FLASHMASTER®
MATH TABLES

Guide for Teachers and Parents
(Website version)

Important:

TEACHERS AND PARENTS, for the sake of their students and children, should be sure to:

first do the **"Short and Fun Introduction to the FlashMaster"** on the last page (27) of this Guide, and

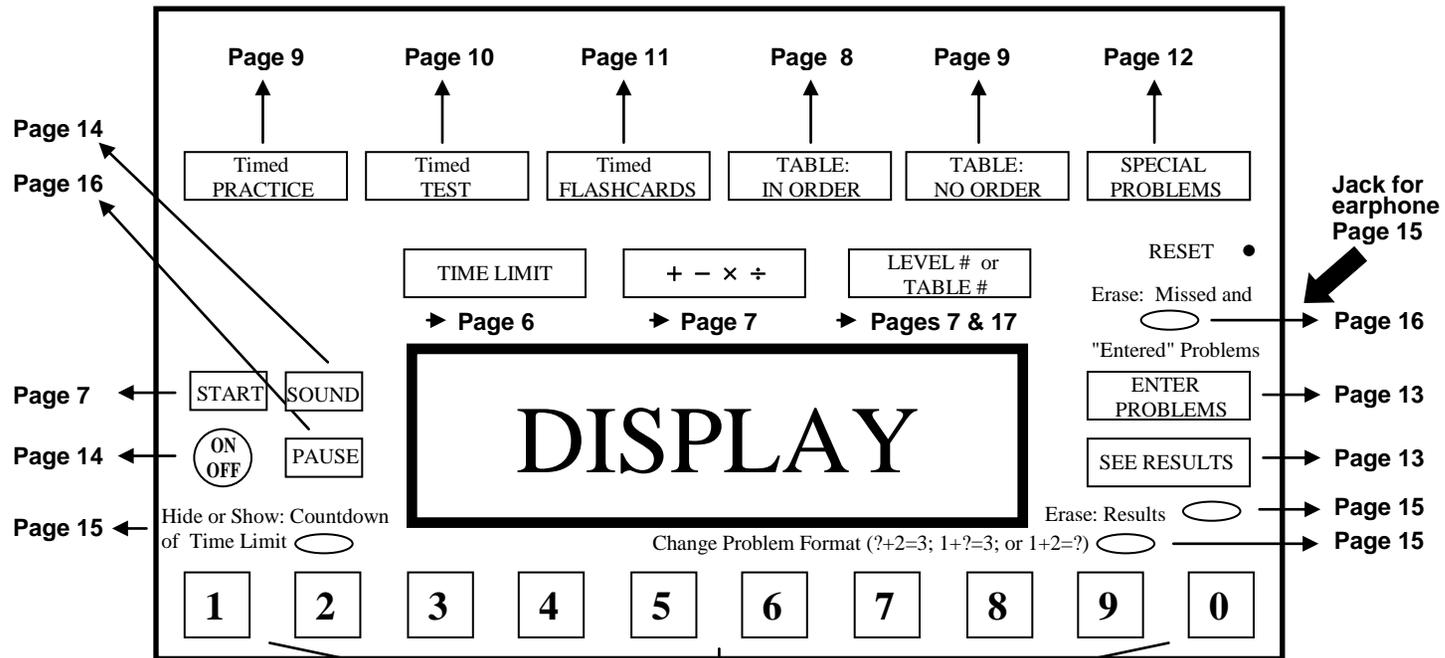**then** carefully read this Guide. (please)

TEACHERS SHOULD PRACTICE 10 to 15 minutes a day using the "Flashcards" learning activity until they can often score 90% using the **1.6-second** per-problem time limit (or a shorter one) at **Level 7** in addition and multiplication. Until they can, they may doubt the fact that most students can do the same.

INTRODUCING CHILDREN to the FlashMaster:
Although the FlashMaster has many powerful features, most of them are obvious and easy to use. Normally, even young first-time users should be challenged—as in the case of a fun puzzle—to spend at least their first 15 minutes (more or less by themselves) trying to figure out as much as possible about the FlashMaster and each of its keys by playing with it while looking for "clues" in its display and in the labels on its top.

INDEX TO EXPLANATIONS OF KEYS
(To learn about a key or a related function, go to the page indicated.)

Page 9	**Page 10**	**Page 11**	**Page 8**	**Page 9**	**Page 12**
Timed PRACTICE	Timed TEST	Timed FLASHCARDS	TABLE: IN ORDER	TABLE: NO ORDER	SPECIAL PROBLEMS

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Page 16

Jack for earphone Page 15

TIME LIMIT	+ − × ÷	LEVEL # or TABLE #
➤ **Page 6**	➤ **Page 7**	➤ **Pages 7 & 17**

RESET ●

Erase: Missed and → **Page 16**

"Entered" Problems

Page 7 ← START SOUND

Page 14 ← ON OFF PAUSE

DISPLAY

ENTER PROBLEMS → **Page 13**

SEE RESULTS → **Page 13**

Erase: Results → **Page 15**

Page 15 ← Hide or Show: Countdown of Time Limit

Change Problem Format (?+2=3; 1+?=3; or 1+2=?) → **Page 15**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

NUMBER KEYS

Page 7: answering problems

Pages 10 & 11: how to make two or more FlashMasters present the exact same "Test" or "Flashcards" activity (including the same problems in the same order, etc.)

Page 25: "speed tips" for entering answers quickly

Install new batteries (see page 4) if immediately after the FlashMaster is turned on, "REPLACE BATTERIES" is blinking.

If you have a question, suggestion or problem, please contact us at:
1-800-884-3531 or info@flashmaster.com

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SAFETY and MAINTENANCE

HOW TO USE THE FLASHMASTER

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SAFETY INSTRUCTIONS

♦ **IF EARPHONES ARE USED, BE SURE THEY ARE NOT TOO LOUD.**
♦ **ONLY ADULTS SHOULD REMOVE OR INSTALL BATTERIES.**
- If a battery is swallowed, call a doctor immediately.
- Batteries should be kept away from children who still might put them in their mouths.
- Use only 1.5-volt alkaline "AA" batteries; 2 of them.
- Install batteries with correct polarity—that is, with the "+" and/or "−" on both batteries aligned with the "+" and/or "−" markings in the battery compartment.
- Use only batteries of the same type.
- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Do not use rechargeable batteries.
- Do not try to recharge non-rechargeable batteries.
- The supply terminals must not be short-circuited.
- Remove exhausted or corroded batteries.
- Dispose of old batteries lawfully and promptly.
- Remove batteries to prevent corrosion if the FlashMaster will not be used for at least a month.
- Do not expose batteries to fire or heat since batteries may explode or leak corrosive or toxic material, etc.

