problems	
The school is having a contest. Students are to guess how many jelly beans are in a jar. It costs 14 a guess. If there are 463 jelly beans in the jar, how far off was each of the students below.	
1. Samantha guessed 333.	
2. Bob guessed 232.	
3. Bethany guessed 223.	
4. Mark guessed 322.	
5. Who was closest?	
6. Did they all guess too high a number or too low a number (circle one)?	Too High or Too Low
Name _____	Date _____

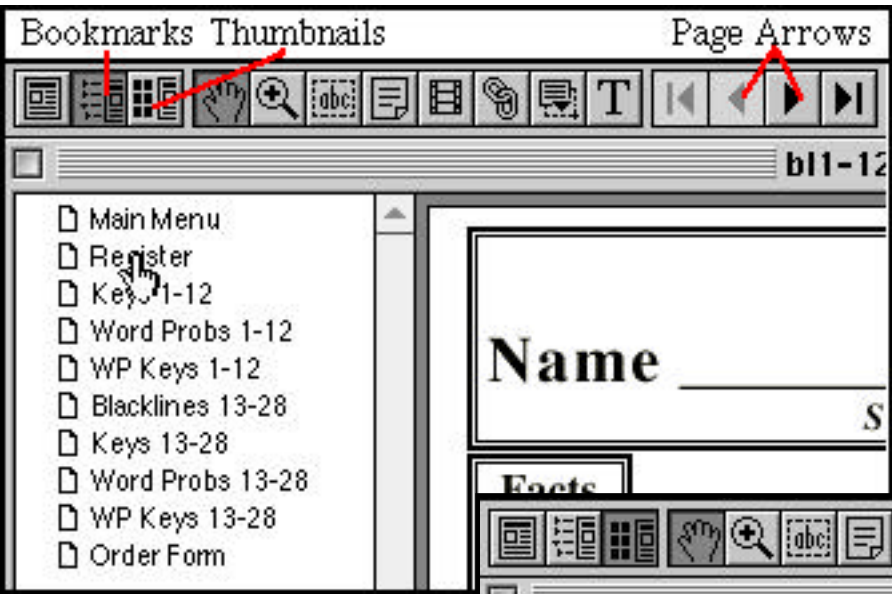
MD2:FCSfSpL is unique in that it is published as a series of computer documents, and in that it supplies comprehensive fact support. Beginning with this version 1.4 release, all distribution versions are in the Adobe PDF format, requiring only the free Adobe Acrobat Reader.

This file sat, incomplete, on my hard drive for over a year. I regularly used pages from it, but never intended to release it. For some time, I was not terribly proud of this set of documents, either. It was the poor stepchild to the other **MD2** “books.” But I found that my kids who were beginning long division and those who’d completed **MD2:FCA&SfSpL** needed a shot in the arm of subtraction. While I didn’t favor these documents, they always seemed to do the job! So I released the files and have now issued four minor upgrades to this set. It does seem to work.

MD2:FCSfSpL, like its sister publications, was written originally for my LD students who had not mastered subtraction, but had been through the traditional approaches (Read that as tried very hard and failed). These materials have provided varying levels of success to my students. Hopefully, your students will may also benefit from this approach.

