

MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners

version 1.7f

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 complete and one incomplete "workbook" published as computer documents in the Adobe PDF format, requiring only the free Adobe Acrobat Reader.

- MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners (FCAS) teaches addition and subtraction simultaneously using a unique "cluster" approach.
- MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners (FCM) presents multiplication in a careful, step-by-step, fact supported approach.
- MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners (FCS) 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 (FCD) is still under development. A few pre-release pages are available for download.

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 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 or fact bar and then work on the computation problems. Repeated reference to the fact supports bars and strips serves as a complement or substitute

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	8	7	6	5	4	3	2	1	0
13	12	11	10	9	8	7	6	5	4
-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
0	8	7	6	5	4	3	2	1	0

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.

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 MATH DITTOS 2 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.

Facts

$$\begin{array}{r} 16 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 10 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -6 \\ \hline \end{array}$$

MATH 6		
Name _____	Date _____	
Subtraction Facts 2's & 3's 10-7-01		
$\begin{array}{r} 1,068 \\ - 322 \\ \hline \end{array}$	$\begin{array}{r} 494 \\ - 322 \\ \hline \end{array}$	$\begin{array}{r} 1,148 \\ - 322 \\ \hline \end{array}$
$\begin{array}{r} 1,229 \\ - 323 \\ \hline \end{array}$	$\begin{array}{r} 568 \\ - 233 \\ \hline \end{array}$	$\begin{array}{r} 3,573 \\ - 3,222 \\ \hline \end{array}$
$\begin{array}{r} 1,711 \\ - 303 \\ \hline \end{array}$	$\begin{array}{r} 1,011 \\ - 303 \\ \hline \end{array}$	$\begin{array}{r} 1,211 \\ - 203 \\ \hline \end{array}$

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

11	10	9	8	7	6	5	4	3	2
-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

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.

6W Math Word Problems 6	
2's & 3's	
<p>The school is having a contest. Students are to guess how many jelly beans are in a jar. It costs 1¢ a guess. If there are 463 jelly beans in the jar, how far off was each of the students below.</p>	
<p>1. Samantha guessed 333.</p>	
<p>2. Bob guessed 232.</p>	
<p>3. Bethany guessed 223.</p>	
<p>4. Mark guessed 322.</p>	
<p>5. Who was closest?</p>	
<p>6. Did they all guess too high a number or too low a number (circle one)?</p> <div style="display: flex; justify-content: space-between;"> Too High Too Low </div>	
Name _____	Date _____

What do you get?

Blackline Masters: A set of 28 blackline worksheets is the core of MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners. Each page presents students with a set of facts to be completed and checked before attempting the practice problems on the page. Practice problems employ only the facts presented on that page.

10W Math Word Problems 10	
Subtraction Facts 2's, 3's, 4's & 5's	
<p>1. A basketball game drew 129 people. If 64 were for the visiting team, how many were for the home team?</p>	
<p>2. Bob scored a game-high 28 points. Another player scored 13 points. How many more points did Bob score than the other player?</p>	
<p>3. Little Billy brought \$1.00 to the game. He spent 20¢ (20¢) for a bag of popcorn. How much does he have left?</p>	
<p>4. The final score was 55-32. How many more points did the winning team score than the other team?</p>	
Name _____	Date _____

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.

Full-Size Answer Sheets: A set of full size answer sheets is included. I abhor those back of the book, four shrunken pages per page answer keys sometimes supplied with commercial workbooks.

The answer keys 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.

MATH 10		
Subtraction Facts 2's, 3's, 4's & 5's		
$\begin{array}{r} 1,389 \\ - 432 \\ \hline \end{array}$	$\begin{array}{r} 91,011 \\ - 10,403 \\ \hline \end{array}$	$\begin{array}{r} 7,610 \\ - 1,403 \\ \hline \end{array}$
$\begin{array}{r} 1,011 \\ - 102 \\ \hline \end{array}$	$\begin{array}{r} 9,114 \\ - 4,043 \\ \hline \end{array}$	$\begin{array}{r} 8,476 \\ - 4,421 \\ \hline \end{array}$
$\begin{array}{r} 1,262 \\ - 432 \\ \hline \end{array}$	$\begin{array}{r} 75,835 \\ - 34,132 \\ \hline \end{array}$	

MATH 10		
Subtraction Facts 2's, 3's, 4's & 5's		
$\begin{array}{r} 1,389 \\ - 432 \\ \hline 957 \end{array}$	$\begin{array}{r} 91,011 \\ - 10,403 \\ \hline 80,608 \end{array}$	$\begin{array}{r} 7,610 \\ - 1,403 \\ \hline 6,207 \end{array}$
$\begin{array}{r} 1,011 \\ - 102 \\ \hline 900 \end{array}$	$\begin{array}{r} 9,114 \\ - 4,043 \\ \hline 5,071 \end{array}$	$\begin{array}{r} 8,476 \\ - 4,421 \\ \hline 4,055 \end{array}$
$\begin{array}{r} 1,262 \\ - 432 \\ \hline 830 \end{array}$	$\begin{array}{r} 75,835 \\ - 34,132 \\ \hline 41,703 \end{array}$	

The one omission in this book is that I have not shown the borrowing (regrouping for you youngsters).