HOW TO INSTALL BATTERIES

Following the safety instructions above, **an adult** should:

1. Push open the **loosely-hinged** battery-compartment door **after** carefully loosening its screw with a screwdriver. (The screw should **not** be removed entirely from the door.)
2. Install two new AA 1.5-volt alkaline batteries with correct polarity (+,−) following the illustration inside the battery compartment.
3. Close the compartment door and tighten the screw.

If "REPLACE BATTERIES" blinks, new batteries are needed. Installing batteries "resets" the FlashMaster, erases its temporary memory, and restores all its original settings.

CARE OF THE FLASHMASTER

- Use common sense to protect the FlashMaster and children.
- **Handle the FlashMaster gently and carefully.**
- **Do not drop the FlashMaster.**
- **When the FlashMaster is carried in a backpack,** it should be located, cushioned, and/or wrapped in order to protect it—especially its display ("LCD") and keys.
- Keep it dry. If it gets wet, dry it immediately.
- Do not expose it to severe cold or high heat. For example, do not leave it on the dashboard of a car.
- Wipe it with a damp cloth to clean it. Do not use cleaning solvents or strong detergents or chemicals.

NOTICES

Required by Federal Communications Commission:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Required by Industry Canada:

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

RECYCLING IN UNITED KINGDOM

For information about recycling a FlashMaster in the United Kingdom, go to: www.recycle-more.co.uk.

Flashmaster LLC's EEE Producer Registration Number for the UK is: WEE/BK0198VR.

HOW TO GET STARTED QUICKLY

If your FlashMaster is not already turned on, push the **"ON/OFF" key**.

STEP 1:   Push a Yellow Key to Select One of the 6 "Learning Activities"

Select one of the FlashMaster's 6 "learning activities": "**Practice**"; "**Test**"; "**Flashcards**"; "**Table: In Order**"; "**Table: No Order**"; and "**Special Problems**". (These activities are explained below.) **Just push the yellow key with the label of the learning activity that you want.** The name of the activity will appear in the bottom of the FlashMaster's display over the yellow background.

STEP 2:   Use the 3 White Keys to Adjust: Time Limit; Arithmetic Operation; Level Number; and Table Number

By pushing one or more of the **3 white keys** one or more times, you can adjust the following settings (shown in the display) when they apply to the learning activity that you have selected:

- **Time Limit**
- **Arithmetic Operation (+, −, ×, or ÷)**
- **Level Number**
- **Table Number**

Time Limit

In the "Practice", "Test", or "Special Problems" activity, you can select a per-activity Time Limit of 180, 150, 120, 90, 75, 60, 45, or 30 seconds **for the entire activity**. Just push the white **"TIME LIMIT" key** until the desired number appears in the upper left corner of the display.

In the "Flashcards" activity, you can select a per-problem Time Limit of 9, 7, 5, 4, 3, 2.5 (two and five tenths), 2.0, 1.6, 1.3, or 1.0 seconds **for each of the** (normally 30) **problems** that will be presented in the activity. Just push the white **"TIME LIMIT" key** until the desired number appears in the upper left corner of the display. Actually, the number displayed is the per-problem Time Limit for problems with **single**-digit answers. 0.2 and 0.3 seconds more time is allowed for the 1 and 2 additional key presses needed to enter 2-digit and 3-digit answers. (See page 11.)

The "Table: In Order" activity and the "Table: No Order" activity are not timed. When either of these activities is selected, the "**TIME LIMIT**" key has no effect, and no Time Limit is displayed.

<u>**Arithmetic Operation** (+, −, ×, or ÷)</u>

Except in the "Special Problems" activity, you can select addition, subtraction, multiplication, or division. Just push the white **"+ − × ÷" key** until the symbol of the desired operation appears (approximately in the middle of the display).

In the "Special Problems" activity, the FlashMaster presents problems stored in its memory that have been previously missed or "entered" by you and that may include two or more arithmetic operations. Therefore, in this activity, pushing the "+ − × ÷" key has no effect, and no arithmetic symbol is displayed until the activity starts.

<u>**Level Number or Table Number**</u>

In the "Practice", "Test" or "Flashcards" activity, you can select among 9 possible Levels numbered in order of increasing difficulty from 1 to 9. Just push the white **"LEVEL # or TABLE #" key** until the desired Level number appears in the upper right corner of the display to the right of "**LEVEL**".

To see which problems are <u>emphasized</u> in which Levels, look at the back of the FlashMaster or on pages 18-20 below.

In the "Table: In Order" or "Table: No Order" activity, you can select among: the "0" to "9" "tables" if addition or subtraction is selected; the "0" to "12" "tables" if multiplication is selected; and the "1" to "12" "tables" if division is selected. Just push the white **"LEVEL # or TABLE #" key** until the desired Table number appears in the upper right corner of the display to the left of "**−TABLE**".

In the "Special Problems" activity, the FlashMaster presents problems stored in its memory that have been previously missed or "entered"—**not** problems from a Table or Level. Consequently, in the "Special Problems" activity, pushing the "**LEVEL # or TABLE #**" key has no effect, and no Level or Table number is displayed.

STEP 3: Push the Green "START" Key to Start the Selected Learning Activity

Push the **green "START" key** to start the learning activity selected in Step #1 with the settings selected in Step #2.

STEP 4: Answer the Problems Presented Until the Learning Activity Ends

After you "start" a learning activity, the FlashMaster presents problems until the activity automatically ends. **Use the number keys to enter answers from left to right.** For example, if you see "**6×2=?**," first push the "**1**" key and then the "**2**" key.

When a learning activity is completed, the results of the activity are displayed automatically.

The FlashMaster shows the following information across the middle of its display from left to right:

- the number of correct answers;
- the number of problems attempted; and
- the percentage of attempted problems that was answered correctly.

The FlashMaster also displays (among other things) the following information **in the usual locations:**

- the type of learning activity;
- the seconds that **actually elapsed** during a "Practice", "Test" or "Special Problems" activity;
- the per-**problem** Time Limit in the case of a "Flashcards" activity;
- the arithmetic operation (+, −, ×, or ÷) **except** in a "Special Problems" activity;
- the Level number in the case of a "Practice", "Test" or "Flashcards" activity; and
- the Table number in the case of either of the "Table" activities.

If at least 19 problems were attempted in a completed activity and all were answered correctly, "**WOW!!**" blinks.

THE 6 "LEARNING ACTIVITIES"

The FlashMaster has 6 "learning activities" or modes. Select one by pushing its yellow key.

The "Table: In Order" Activity

This learning activity is primarily intended **for students who are just beginning to learn a new "table"** (for example, the 8-table in multiplication).

To select this activity, push the yellow **"TABLE: IN ORDER" key**. Next, use the white "**+ − × ÷**" key to select an arithmetic operation and then the white "**LEVEL # or TABLE #**" key to select a Table number. Then push the green "**START**" key, and the FlashMaster will present all the problems in the selected Table **in ascending and then descending order**.

