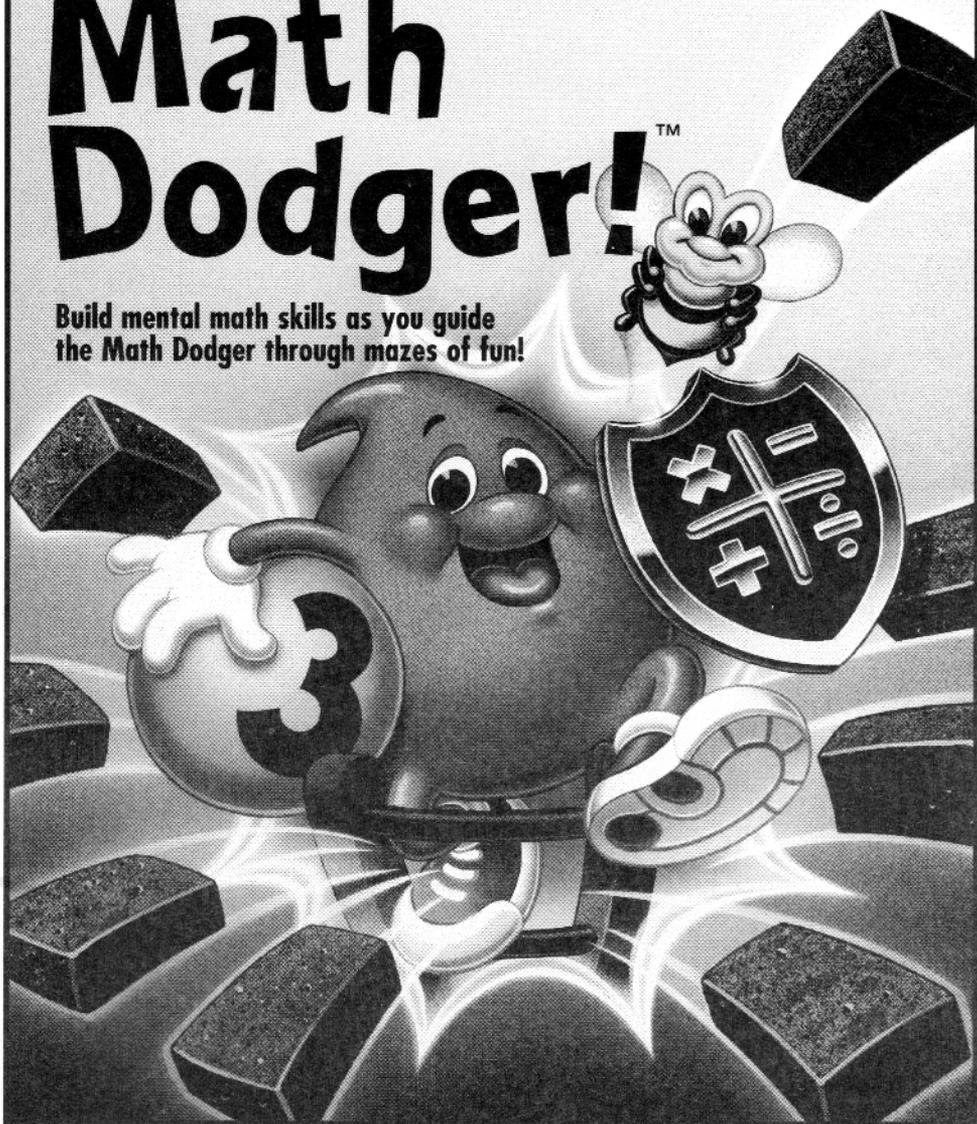# Math Dodger!

**Build mental math skills as you guide
the Math Dodger through mazes of fun!**

™

Ages 6 to 14

Arcadia Productions

Math Dodger!™

DSS 13306

Table of Contents

Introduction

Math Dodger! is a fast paced game to practice the whole number mathematics taught in elementary and middle school. The goal of *Math Dodger!* is to help the hero, the Math Dodger, solve math problems and dodge the roaming bad guys through 500 unique game levels. Players will find that they gain points and advance to the next game level by solving 17 different types of math problems. As players study mathematics, *Math Dodger!* will hold their interest with arcade-quality 256 color animation and digitized sound effects.