In previous versions (through 1.6), I used a bold, red, outline font for answers. This allowed the answers to stand out, even when printed in black and white without overpowering one with a river of red. Unfortunately, some printing problems have occurred with printing the outline answers in a very few specific computer-printer combinations. Answers are now all in bold face red.

SPARE PARTS:

This is where I put the extras.

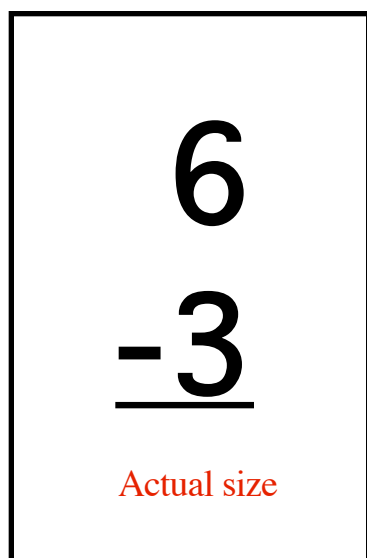
Color Masters: A matching set of color worksheets with identical content to the blackline masters is provided for those with color printers or copiers. While for the most part, these masters just add a bit of color outlining, I was apprehensive when I first tried them that they would be a serious distraction to my ADD and ADHD students. For the most part, that hasn't been the case. The color pages often seem to add the motivation my kids need to get started.

MATH Subtraction Facts 4's & 5's			
Name _____	Date _____		
1,068 - 445	1,396 - 445	1,184 - 544	1,314 - 405
1,279 - 444	1,069 - 545	14,355 - 5,245	1,112 - 504
1,311 - 404	1,079 - 454	1,213 - 505	685 - 555

The problems on this page use only the facts below:

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

MATH DITTOS © Don Cookbooks SUBTRACT 2 for Special Learners, © 1995, 1997, 1998, 1999



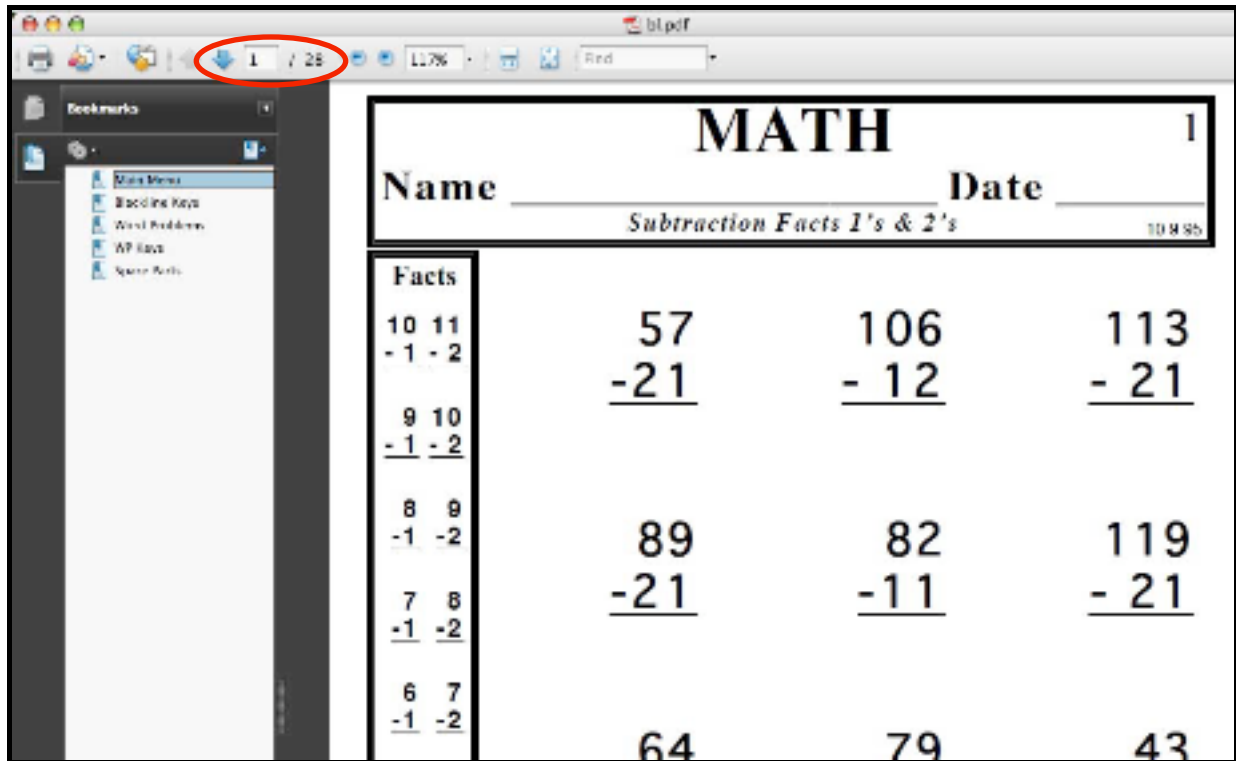
Small Subtraction Flashcards: While flash cards are available for sale every day in millions of stores, I felt it important to include a set that matches the fact presentation of the MATH DITTOS 2 series. There are 18 facts per page. The individual cards cut to approximately 2" x 3", so that they can easily fit in a student's pocket. That gives them at least a 50-50 chance of making it home with the student.