If you miss a problem, the FlashMaster makes a negative noise and displays "**NOT CORRECT**" and then presents the problem again. If you miss a problem twice in a row, the FlashMaster shows you the correct answer before having you try the problem again.

There is **no time limit** in the "Table: <u>In</u>-Order" activity. As soon as all the problems in the selected Table have been presented and correctly answered in ascending and then descending order, the activity ends and its results are displayed automatically.

The "Table: <u>No</u> Order" Activity

To select this activity, push the yellow **"TABLE: <u>NO</u> ORDER" key**. Next, use the white "**+ − × ÷**" key to select an arithmetic operation and then the white "**LEVEL # or TABLE #**" key to select a Table number. Then push the "**START**" key, and the FlashMaster will present all the problems in that Table **in random order**—each problem once if addition or multiplication is selected and each problem twice if subtraction or division is selected.

If you miss a problem, the FlashMaster makes a negative noise and displays "**NOT CORRECT**" and **then** presents the problem again. If you miss a problem twice in a row, the FlashMaster shows you the correct answer before letting you try the problem again. **Also**, after you correctly answer a problem that you have missed and then correctly answer a different problem, the FlashMaster presents the missed problem **still another time** to reinforce your mastery of it.

There is **no time limit** in the "Table: <u>No</u> Order" activity. As soon as all the activity's problems have been presented and correctly answered, the activity ends and its results are displayed automatically.

The "Practice" Activity

The "Practice" activity is the FlashMaster's **general purpose "instructional" learning activity**. The FlashMaster: (1) presents either (depending on the Level selected) a focused or an all-inclusive group of problems in the selected one of the four arithmetic operations; (2) repeats each missed problem until it is correctly answered; (3) repeats the missed problem again immediately after both it and a different problem have been answered correctly; and (4) displays the correct answer to any problem missed twice in a row.

To select this activity, push the yellow **"Timed PRACTICE" key**. Next, use the 3 white keys to adjust: (1) the **per-<u>activity</u> Time Limit**; (2) the arithmetic operation (+, −, ×, or ÷); and (3) the Level number. Then push the green "**START**" key, and the FlashMaster will present problems of the selected arithmetic operation until the Time Limit counts down to zero. The selected Level number controls how frequently specific problems of the selected arithmetic operation tend to be presented (for example: never, 1% of the time, 4% of the time, etc.).

When its Time Limit expires, the activity ends and your results are automatically displayed.

If you miss a problem, the FlashMaster makes a negative noise and displays "**NOT CORRECT**" and then presents the problem again. **If you miss a problem twice in a row, the FlashMaster displays the correct answer before having you try the problem again.** **Also**, after you correctly answer a problem that you have missed and then correctly answer a different problem, the FlashMaster presents the missed problem **still another time** to reinforce your mastery of it.

The "Test" Activity

Compared to the "Practice" activity, the "Test" activity puts more **emphasis on presenting a large number of problems within the per-activity Time Limit**, and less emphasis on providing instruction in connection with missed problems. Like the "Flashcards" activity (explained below), the "Test" activity is **primarily designed (1) to give tests <u>or</u> (2) to develop "automaticity"** (the ability to answer problems with speed and accuracy without calculating).

The "Test" activity can be used to give **identical tests to a class of students** individually equipped with FlashMasters. Unlike comparable written tests used in many elementary schools, these (paperless) tests are **automatically timed and scored**. And, after a test, using the "Special Problems" activity (explained below), **students can see and practice** (in random order) **the problems missed by them on the test.**

To select the "Test" activity, push the yellow **"Timed TEST" key**. Next, use the 3 white keys to adjust: (1) the **per-<u>activity</u> Time Limit**, (2) the arithmetic operation (+, −, ×, or ÷), and (3) the Level number. Then push the green "**START**" key, and the FlashMaster will present problems of the selected arithmetic operation until the Time Limit counts down to zero. The selected Level number controls how frequently specific problems of the selected arithmetic operation tend to be presented (for example: never, 1.25% of the time, 5% of the time, etc.).

If you miss a problem, the FlashMaster makes a negative noise (unless sound has been turned off by the "**SOUND**" key). **But (1) the display does not indicate that the problem was missed, (2) the problem is not then repeated, and (3) you are never prompted with the correct answer to a missed problem.** Thus, if sound has been turned off, you are not informed as to how successfully you are answering the problems until you learn your results after completing the activity—just as in a normal written test.

You can make two or more FlashMasters (of this model) **present the exact same "Test" activity** (the same problems in the same order, etc.) by pressing the same number key on each of them before starting the activity (with the "**START**" key). The number pressed (the "Specific Sequence Number") appears in the right side of the yellow portion of the display. Of course, the FlashMasters must also be set for the same arithmetic operation and the same Level, but the same Time Limit need not be used.

When a "Test" activity's Time Limit expires, results are automatically displayed, including any Specific Sequence Number (see preceding paragraph).

The "Flashcards" Activity

Like the "Test" activity, the "Flashcards" activity is excellent for testing and puts less emphasis on prompting than on presenting a lot of problems in a given period of time. **Its per-problem Time Limit is especially effective in: (1) developing automaticity** (the ability to answer problems with speed and accuracy without calculating) **and (2) motivating students to stay focused on answering problems.**

To select this activity, push the yellow **"Timed FLASHCARDS" key**. Next, use the 3 white keys to adjust: (1) the per-**problem** Time Limit, (2) the arithmetic operation (+, −, ×, or ÷), and (3) the Level number. Then push the green "**START**" key, and the FlashMaster will present a specified number (normally 30) of problems of the selected arithmetic operation. The selected Level number controls how frequently specific problems of the selected arithmetic operation tend to be presented (for example: never, 0.25% of the time, 3.75% of the time, etc.). **Each problem must be answered not only correctly but also within the selected per-problem Time Limit** except that if the problem has a 2-digit answer or a 3-digit answer, the FlashMaster waits 0.2 seconds or 0.3 seconds, respectively, before starting the countdown of the Time Limit (because of the additional time needed to push 1 or 2 additional number keys to enter the answer).

If you miss a problem (because you fail to answer it correctly **or** before its Time Limit counts down to zero), the FlashMaster not only emits a negative noise (unless sound is turned off) but also displays "**NOT CORRECT**". But the **missed problem is not then repeated, and you are never prompted with the correct answer to a missed problem.**

The number of problems to be presented in a "Flashcards" activity is displayed over the display's yellow background to the left of "**FLASHCARDS**". **When the FlashMaster is turned from off to on, it is always set to present 30 problems in the "Flashcards" activity, but this number can be changed** to 20, 10, 80, 70, 60, 50 or 40 and back to 30 by repeatedly pushing the "**PAUSE**" key while holding down the "**Timed FLASHCARDS**" key.