Navigation

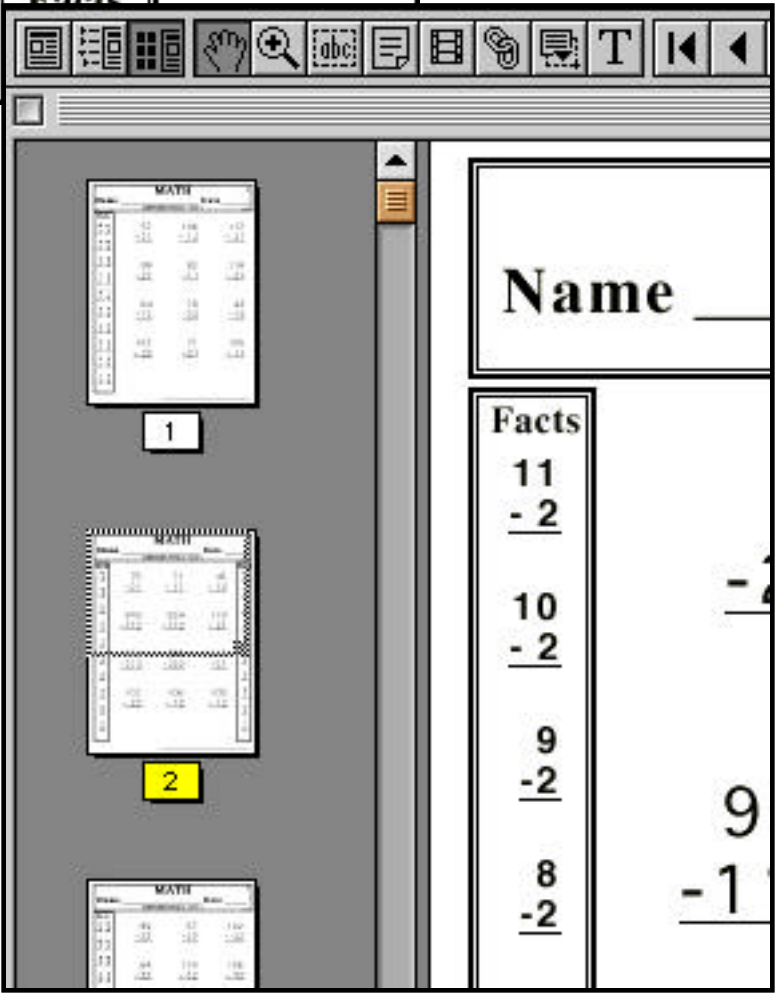
Navigate through the pages of MD2FCSfSpL with the forward and backward arrow keys, or with Thumbnails. General areas can be selected through the Bookmarks. Select the page view from the View menu.



Since MD2FCSfSpL is actually a collection of PDF documents, you must use the bookmarks to move from section to section. There are separate sections for blacklines, the word problems, and answer keys of each.

Sections beyond the first twelve pages 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. This is the version which I use at school. It can get to be a hassle having to enter a password each time you go past page twelve!



INCLUDED IN THIS PDF VERSION:

Twenty-eight fact supported worksheets, and a similar number of word problem pages make up the basic package. Complete answer keys are included.

Why am I locked out of pages 13-28 in the PDF version?

The first twelve pages of each section are fully enabled. The remaining pages require an access code, supplied upon registration. 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! (Yes, I have a few files on my hard drive that I still need to register, but...most of my sharewares are registered.) With some of the older, non-disabled files, I have often spent a good deal of time responding to questions from non-registered users, only to have them not register.

So...I've tried to give you a good look at what MD2:FCSfSpL is. Twelve pages each of worksheets, word problem pages, and answer sheets should be enough to tell if you wish to purchase the entire version.

INCLUDED IN THE CLARISWORKS REGISTERED VERSION:

Blackline Masters: The complete, latest set of masters for **MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners** is the starting point of the series, since many lack a color printer. This is the “heart and soul” of the MD2 series. The pages include fact support and a sequential set of practice problems. Many students will be able to compute, even if they are unable to totally and reliably memorize their basic facts.

Word Problems: A complement of 28 pages of fact supported word problems is included. The facts used in the word problems match the same numbered practice page. (Currently black and white, only. My thinking has been that color on these sheets would be more of a distraction than an asset. If I do produce color worksheets in version 1.x, they will, of course, be free to registered users upon request.)

MATH			10
Name _____		Date _____	
Subtraction Review 1's, 2's, 3's, & 4's			
Facts			Facts
10 11 -1 -2	1,389	91,011	12 13 -3 -4
	- 432	-10,403	11 12 -3 -4
9 10 -1 -2			10 11 -3 -4
8 9 -1 -2	7,610	10,412	9 10 -3 -4
	-1,403	- 2,203	8 9 -3 -4
7 8 -1 -2			7 8 -3 -4
6 7 -1 -2	1,011	9,114	6 7 -3 -4
	- 102	-4,043	5 6 -3 -4
5 6 -1 -2			4 5 -3 -4
4 5 -1 -2	8,476	59,589	3 4 -3 -4
	-4,421	-13,321	2 3 -3 -4
3 4 -1 -2			1 2 -3 -4
2 3 -1 -2	1,262	75,835	
	- 432	-34,132	