Large Addition & Subtraction Flashcards: The large flashcard masters have just 4 facts per page. They're excellent for group drill and instruction.

The large flashcard masters are the same ones included in MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners. That means they include both addition and subtraction problems presented in the cluster approach (i.e., 2+3, 3+2, and 5-2, 5-3). It seemed a little silly to create a subtraction only set when the full cluster set is so much more usable. Or, maybe I'm just getting lazy! I print the flashcards on heavy cardstock. I also laminate the large flashcards.

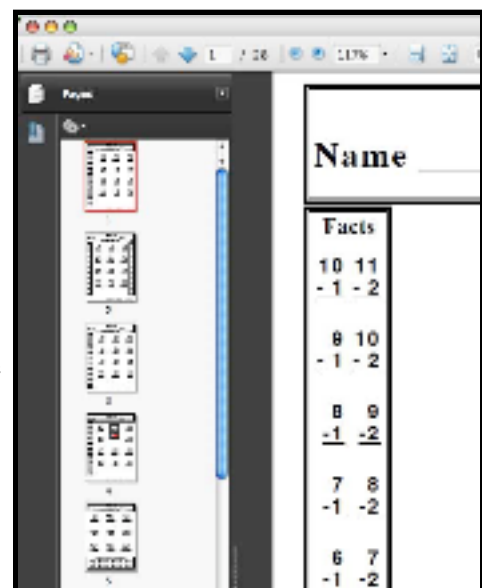
Navigation

Moving about inside MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners in the Adobe Acrobat Reader is accomplished several ways. Movement from page to page is easily accomplished with the first page, previous page, next page, and last page arrows at the top of the Reader window.



MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners is actually a series of integrated PDF documents. Navigation from section to section is most easily accomplished by using the bookmarks at the left of the page. Clicking on a bookmark will take you to the document or the page desired.

You may also click at the top of the Bookmarks column to reveal Pages or Thumbnail images of the pages in that section. Clicking on a page image navigates to that page.



DISCLAIMER

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.

Legal Stuff

(Otherwise known as a software license!)

The MATH DITTOS 2 series of fact controlled worksheets became freewares as of January 1, 2010. The entire series continues to be protected under U.S. Copyright registration, but users may download, print, and use these materials without charge. This PDF distribution may be freely copied and distributed in its original form with all accompanying documentation to others as long as no fee is charged. Beyond teachers (and homeschoolers) using these materials for classroom instruction, all other rights to the series are retained by the author.

While no payment is required for use of these materials, clicking through one of my affiliate advertisers when you plan to buy something online will help support this series and the Educators' News web site. It would be much appreciated.

Affiliate Advertisers Link:

<http://www.mathdittos2.com/ednews/advertisers.html>

Contact

Questions and comments can be emailed to me at:
swood@mathdittos2.com

The MATH DITTOS 2 series is available at:
<http://www.mathdittos2.com/>

Steve Wood
Steven L. Wood Publications
6725 W County Rd 50 N
Sullivan, IN 47882

The original versions of the first three MATH DITTOS 2 workbooks were written on a 33 MHz Macintosh Performa 575. It sported a 13" screen and a whopping 36 MB of RAM!



1/1/2010