You can make two or more FlashMasters (of this model) **present the exact same "Flashcards" activity** (the same problems in the same order, etc.) by pressing the same number key on each of them before starting the activity (with the "**START**" key). The number pressed (the "Specific Sequence Number") appears in the right side of the yellow portion of the display. Of course, the FlashMasters must also be set for the same arithmetic operation, the same Level, and the same number of "Flashcards" problems (see above), but the same Time Limit need not be used.

When the FlashMaster has presented the specified number of problems, the activity ends and results are automatically displayed, including any Specific Sequence Number (see above paragraph).

The "Special Problems" Activity for Practicing Missed or "Entered" Problems

      The "Special Problems" activity is designed to teach or review problems that have been either recently missed or manually "entered".

      To select the "Special Problems" activity, push the yellow **"SPECIAL PROBLEMS" key**. Next, use the white "**TIME LIMIT**" key to adjust the per-**activity** Time Limit. (The other two white keys are not used in this activity.) Then push the green "**START**" key, and the FlashMaster will **randomly** present the problems currently stored in its "Special Problems Memory" until the Time Limit expires.

      The **"Special Problems Memory"** contains up to 15 problems. Normally, these problems are those that have been most recently missed since the memory was last erased by the pressing of the "Erase: Missed and "Entered" Problems" key. But, as explained below, with the "**ENTER PROBLEMS**" key, you can "enter" into the "Special Problems Memory" up to 15 problems taught by the FlashMaster. **As soon as you "enter" one problem with that key, all missed problems are erased from the memory, and missed problems cannot again be stored in it** unless and until you later push the "Erase: Missed and "Entered" Problems" key.

      When the "**SPECIAL PROBLEMS**" key is pushed, the number and kind ("**MISSED**" or "**ENTERED**") of problems stored in the "Special Problems Memory" appear in the middle of the top of the FlashMaster's display. The "Special Problems Memory" can contain **at the same time**: addition, subtraction, multiplication, and division problems, but **not** both missed and "entered" problems.

      When the selected Time Limit expires, the "Special Problems" activity ends and your results are displayed, including whether the problems presented were "**MISSED**" or "**ENTERED**".

      If you miss a problem during a "Special Problems" activity, the FlashMaster makes a negative sound and displays "**NOT CORRECT**" and then presents the problem again. If you miss a problem twice in a row, the FlashMaster shows you the correct answer before having you try the problem again. Also, after you correctly answer a problem that you have missed and then correctly answer a different problem, the FlashMaster presents the missed problem again to reinforce your mastery of it. (Missed problems are handled just as they are in the "Table: No Order" activity and the "Practice" activity.)

VERY IMPORTANT: Normally students should do **at least one "Special Problems" activity at the end of each daily practice session** to review and reinforce their mastery of problems missed during the session.

REMINDER: If "entered" problems are stored in the FlashMaster's memory, the FlashMaster will not store missed problems in that memor**y unless** the "entered"

problems are erased by pushing the **"Erase: Missed and "Entered" Problems" key** (or the "**RESET**" key).

HOW TO "ENTER" PROBLEMS
INTO
THE "SPECIAL PROBLEMS MEMORY"

The "**ENTER PROBLEMS**" key is used to "enter" up to 15 problems **taught by the FlashMaster** into the "Special Problems Memory" (explained above). When you first push the key, the number and kind ("**MISSED**" or "**ENTERED**") of problems then contained in the memory appear in the middle of the top of the FlashMaster's display, and the line under the space for the left operand of the problem to be entered blinks. Type in that left operand from left to right. (For instance, if the problem is "**14–9=5**", enter "**14**" by typing first the "**1**" key and then the "**4**" key.) Next push the white "**+ − × ÷**" key until the symbol of the desired operation ("**−**" in the example) appears. (Only possible operations ("**−**" and "**÷**" in the example) appear as choices.) Next type in the right operand. And finally, push the "**ENTER PROBLEMS**" key. Doing so "enters" the problem **and** erases any **missed** problems until then contained in memory. The number of "entered" problems in memory appears in the middle of the top of the display to the left of "**ENTERED**". You can then type the left operand of any additional problem that you want to "enter". Etc.

HOW TO REVIEW RESULTS
WITH THE GREEN "SEE RESULTS" KEY

When a learning activity is completed, its results are automatically recorded and displayed. Accompanying these results and displayed over a green background is: "**RESULT**" followed by the total number (1 to 9) of activities whose results are currently stored in memory. Pushing the green "**SEE RESULTS**" key then displays the results of the next most recently completed activity, and the number following "**RESULT**" decreases by one. Pushing the "**SEE RESULTS**" key additional times displays earlier results until the FlashMaster displays the oldest results stored in its memory—along with "**RESULT 1**". At this point, pushing the "**SEE RESULTS**" key displays again the results of the most recent activity and "**RESULT**" followed by the number of activities whose results are in memory. Etc.

The FlashMaster can retain the results of up to 9 learning activities even if it is turned off. If results of 9 activities are already in memory and another activity is completed, the results of the oldest activity are erased.

Normally, if a learning activity is not completed, its results are not recorded or displayed. But if the "**SEE RESULTS**" key is pressed in the middle of an activity, the results of the interrupted activity **are** recorded and displayed.

Displayed results include:

- over the green background: "**RESULT**" followed by the number (from "**1**" to "**9**") assigned to the activity whose results are being displayed, **the more recent the activity, the higher the number**;
- over the yellow background: the type of learning activity;
- above "**CORRECT**": the number of correct answers;
- above "**ATTEMPTED**": the number of problems attempted;
- above "**% CORRECT**": the percentage of attempted problems answered correctly;
- on the right: "**WOW!!**" if all problems were answered correctly and at least 19 problems were presented;
- in the upper left corner: the number of seconds that **actually elapsed** in the case of a "Practice", "Test" or "Special Problems" activity;
- in the upper left corner: the per-**problem** Time Limit in the case of a "Flashcards" activity;
- to the right of "**LEVEL**": the Level number in the case of a "Practice", "Test" or "Flashcards" activity;
- to the left of "**–TABLE**": the Table number in the case of either of the two "Table" activities;
- in the normal location: a "+", "−", "×", or "÷" indicating the arithmetic operation (except in the case of a "Special Problems" activity);
- in the middle of the top: "**MISSED**" or "**ENTERED**" in the case of a "Special Problems" activity;
- over the yellow background: any Specific Sequence Number (designating a specific sequence of problems) in the case of a "Test" or "Flashcards" activity.