Name _____ Date _____

$$\begin{array}{r} 1,068 \\ - 445 \\ \hline \end{array}$$

$$\begin{array}{r} 1,396 \\ - 445 \\ \hline \end{array}$$

$$\begin{array}{r} 1,184 \\ - 544 \\ \hline \end{array}$$

$$\begin{array}{r} 1,314 \\ - 405 \\ \hline \end{array}$$

$$\begin{array}{r} 1,279 \\ - 444 \\ \hline \end{array}$$

$$\begin{array}{r} 1,069 \\ - 545 \\ \hline \end{array}$$

$$\begin{array}{r} 14,355 \\ - 5,245 \\ \hline \end{array}$$

$$\begin{array}{r} 1,112 \\ - 504 \\ \hline \end{array}$$

$$\begin{array}{r} 1,311 \\ - 404 \\ \hline \end{array}$$

$$\begin{array}{r} 1,079 \\ - 454 \\ \hline \end{array}$$

$$\begin{array}{r} 1,213 \\ - 505 \\ \hline \end{array}$$

$$\begin{array}{r} 685 \\ - 555 \\ \hline \end{array}$$

The problems on this page use only the facts below.

14	13	12	11	10	9	8	7	6	5
-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
13	12	11	10	9	8	7	6	5	4
-4	-4	-4	-4	-4	-4	-4	-4	-4	-4

MATH DR106 ©: Fact Combs & SUBTRACT 108 for Special Learners ©1995, 1997 Steven L. Hood

Color Masters: A complete set of color masters, identical in math content to the blackline computational masters, is included. The color masters just add a splash of color. I was apprehensive when I first tried them, fearful that they would be a distraction to my ADD and ADHD students. For the most part, that wasn't the case. When I had a color printer at school, I used blackline some days and color other days, depending on what I thought worked best for the student (the color does spark their interest), and whether I had time to print the color ones. I found that I relied on the color versions about 10:1! The color printer I'd taken to school went to college this fall. Surprisingly, there have been no revolts or major demonstrations over the loss of color worksheets. The kids really do miss the color printer on other projects!

Full-Page Answer Sheets: A set of full size answer sheets is included. These are as complete and accurate as I can make them. Problems and fact answers are shown. I have endeavored throughout the MD2 series to provide complete answer sheets to speed grading and diagnosis. The one omission in this book is that I have not shown the borrowing (regrouping for you youngsters).

If you have a color printer, the red answers stand out well. In black and white, the answers still stand out from the outline font style used.

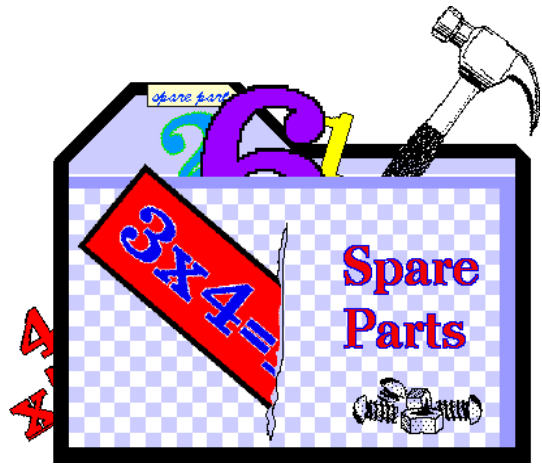
MATH		10
Name _____	Date _____	
Subtraction Review 1's, 2's, 3's, & 4's		
Facts 10 11 -1 -2 9 9 9 10 -1 -2 8 8 8 9 -1 -2 7 7 7 8 -1 -2 6 6 6 7 -1 -2 5 5 5 6 -1 -2 4 4 4 5 -1 -2 3 3 3 4 -1 -2 2 2 2 3 -1 -2 1 1 1 2 -1 -2 0 0	1,389 - 432 957 7,610 - 1,403 6,207 1,011 - 102 909 8,476 - 4,421 4,055 1,262 - 432 830	91,011 - 10,403 80,608 10,412 - 2,203 8,209 9,114 - 4,043 5,071 59,589 - 13,321 46,268 75,835 - 34,132 41,703
Facts 12 13 -3 -4 8 8 11 12 -3 -4 8 8 10 11 -3 -4 7 7 9 10 -3 -4 6 6 8 9 -3 -4 5 5 7 8 -3 -4 4 4 6 7 -3 -4 3 3 5 6 -3 -4 2 2 4 5 -3 -4 1 1 3 4 -3 -4 0 0		