Six different versions of *Math Dodger!* can be played: Counting, Addition, Subtraction, Multiplication, Division and Challenge. You can easily customize the game to specify the educational difficulty and whether there is a time limit on the game. The target age for players is approximately ages 6 to 14.

Math Dodger! can be used at home and at school to:

- develop and reinforce counting skills.
- use a child's counting skills as a stepping stone to developing addition, subtraction, multiplication and division skills.
- develop and reinforce whole number addition, subtraction, multiplication, and division skills.
- learn math facts for whole number addition, subtraction, multiplication, and division.
- assist in the development of basic problem solving skills.
- make math interesting and stimulating.

Math Dodger! requires a Macintosh computer with System 6.0.5 or later, a hard disk, and at least 1 megabyte of memory. When running System 7 or using a color monitor, at least 2 megabytes of memory is required.

System Requirements

To install *Math Dodger!* on your hard disk, simply insert the *Math Dodger!* disk into your computer, and drag the contents of the disk on to your hard disk.

If you have a color monitor, *Math Dodger!* will look its best if you set your monitor to 256 colors.

Installing *Math Dodger!*

Using *Math Dodger!*

To start playing *Math Dodger!*, double-click on the *Math
Dodger!* icon on your hard disk. An animated title screen
will appear which looks like this:
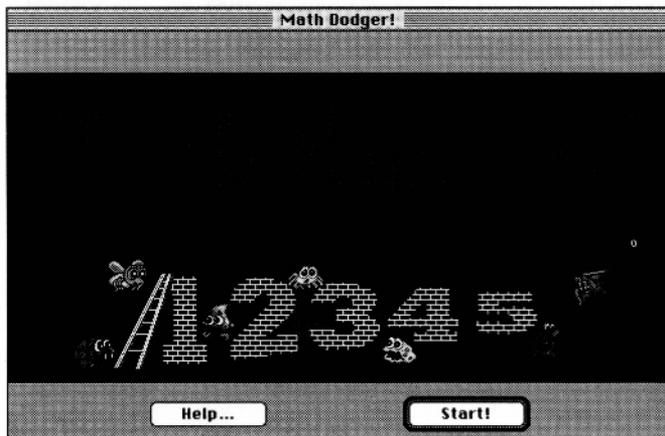
Click on the "Help…" button for instructions. When you
are ready to start the Math Dodger on the quest, click the
"Start!" button. Once you click the "Start!" button, you
must choose which version of *Math Dodger!* to play. Only
the games allowed in the Management Options will appear.
There are 6 different versions of *Math Dodger!* that may
appear: Counting, Addition, Subtraction, Multiplication,
Division and Challenge. In the Challenge game, every math
problem will be randomly chosen from the different
problem types allowed. If only one version has been
selected in the Management Options, you won't have to
make a selection since there is nothing to choose from.

After choosing the content area, you will see level 1. In *Math Dodger!*, there are 500 unique levels to run, jump and climb through. A typical level might look like this:
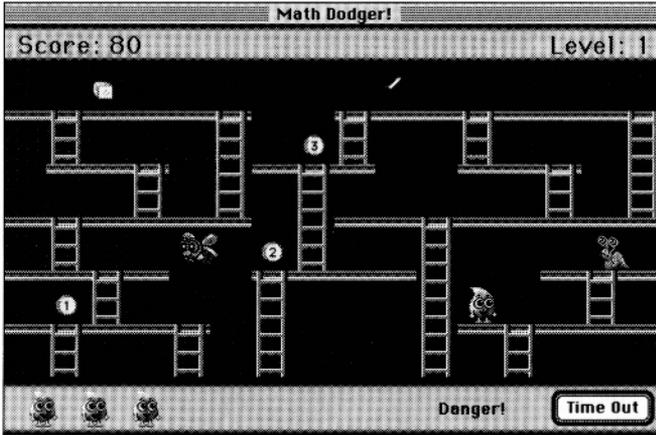
Hold down the following keys to move the Math Dodger:
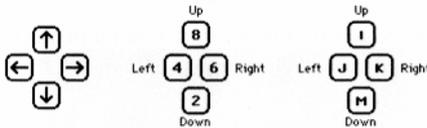
Moving the Math Dodger

To make the Math Dodger jump, press the Space Bar or the '0' (zero) key. The hardest part of moving the Math Dodger is usually jumping. In the first several levels you won't need to jump across ledges. This can give you a little practice with the other controls first.