ADDITIONAL INFORMATION ABOUT USING THE FLASHMASTER

How the FlashMaster Is Turned On and Off—The "ON/OFF" Key

Pressing the **"ON/OFF" key** turns the FlashMaster on or off. If the FlashMaster is not used for 4 minutes, **it turns off automatically to conserve its batteries**, except that it waits 20 minutes (not just 4 minutes) if it is currently "paused". (See explanation of "**PAUSE**" key below.)

How to Turn Sound Off and On—The "SOUND" Key

When the FlashMaster is turned from off to on, sound effects are on. Pushing the **"SOUND" key** turns sound effects off, and pushing it again turns sound effects back on, etc. The symbol for the selected sound setting appears in the upper left corner of the display.

How to Use an Earphone Device

An earphone device (not included) can be plugged into a jack located on the right edge of the FlashMaster near the "**ENTER PROBLEMS**" key. Doing so makes all sound effects audible only through the device.

CAUTION:

Make sure the sound produced by the earphone device is not too loud for your student. (Earphone devices differ.)

How to Change the "Problem Format"—
The "Change Problem Format" Key

Normally, the FlashMaster presents problems in the normal horizontal format—for instance, "**13–6=?**" or "**8×3=?**". When the FlashMaster is turned from off to on, it is always in this problem format. Pressing the **"Change Problem Format" key** changes the problem format first to a "**?+2=3**" format, then to a "**1+?=3**" format, then back to the normal "**1+2=?**" format, etc.

How to Hide or Show the Countdown of Time Limits—
The "Hide or Show: Countdown of Time Limit" Key

A per-activity Time Limit **always** applies to "Practice", "Test" and "Special Problems" activities, and a per-problem Time Limit **always** applies to problems in a "Flashcards" activity. While problems are presented in one of these activities, **the countdown of the selected Time Limit is normally displayed—but not necessarily**.

When turned from off to on, the FlashMaster is always set to display the countdown of the selected Time Limit when any activity having a Time Limit is started. Pressing the **"Hide or Show: Countdown of Time Limit" key** once, however, (1) prevents the FlashMaster from displaying the counting down of Time Limits and (2) causes "**HID**" to be displayed to the left of the Time Limit. Time Limits still apply, but the FlashMaster just will not **display** them counting down. Pressing the "Hide or Show: Countdown of Time Limit" key again **re**-sets the FlashMaster to display the countdown of an applicable Time Limit.

How to Erase Results—The "Erase: Results" Key

Pushing the **"Erase: Results" key** erases all results stored in the FlashMaster's memory. (So does pushing the "**RESET**" key or removing the FlashMaster's batteries.) Turning the FlashMaster off does **not** erase results.

How to "Pause" a "Practice" or "Special Problems" Activity—
The "PAUSE" Key

If a "Practice" activity or a "Special Problems" activity is in progress, pushing the **"PAUSE" key**: (1) "pauses" the activity—including the countdown of the per-activity Time Limit—and (2) causes "**PAUSED**" to blink in the display. Pushing the "**PAUSE**" key again **or** the "**START**" key "unpauses" (re-starts) the activity from where it was "paused".

Only the "Practice" activity and the "Special Problems" activity can be "paused".

How to Erase Missed and "Entered" Problems—
The "Erase: Missed and "Entered" Problems" Key

Pushing the **"Erase: Missed and "Entered" Problems" key** erases all missed or "entered" problems stored in the FlashMaster's memory. (So does removal of its batteries or pushing the "**RESET**" key.) Turning the FlashMaster off does **not** erase these problems.

IMPORTANT: If "entered" problems are stored in its memory, the FlashMaster will not store missed problems in that memory unless, of course, the "entered" problems are erased by pushing the "Erase: Missed and "Entered" Problems" key (or by pushing the "**RESET**" key or removing the FlashMaster's batteries).

How to Change the FlashMaster's Sound Effects

If, while the FlashMaster is "off", you hold down—at the same time—both the **"Hide or Show: Countdown of Time Limit" key** and the **"Erase: Results" key**, an "**S**" is displayed normally with a "**1**" to its right. The displayed "**S1**" means that the "default" sound effects for correct and incorrect answers are in effect. Pushing the **"PAUSE" key** repeatedly while the just-mentioned two other keys are held down changes the "**1**" to "**2**", to "**3**", to "**4**", to "**5**", to "**6**", to "**7**", to "**8**", and then back to "**1**". Etc. Each number signifies that a different combination of sound effects is in effect. With each change of sound effects. you will hear first the sound effect for correct answers and then the one for incorrect answers.

Note: Sometimes when the **"Hide or Show: Countdown of Time Limit" key** and the **"Erase: Results" key** are first depressed, the FlashMaster displays the code for the combination of sound effects currently in effect **but also** changes to the next combination even if the **"PAUSE"** key is not pushed.

Turning the FlashMaster on or off does not change the sound-effect setting. Pushing the "**RESET**" key changes the sound-effect setting back to the "default" setting of "**S1**".

How to Slow Down or Speed Up the FlashMaster

Understanding this feature is **not** necessary to the operation of the FlashMaster. It is helpful for two types of students: most importantly for those confused or made nervous because they do not have enough time to see their correct and incorrect answers and less importantly, for those slightly slowed down by the time that the FlashMaster takes to display correct and incorrect answers.

To learn about this feature: while the FlashMaster is off, hold down at the same time: the **"Hide or Show: Countdown of Time Limit" key** and the **"Change Problem Format" key**. Normally, this will cause a "**5**" and "**RELATIVE LENGTH OF PROMPTS**" to be illuminated on the left side of the display and "**NORM=5**" to be illuminated on the right side. "**5**" is the "default" value for the "Relative Length of Prompts". Pushing the **"PAUSE" key** repeatedly while the just-mentioned two other keys are held down changes the "**5**" to "**6**", then to "**7**", then to "**8**", then to "**1**", and eventually back to "**5**". Etc. The **higher** this single-digit number, the **longer** answers are displayed. The **lower** this number, the **less long** answers are displayed. "**NORM=5**" is a reminder that the normal setting for the number is "**5**".

Turning the FlashMaster on or off does not change the "Relative Length of Prompts". The "**RESET**" key resets the "Relative Length of Prompts" at "**5**".

<div align="center">

WHICH PROBLEMS ARE EMPHASIZED
IN WHICH LEVELS

</div>

In the "Practice", "Test", and "Flashcards" activities, the Level number determines the different frequencies with which different problems tend to be presented. Frequencies vary from 0% (not at all) to more than 5% (once every 20 problems).

In general, lower-numbered Levels **emphasize** easier problems, and higher-numbered Levels **emphasize** more difficult ones but still display (although much less frequently) problems emphasized in lower-numbered Levels.