MATH DR106 ©: Fact Combs & SUBTRACT 108 for Special Learners ©1995 Steven L. Hood

The Spare Parts folder includes:

Templates: I've included a few templates that you can use to make your own pages. The formatting is already done. Just plug in the numbers and go (Gee-does that make this "plug and play?").

Headers, footers, and "siders": A few documents containing headers used and some of the factbars and factstrips that you might want with the templates above.




Flash Cards: While flash cards are sold every day in millions of stores, I felt it important to include a set that matches the fact presentation of the MD2 series. The flash card templates are designed to be run on 8 1/2 x 11 lightweight cardboard. I currently use a product called white card stock (65# cover weight) that I get at Office Max. I feel it is extremely important to teach the inverse of each fact with the original fact. That's probably apparent from the first MD2 release, **MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners**, or the math "clusters" approach.


Extra Pages: This folder contains pages without fact support for some sections or sets of facts. Extra review pages (with and without fact support) are also included. Some pages that may appear in a future revision "debut" in this section.

MATH
Review of all Facts (-0's to -7's)
Name _____ Date _____
Do you know your facts—COLD?

1,692 -761	791 -767	8,384 -6,547	4,326 -2,236
1,422 -506	6,580 -747	1,190 -554	861 -356
1,459 -765	1,481 -603	4,333 -3,476	6,585 -4,321
1,337 -545	1,098 -677	1,097 -523	1,140 -403




THIS PAPER INCLUDES FACTS FROM 9's TO THE 7's.



Novelty Pages: One of the first shareware fonts I came across was Adam Wunn's Alaskan Nights. The letters have snow and ice icicles hanging from them. They just seemed a natural for winter math pages. Then I ran across Uncle Dave's Trains font. I really wish I had more time to just play with novelty fonts. Several of these fonts are included on the **Shareware Bonus** disk or folder that accompanies all ClarisWorks orders for registered versions.

REGISTRATION

Paying for **MD2** with the included Register application is fairly simple. Open the Register program () and enter your name, email address, mailing address, and the number of licenses you desire for each program you wish to purchase. Save the data from the Register program and send the data and payment to Kagi Shareware at:

Kagi Shareware
1442-A Walnut Street #392-SL
Berkeley, California 94709-1405
USA

If paying with Credit Card you can email or fax the data to Kagi Shareware. Their email address is sales@kagi.com and their fax number is 1-510-652-6589. You can either copy the data from Register and paste into the body of an email message or you can Save the data as a text document and attach that file to an email message. There is no need to compress the data file, as it's already pretty small. Kagi promptly informs me of your payment and I mail the ClarisWorks version, or the PDF version password.

One other option is to mail the order directly to me, using the Order Form provided. This is generally a good bit slower than email through Kagi.

A last option is to call Kagi Sales at: 1 (510) 658-5244.

Note: There is an extra \$5 charge if you order this way!

IMPORTANT:

You have a choice in registering. If all you need is the PDF version, simply order that version for \$10.00. If you want or require the ClarisWorks for Macintosh editable version, with the extras noted, order that version for \$25 (Includes use of the PDF versions for Mac and Win also--you get both!).

Current pricing for **MD2** is as follows:

PDF Version only: \$10

ClarisWorks and PDF Version: \$25

Discounts for multiple users are available using the Register program. Site and worldwide licenses are also available at just slightly less than exorbitant prices. Actually, they do reflect a substantial savings where a whole school, special ed cooperative, or system wish to use the programs.