Number Tokens

Scattered throughout each game level are several number tokens. In order to get to the next level you must collect all of the number tokens on the screen. Once you touch a number token, the Math Dodger is transported to the challenge room where you must solve a math problem. As you type your answer, the computer will beep if you make a mistake. Take your time solving the problem because if you make more than one error you will lose a Math Dodger!

There may be a button in the challenge room named "Hint." If the Hint button is there, you can click on it to get an idea of what you should do next.

Bonus Tokens

Occasionally bonus tokens will appear on the game screen for a short while. It is always a good idea to have the Math Dodger grab these tokens.

This token will give you a random number of points from 50 to 4000. This is important since only the top 10 scores are saved in the Legion of Honor.

This token will temporarily put a protective aura around you. When the aura is there, the bad guys can't hurt you!

This token will give you another Math Dodger. This may be the best token of them all.

This token will remove all of the bad guys from the screen.

This token will temporarily freeze all of the bad guys in their tracks.

Bonus tokens don't last forever, so don't wait too long before going after them. There is an old saying among the Math Dodgers: "To the swift go the tokens."

There are 10 different bad guys that the Math Dodger must avoid:

Walkers. These guys walk back and forth across the screen. Some of them can move pretty fast.

Flyers. These guys can fly. Some of them will randomly change direction, so be careful.

Bouncers. These guys like to hop around the screen which can make it very hard to predict where they will end up.

Tracker. The most dangerous bad guy of them all. He will go in a straight line until he senses that the Math Dodger is on the same floor. If the Tracker senses the Math Dodger he will chase after him! Be careful if you get near this one.

When a bad guy is about to enter the screen, a "Danger" sign will appear in the lower right part of the screen. The higher the level, the greater the chance that the more dangerous bad guys will appear. (Legend has it that long, long ago, the Math Dodgers chose their name because of all the time they had to spend dodging these bad guys. So be careful out there.)

Bonus Room

Once you have collected all of the number tokens, a flashing exit sign will appear in the lower right corner of the screen. The Math Dodger can leave the level by going through the exit sign. Once you leave the level, you enter the bonus room. The bonus room looks like this:

Numbers and letters will come from the left and right edge of the screen. You can earn bonus points for every number you catch. Avoid the letters though! If you touch a letter, you will have to leave the bonus room early.

Pausing the Game

To pause the game at any time, click on the "Time Out" button in the lower right corner of the game screen. The game will "freeze" until you click the "Continue" button.

The quest is over when the last Math Dodger is gone, or when you select "Exit Game" or "Quit" from the File menu. Selecting "Quit" will exit the program. Selecting "Exit Game" will end the current game and bring you back to the animated title screen. In either case, the program will verify that you really want to end the game. For the true masters of *Math Dodger!*, we also point out that if you finish all 500 levels of *Math Dodger!*, the game will end and you will receive a special place in the Legion of Honor.

Ending the Game

Math Dodger! maintains a list of the 10 greatest scores achieved by players. The minimum qualifying score is 50 points. If your score is greater than 50, and your score is better than the lowest score in The Legion of Honor, you can add your name to the other names. (Inappropriate entries can be erased by using the Management Options.)

The Legion of Honor

Customizing *Math Dodger!*

Turning Sound On and Off

Math Dodger! is designed to enhance the player's enjoyment by using digitized sound effects. If you are in an environment where sounds would be distracting, you can turn off these sounds by selecting the "Sound" menu item under the Options menu. If the "Sound" menu item has a check mark beside it, then sound effects are played, otherwise they are not.

Adjusting Game Difficulty

The "Game Difficulty" menu item under the Options menu lets you set how many bad guys there are starting out. It does not affect the difficulty of the educational content, which is set using the Management Options. By setting the game difficulty to "easy", the game will start out with only 1 bad guy on the screen. With "medium", the game will start with 2 bad guys on the screen, and with "hard" there will 3 bad guys on the screen. No matter where you start, the game will slowly get more difficult as you go up levels. By setting the game difficulty you can make sure that the game isn't either too easy or too frustrating for the player. You can only adjust the game difficulty before the game begins.