When the FlashMaster is turned from off to on, it is always set at **Level 7**—for each of the 4 arithmetic operations (+, −, ×, and ÷). In **Level 7**, the FlashMaster essentially displays all problems taught by it (in the selected arithmetic operation)-- except for the "**11**" and "**12**" tables in multiplication and division. And more difficult problems are displayed more often than easier ones. This is essential to avoid time being wasted by too much practicing of easy problems.

When the "Practice", "Test", or "Flashcards" activity is selected, you can change the current Level to any other one of the 9 possible Levels by pushing the white "**LEVEL # or TABLE #**" key one or more times.

Following are listed the problems that are **emphasized** in each Level for each

arithmetic operation. **But remember: Many of the Levels also include other problems, which are not listed because the Levels do not emphasize them.**

Addition Levels: Problems Emphasized

Level 1
0+0=0, 0+1=1, 1+0=1, 0+2=2, 2+0=2, 0+3=3, 3+0=3, 0+4=4, 4+0=4, 0+5=5, 5+0=5, 0+6=6, 6+0=6, 0+7=7, 7+0=7, 0+8=8, 8+0=8, 0+9=9, 9+0=9, 1+1=2, 1+2=3, 2+1=3, 1+3=4, 3+1=4, 1+4=5, 4+1=5, 1+5=6, 5+1=6, 1+6=7, 6+1=7, 1+7=8, 7+1=8, 1+8=9, 8+1=9, 1+9=10, 9+1=10

Level 2
2+2=4, 2+3=5, 3+2=5, 2+4=6, 4+2=6, 2+5=7, 5+2=7, 2+6=8, 6+2=8, 2+7=9, 7+2=9, 2+8=10, 8+2=10, 3+3=6

Level 3
3+4=7, 4+3=7, 3+5=8, 5+3=8, 3+6=9, 6+3=9, 3+7=10, 7+3=10, 4+4=8, 4+5=9, 5+4=9, 4+6=10, 6+4=10, 5+5=10

Level 4
2+9=11, 9+2=11, 3+8=11, 8+3=11, 3+9=12, 9+3=12, 4+7=11, 7+4=11, 5+6=11, 6+5=11, 6+6=12, 7+7=14, 8+8=16, 9+9=18

Level 5
4+8=12, 8+4=12, 4+9=13, 9+4=13, 5+7=12, 7+5=12, 5+8=13, 8+5=13, 5+9=14, 9+5=14, 6+7=13, 7+6=13, 6+8=14, 8+6=14, 6+9=15, 9+6=15, 7+8=15, 8+7=15, 7+9=16, 9+7=16, 8+9=17, 9+8=17

Level 6
0+0=0 through 9+9=18 with emphasis on difficult problems

Level 7
Like Level 6 but more emphasis on difficult problems

Level 8
Like Level 7 but more emphasis on difficult problems

Level 9
Like Level 8 but more emphasis on difficult problems

Subtraction Levels: Problems Emphasized

The Levels for subtraction are based on those for addition. For instance, **Level 5** in subtraction emphasizes "**13-4=9**" and "**13-9=4**" just as much as **Level 5** in addition emphasizes "**4+9=13**" and "**9+4=13**".

Multiplication Levels: Problems Emphasized

Level 1
0×0=0, 0×1=0, 1×0=0, 0×2=0, 2×0=0, 0×3=0, 3×0=0, 0×4=0, 4×0=0, 0×5=0, 5×0=0, 0×6=0, 6×0=0, 0×7=0, 7×0=0, 0×8=0, 8×0=0, 0×9=0, 9×0=0, 1×1=1, 1×2=2, 2×1=2, 1×3=3, 3×1=3, 1×4=4, 4×1=4, 1×5=5, 5×1=5, 1×6=6, 6×1=6, 1×7=7, 7×1=7, 1×8=8, 8×1=8, 1×9=9, 9×1=9, 2×2=4, 2×3=6, 3×2=6, 2×4=8, 4×2=8, 2×5=10, 5×2=10

Level 2
2×6=12, 6×2=12, 2×7=14, 7×2=14, 2×8=16, 8×2=16, 2×9=18, 9×2=18, 3×3=9, 3×4=12, 4×3=12, 3×5=15, 5×3=15, 4×4=16, 4×5=20, 5×4=20, 5×5=25

Level 3
3×6=18, 6×3=18, 3×7=21, 7×3=21, 3×8=24, 8×3=24, 3×9=27, 9×3=27, 4×6=24, 6×4=24, 5×6=30, 6×5=30, 6×6=36, 2×10=20, 10×2=20, 3×10=30, 10×3=30, 4×10=40, 10×4=40, 5×10=50, 10×5=50, 6×10=60, 10×6=60, 7×10=70, 10×7=70, 8×10=80, 10×8=80, 9×10=90, 10×9=90, 10×10=100

Level 4
4×7=28, 7×4=28, 4×8=32, 8×4=32, 4×9=36, 9×4=36, 5×7=35, 7×5=35, 5×8=40, 8×5=40, 5×9=45, 9×5=45

Level 5
6×7=42, 7×6=42, 6×8=48, 8×6=48, 6×9=54, 9×6=54, 7×7=49, 7×8=56, 8×7=56, 7×9=63, 9×7=63, 8×8=64, 8×9=72, 9×8=72, 9×9=81

Level 6
0×0=0 through 10×10=100; emphasis on difficult problems

Level 7
Like Level 6 but more emphasis on difficult problems

Level 8
2×11=22, 11×2=22, 2×12=24, 12×2=24, 3×11=33, 11×3=33, 3×12=36, 12×3=36, 4×11=44, 11×4=44, 4×12=48, 12×4=48, 5×11=55, 11×5=55, 5×12=60, 12×5=60, 6×11=66, 11×6=66, 6×12=72, 12×6=72, 7×11=77, 11×7=77, 7×12=84, 12×7=84, 8×11=88, 11×8=88, 8×12=96, 12×8=96, 9×11=99, 11×9=99, 9×12=108, 12×9=108, 10×11=110, 11×10=110, 10×12=120, 12×10=120, 11×11=121, 11×12=132, 12×11=132, 12×12=144

Level 9
0×0=0 through 12×12=144; emphasis on difficult problems

Division Levels: Problems Emphasized

The Levels for division are based on those for multiplication. For instance, **Level 5** in division emphasizes "**42÷6=7**" and "**42÷7=6**" about as much as Level 5 in multiplication emphasizes "**6×7=42**" and "**7×6=42**".

HOW TO MAKE THE FLASHMASTER WORK BEST FOR YOUR STUDENT(S) AND YOU

The following suggestions are intended to make your student's learning experience and your supervisory experience fast, easy and productive. (For additional ideas and answers to frequently asked questions, please visit our website at **www.flashmaster.com**.)