Online registration may be available at my website sometime soon:

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

Registration will entitle you to free upgrades (ie., PDF registered users get new PDF versions free, ClarisWorks registered users get ClarisWorks and PDF updates and upgrades fee). PDF registered users have the option of paying the difference at a later date to upgrade to ClarisWorks versions.

LEGAL STUFF

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Why PDF?

I have been looking for a way to post these files for both Macintosh and Windows platforms for some time. In January, 97, I began converting the **MD2** series to the Adobe PDF format. While the files will no longer be editable in this format, they will be available to both Mac and Windows platforms, using the free Adobe Acrobat Reader. Editable versions in ClarisWorks 4 are still available to registered users. There are no promises for ClarisWorks 5. My limited work with it has shown that it will not properly import **MD2** documents. Whether I’ll rewrite to CW 5, or abandon ClarisWorks and only produce PDF versions is still undecided at this writing.

I really do appreciate comments and suggestions. This “book” is the third in the **MD2** series. It actually was begun first! I already have a file on the hard drive of things I’d like to do to make this book and the series better. Most can’t be implemented for this release, or it would never get out. One of the joys of teaching with your own materials is that they are constantly adaptable. One of the headaches of teaching with your own materials (and publishing them) is that they are constantly adaptable. I’ve sleepily taught many days after having some bright idea at 11 P.M. and then writing and printing until 2 or 3 A.M.

There are several other projects that may be added to this series. An obvious hole in the operations is division. I've worked with several different approaches, but really haven't felt good enough about any of it to take the time to put it together and publish it. The page at right is one of them. Note that the page 54 stands for the divisor, not the number of pages! I hope next semester to begin putting something together in division that may be posted. For my current students, just taking the textbook work and enlarging it into 24 point Geneva solves an awful lot of division problems.

Name		MATH	Date	54
First Controlled Division				
54	x 1	44 r 34	88 r 31	
54	54)2410		54)4513	
54		-216		-432
x 2		250		193
100		-216		-162
54		34		31
x 3		62 r 9		75 r 10
162				
54	54)3357		54)4060	
x 4		-324		-372
216		117		239
54		-108		-270
x 5		9		10
270				
54				
x 6		901		682 r 43
324				
54	54)48654		54)36871	
x 7		-486		-324
378		95		447
54		-95		-432
x 8		54		151
432		-54		-108
54				43
x 9				
486				

These materials were originally created entirely on a Macintosh Performa 575. I currently run System 8.1b4 with 36 MB RAM and print with an Epson Stylus Color Inkjet Printer. At school, I use an LCIII and a PM 7200/75 with a LaserWriter Select 310. The materials work well on either machine and several other



vintage machines in the building. I took an "old" Epson Stylus Color Inkjet Printer to school to print color worksheets for two years. With the next round of kids off to college, however, we're back to black and white in my classroom. The Epson is off to college!

Besides being a member of the Claris Solutions Alliance, I'm also a "union" teacher (Indiana State Teachers Association & National Education Association), and a longtime member of the Council for Exceptional Children. If we teachers don't



speaking out for public education, "our kids" will be left with second-class public education institutions. While I don't agree with every idea proposed by the professional organizations to which I belong, they are now the most viable advocates we have for ensuring that ALL children have the opportunity for a free, appropriate, public education. I fear that before I retire, the guarantee of that opportunity will be abridged by selfish, "mean-spirited" politicians in Washington, D.C., and in my original hometown and state capital, Indianapolis, not to mention misguided local school boards and administrators.

DISCLAIMER

No warranties are made for this product.

If it blows your computer or budget totally out of the water, I'm not responsible. However, if you are dissatisfied with any registered version of the **MD2** series, please write, email, or call. IF WE CAN'T WORK IT OUT, YOUR MONEY WILL BE CHEERFULLY REFUNDED.

Finally, thank you again for wading through this garish and rambling Read Me,... and in advance for registering your copy of **MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners**. Again, I hope these materials will prove as useful and beneficial to you and your students as they have been to my students and me.

Questions and comments can be emailed to me at:
swood@kagi.com

I maintain a website at:
<http://www.kagi.com/swood/>

Your can reach me by U.S. Mail at:

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Steve Wood
12/13/97

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