Enabling the Management Options

The Management Options allow you to set exactly which types of math problems the players must solve. For this reason, you must enter a password to use the them. The secret password is initially *Newton*. (The password of *Newton* was chosen in honor of Sir Isaac Newton, one of the greatest scientists of all time.)

To gain access to the Management Options, select "Enable Options" from the Options menu. You will then see a screen where you must enter the Management Options password. As noted previously, unless you have changed the password, it is *Newton.* Once you enter the password click the "OK" button. Now, click on the Options menu and you will see that the Management Options are no longer dimmed. You should use the Management Options to set the educational content to the correct difficulty and then select "Disable Management" to prevent players from inadvertently (or purposely!) changing the settings.

Math Dodger! can present 17 different types of whole number mathematics problems. To make it easier to set the difficulty level, you can set the difficulty by selecting the approximate grade level of the problems. Select "Set Grade Level" under the Options menu. You will see this screen:

Setting the Grade Level
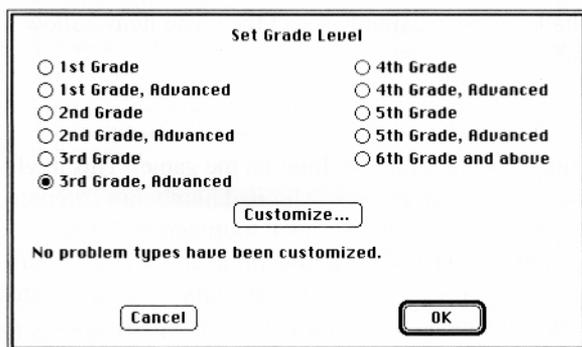
```
┌──────────────────────────────────────────────┐
│              Set Grade Level                   │
│                                                │
│  ○ 1st Grade                ○ 4th Grade         │
│  ○ 1st Grade, Advanced      ○ 4th Grade, Advanced│
│  ○ 2nd Grade                ○ 5th Grade         │
│  ○ 2nd Grade, Advanced      ○ 5th Grade, Advanced│
│  ○ 3rd Grade                ○ 6th Grade and above│
│  ◉ 3rd Grade, Advanced                          │
│                                                │
│              [ Customize... ]                   │
│                                                │
│  No problem types have been customized.         │
│                                                │
│      [ Cancel ]            [  OK  ]             │
└──────────────────────────────────────────────┘
```

There are 11 different difficulty levels to choose from. They are based upon the grade level that students are introduced to these different problem types in the most popular textbooks.

Once you have selected a grade level you can further customize the problems by clicking on the "Customize" button. Customizing allows you to fine tune the educational content by selecting specific problem types and number ranges. Teachers will find this feature particularly useful.
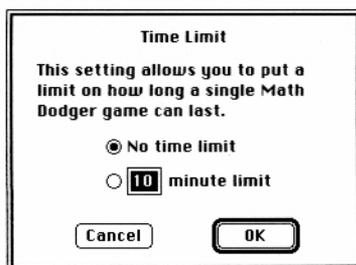

Allowing Hints

When players are in the challenge room, they have to solve one of their math problems. In order to provide some help, there is normally a button on the screen that allows them to get a hint on what to do next. The hint will vary with the type of problem. For word problems, the hint will be the actual math problem that must be solved. For counting problems, the hint will count out the objects for the player, etc. All problem types can have hints. If you would like to provide even more of a challenge, you can turn off this feature. If the menu item "Allow Hints" under the Options menu has a check mark beside it, then hints are allowed, otherwise they are not allowed. To allow or prevent hints in the challenge room, simply select the menu item "Allow Hints."