1.   Follow the suggestions on the front cover of this Guide!

2.   Use your common sense in using the FlashMaster and in deciding whether and to what extent to follow these suggestions. Only you know your student's particular circumstances and are in a position to observe and listen to him or her using the FlashMaster.

3.   Experiment with the FlashMaster using different settings until you have a sense for how your student will feel using it.

4.   The FlashMaster is not designed to explain the concepts of addition, subtraction, multiplication, and division. Depending on the student, a lot or a little time may need to be spent introducing these concepts.

5.   Students should normally record at least some of their results from each daily FlashMaster session—perhaps the 3 results they are most proud of. Most students can be taught to do this easily and quickly on a form like that on page 24. Two similar forms (already 11 inches by 8 ½ inches in size, one designed for younger students who need more room to write) can be printed off the FlashMaster website at www.flashmaster.com. Students tend to try harder when they know that at least some of their results will be recorded. Recording results also helps them appreciate the progress they are making over time. Most importantly, recording results in this manner makes it much easier for teachers or parents to monitor a student's efforts and progress and to recognize when the settings used by a student need to be adjusted because they are either too challenging or not challenging enough. (In the classroom, students can occasionally exchange FlashMasters and result forms to encourage accuracy. Teachers and parents should occasionally spot-check recordkeeping for accuracy.)

6.   Result forms should also be used for recording assignments. Often, teachers need tell their class only the identity and order of the day's learning activities. Students

can then copy their individual settings for Levels, Time Limits, arithmetic operation, etc. from where those settings have been most recently recorded on their forms. Using result forms for assignments minimizes time needed for FlashMaster sessions thereby making more frequent sessions practical.

7.   When in doubt, make your student's first experiences with the FlashMaster too easy, too brief and too relaxed:

      a.   Give your student plenty of time to get used to the FlashMaster—perhaps some time "playing" with it in your absence.

      b.   Err on the side of having the student start by using: (1) a Level that is too easy; (2) a per-<u>activity</u> Time Limit that is too short; and (3) (if ready for the "Flashcards" activity) a per-<u>problem</u> Time Limit that is too long.

8.   Decide which arithmetic operation your student should focus on first. Perhaps, starting with addition will make sense. On the other hand, if your student is currently working on multiplication in school, you might want to start with it and focus on completely mastering addition (for example) only when your student is doing well in multiplication. In general, concentrate on one operation at a time.

9.   To decide which learning activities a student should use and in which order, consider the following:

10.   The untimed "Table: <u>In</u> Order" and "Table: <u>No</u> Order" activities and the timed "Practice" and "Special Problems" activities are primarily "instructional" in nature in that these four activities focus primarily on helping the student learn the answers to math-fact problems.

11.   By contrast, **the timed "Test" and "Flashcards" activities focus** less on instruction and **more on <u>developing speed,</u> <u>maximizing the number of problems answered</u> in a given period of time, and assessment or testing.** For this reason, unlike the "Table", "Practice" and "Special Problems" activities, when a student answers a problem incorrectly, the "Test" and "Flashcards" activities do not spend time re-presenting the problem or prompting the student with the correct answer to a problem that has been missed twice in a row. **Even more important, the "Test" and "Flashcards" activities** display answered problems for a much shorter time than do the other four primarily-instructional activities and therefore **present the next problem much more rapidly.**

12.   The "Table: <u>In</u> Order" activity is primarily for introducing a new arithmetic "table". The "Table: <u>No</u> Order" activity is the next step for practicing a particular "table". **Often the "Table" activities will be—or soon become—insufficiently challenging,** especially the "Table: <u>In</u> Order" activity. They normally should be used only with beginning students or in remedial situations.

13.   Once a student is answering numerous problems in the "Practice" activity with a high rate of accuracy when the FlashMaster is set for a certain Level and arithmetic operation, the student should be directed to work with that Level and operation primarily, if not solely, in the "Test" and "Flashcards" activities for at least two reasons. First, the student will end up doing significantly more problems than in the "Practice" activity. Second, the **more rapid presentation of problems in these two activities will tend to keep the student more engaged—even entertained.** (The longer display of answered problems in the "Practice" activity is helpful to students in learning answers but can bore them and make them susceptible to distraction once they pretty much know the answers.)

14.   Once a student has attained a certain level of proficiency with a certain Level in a particular arithmetic operation, **the "Flashcards" activity tends to be even more engaging and exciting than the "Test" activity since the "Flashcards" activity's per-problem Time Limit does not tolerate "dawdling" between problems** whereas there is nothing inherent in the "Test" activity that motivates a student to answer problems quickly. In addition, the "Flashcards" activity is better at developing speed in the answering of difficult problems since its per-problem Time Limit does not allow a student to "make time" for difficult problems by answering easy problems quickly.

15.   Despite these advantages of the "Flashcards" activity, the "Test" activity may be useful to add variety to a daily FlashMaster session.

16.   Also, **the "Test" activity most closely simulates paper speed tests** that many schools give their students both for practice and for testing. Note that if the "Test" activity is used for testing and students turn off their FlashMasters' sound effects, then, as in the case of a paper test, students are not informed of their mistakes until the end of the test when their results are automatically displayed since, in the "Test" activity, the FlashMaster's display gives no visual indication as to whether or not a just-entered answer is correct.

17.   **Although the "Test" activity most closely simulates paper speed tests, the "Flashcards" activity is even better at testing.** This is because the per-<u>problem</u> Time Limit does not allow a student to make time for difficult problems by answering easy problems quickly. In order to do well in the "Flashcards" activity, the student needs to be able to answer each problem in time.

18.   **Before using the "Flashcards" or the "Test" activity for a test, students should activate their FlashMasters' "Erase: Missed and "Entered" Problems" key. Then, after the test, the students should do <u>at least</u> one "Special Problems" activity** since this will allow the students to: (1) see which problems they answered incorrectly in the test; (2) simultaneously practice just those problems in random order; and (3) be prompted with the correct answers to problems that they continue to answer incorrectly (at least twice in a row). Used in this fashion, the FlashMaster does everything that a paper test accomplishes, but (1) it does not waste paper, (2) it corrects the test automatically, and (3) in addition to identifying problems answered incorrectly, it allows each student to practice just those problems in random order and even prompts the

student with the correct answer to a problem when the student continues to have difficulty with it.

19.   Although it may be appropriate for a student to use the "Flashcards" and perhaps also the "Test" activity to work on developing speed in one Level, in the same daily assignment it may also be appropriate for the student to be using the "Practice" activity to learn the answers to problems in a more difficult Level. Thus, for example, in the same day's assignment a student might use the "Practice" activity to learn answers to multiplication problems in Level 5 and the "Flashcards" and/or "Test" activity to develop speed in Level 4 of multiplication.