Setting a Time Limit

You may wish to set a time limit on the game. This might be done when there are only a limited number of computers for the players or to set up a small tournament among players. If you wish to set a time limit, choose the menu item named "Time Limit" under the Options menu. After you select the menu item, this screen will appear:

```
┌─────────────────────────────────┐
│            Time Limit           │
│                                 │
│  This setting allows you to put a│
│  limit on how long a single Math │
│  Dodger game can last.          │
│                                 │
│        ⦿ No time limit          │
│                                 │
│        ○ [10] minute limit      │
│                                 │
│   ( Cancel )      (   OK   )    │
│                                 │
└─────────────────────────────────┘
```
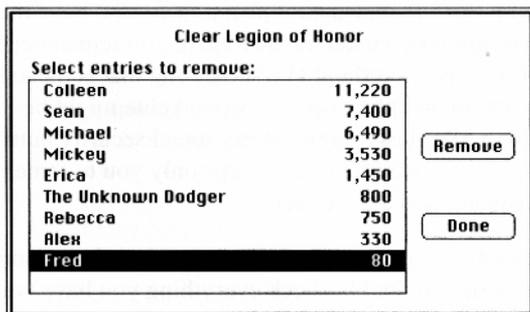
If you want to set a time limit, type in the desired time limit in the box. To turn off the time limit, click the "No time limit" button. After you are finished, click the "OK" button.

If there is a time limit, a small timer bar will be displayed at the top of the game screen to show players how much time is left. It is important that the players realize that they will lose no time when in the challenge room.

The "Clear Legion of Honor" menu item allows you to clear all or part of the Legion of Honor. You may want to clear the entries when the program will be used by a new group of players. There are also players who might make entries you would just as soon see erased. After you select the menu item, this screen will appear:

Clearing the Legion of Honor

```
┌─────────────────────────────────────────┐
│        Clear Legion of Honor             │
│  Select entries to remove:               │
│  ┌────────────────────────────┐          │
│  │ Colleen            11,220  │          │
│  │ Sean                7,400  │          │
│  │ Michael             6,490  │  ┌──────────┐
│  │ Mickey              3,530  │  │ Remove   │
│  │ Erica               1,450  │  └──────────┘
│  │ The Unknown Dodger    800  │          │
│  │ Rebecca               750  │  ┌──────────┐
│  │ Alex                  330  │  │  Done    │
│  │ Fred                   80  │  └──────────┘
│  └────────────────────────────┘          │
│                                          │
└─────────────────────────────────────────┘
```

Click on the name of the player you wish to remove. If you wish to remove more than one player, hold down the shift key as you click on the names. Once you are done, click on the "Remove" button to remove the entries. You will be given a warning when you do this since there is no way to restore entries you remove. Once entries are removed, they are gone for good.

Changing the Password

As noted before, you can't access the Management Options without knowing the password. Initially the password is *Newton*. If you would like to change the password to something that might be easier for you to remember, select "Change Password" from the Options menu. You will then see this screen:
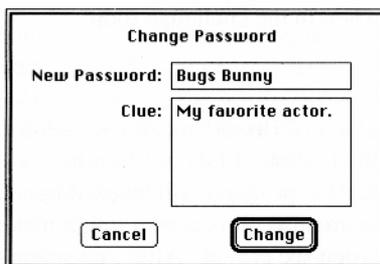
```
                Change Password

New Password:  Bugs Bunny

       Clue:  My favorite actor.



      ( Cancel )        (( Change ))
```

You must first enter the new password. The new password can be up to 15 letters and numbers. You also have the option of giving yourself a clue to help you remember the password. The clue should be something that is meaningful to you but not to anyone else. A good clue might be something like "last 4 digits of my social security number." As long as it is something that helps only you to remember the password, it is a good clue.

Once you have entered the new password, and a personal clue, you should double check everything you have typed to make sure you haven't made any errors. Once you are sure you have set the new password correctly, click the "Change" button. You have now set a new password.

Initially the Management Options password is *Newton*. If you change the Management Options password, and then forget your new password, the easiest way to reset the password back to *Newton* is to re-install *Math Dodger!* from your floppy disk and remove the old copy you have on the hard disk. Another method is to use the Macintosh Finder and look in the folder containing *Math Dodger!*. You will see a file named "Math Dodger Options". Remove this file, and *Math Dodger!* will reset the password back to *Newton* the next time you double-click on it. Either of these two methods will also reset all other settings and will clear the Legion of Honor, so only do this if absolutely necessary.

Forgetting Your Password

If you have questions about this product or would like to receive a catalog of other products, call or write to:

Customer Support

Davidson & Associates, Inc.
P.O. Box 2961
Torrance, CA 90509
Customer Support: (800) 556-6141
Sales: (800) 545-7677

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