20.   The "Special Problems" activity should almost always be used at the end of a session to review problems "missed" in other activities during the session. This is not to say, however, that the "Special Problems" activity should not sometimes also be used for review earlier in a daily assignment. In fact, if each student has the student's own FlashMaster, the first exercise of a daily assignment should often be the "Special Problems" activity to review problems answered incorrectly during the previous day's assignment.

21.   The "Flashcards" activity's default number of 30 problems will be excessive in some situations. For example, the setting should normally be changed to 20 problems for second graders. (See page 11.)

22.   In the case of the "Practice", "Test" or "Special Problems" activity, often one exercise with a very long per-activity Time Limit is less effective than two exercises with significantly shorter per-activity Time Limits. For instance, in the case of fifth graders, two 75-second activities might well be more effective than a single activity of even 180 seconds.

23.   It's essential for teachers, themselves, to use the FlashMaster 10 to 15 minutes per day until they can score 90% much of the time in addition and multiplication when the FlashMaster is set for "Flashcards", the 1.6-second Time Limit, and Level 7 (which includes all the essential problems in each of these operations but is designed so that the more difficult a problem is, the more often it is presented). **When teachers accomplish this, they will realize that most of their students can eventually do the same.** In fact, some third graders master the 1.0-second Time Limit (touch typing with 8 fingers). On the other hand, on occasion fifth-grade teachers who presumably have not realized their own capabilities have not encouraged their students to try to master anything shorter than the 3-second Time Limit.

Record of Assignments and Results

Student:_____ **Page**____

P=Practice; T=Test; F=Flashcards; I=Table: In Order;
N=Table: No Order; M=Missed Problems; E=Entered Problems

Date	Learning Activity P/T/F/I/N/M/E	Time Limit in Seconds	+ − × ÷	Level # or Table #	Number of Problems Attempted	% Correct

Date	Learning Activity P/T/F/I/N/M/E	Time Limit in Seconds	+ − × ÷	Level # or Table #	Number of Problems Attempted	% Correct
Date	Learning Activity P/T/F/I/N/M/E	Time Limit in Seconds	+ − × ÷	Level # or Table #	Number of Problems Attempted	% Correct

SAMPLE ASSIGNMENT

Note: Before beginning an assignment, students should activate the "**Erase: Results**" key and often also the "**Erase: Missed and "Entered" Problems"** key.

Below is **one** possible assignment for a student who has almost mastered the multiplication tables:

1. "Practice": 60 seconds; multiplication; Level 5 (emphasizing the most difficult problems with single-digit operands)

2. Same as above except: 90 seconds

3. "Test": 75 seconds; multiplication; Level 7 (**0 X 0** through **10 X 10**, but the more difficult a problem, the more often it appears)

4. "Flashcards": multiplication; Level 7; 2.0-seconds per-problem Time Limit; "default" setting of 30 problems

5. Same as above except: 1.6-seconds per-problem

6. "Special Problems": 90 seconds (to concentrate on problems answered incorrectly in the previous activities)

SPEED TIPS FOR "FLASHCARDS" ACTIVITY

1. Place the FlashMaster on a table or desk and **sit up straight**.

2. In answering addition and multiplication problems, use the index finger of **both** hands (unless you touch-type answers with 8 fingers).

3. Especially when using a short per-problem time limit, remember that you really get 0.2 **additional** seconds for 2-digit answers (such as for the problem **4 X 3 = ?**) and 0.3 **additional** seconds for 3-digit answers (such as for **10 X 10 = ?**). Therefore, don't panic when a problem has a multi-digit answer.

4. If you make a mistake, the FlashMaster gives you a little **extra time** before the next problem is presented (therefore, don't panic).

5. If you make a mistake, put it behind you and get ready for the next problem. Try not to let worrying about a past mistake result in your making another one.

6. Don't move your fingers until the **entire** answer is in your head.

7. If you are trying to master a particular per-problem time limit (for example 1.6 seconds), occasionally practice with an even shorter one (for example, 1.3 seconds)—realizing that your score will probably be low. This is sort of a "stretching" technique.

8. **Have a sense of humor**.

Short and Fun Introduction to the FlashMaster®
for parents and teachers

**You can complete this introduction without even opening this Guide,
but you are **strongly** urged to carefully read the entire Guide afterward!******

Part I: (For this part, think of yourself <u>as a student</u>.)

(If the FlashMaster has been used before, use a ballpoint pen to depress the "RESET" key (near the right edge of the FlashMaster).

Find and push the "ON/OFF" key.

Then, following "**STEP 1**," "**STEP 2**" & "**STEP 3**" LABELED IN RED on the top of your FlashMaster, do each of these 7 exercises:

1. "Table: <u>In</u> Order" learning activity: multiplication; 4-Table (Answer some problems incorrectly—sometimes twice in a row. Continue until activity ends automatically.)

2. "Table: <u>No</u> Order" learning activity: addition; 8-Table (Answer some problems incorrectly—sometimes twice in a row. Continue until activity ends automatically.)

3. "Practice" learning activity: Time Limit of 45 seconds; subtraction; Level 9 (Answer some problems incorrectly—sometimes twice in a row.)

4. "Test" learning activity: Time Limit of 30 seconds; division; Level 4

5. "Flashcards" learning activity: Time Limit of 2.5 seconds per problem; multiplication; Level 6 (To enter answers quickly, use both index fingers.)

6. "Special Problems" learning activity: Time Limit of 60 seconds (You will be practicing the problems that you did not answer correctly in the previous 5 exercises.)

7. "Flashcards" learning activity: Time Limit of 1.6 seconds per problem; multiplication: Level 7.   (It is very important for teachers to practice 10 to 15 minutes per day until they master the 1.6-second time limit (or a shorter one) in Level 7. Doing so will make them confident that many of their students can too!)

Part II: (For this part, think of yourself <u>as a teacher or parent</u>.)

♦ Turn the FlashMaster "off" by pushing the "ON/OFF" key. Then turn it back "on" with the same key. (This is to demonstrate below that the FlashMaster retains "results" even if it has been turned "off.")

♦ <u>Now</u> push the "SEE RESULTS" key one time. See if you can understand the information that is being displayed: (1) over the green background, (2) over the yellow background, and (3) in the rest of the display (such as Time Limit, # correct, # attempted, % correct, and, in some cases, arithmetic operation (+,—, X, ÷), Level #, or Table #).

♦ <u>Then</u> push the "SEE RESULTS" key again and do the same. (Note that the number over the green background has decreased by one.)

♦ <u>Continue</u> this process until "RESULT 7" is displayed a second time over the green background. Then go back through all your results again to see how well you followed the directions (above) for the settings for the 7 exercises.

Part III: Finally, can you figure out the "Erase: Results" key, the "Erase: Missed and Entered Problems" key, the "Change Problem Format" key, and the "SOUND" key?