

# MindBuster!



A Computerized Version of the Game of Mastermind.

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Welcome to **MINDBUSTER!** MindBuster! is a computerized version of the board game known as Mastermind. It is distributed as Shareware for the enjoyment of gamers everywhere. Click on the Icon shown above to initiate Help.

## Help for MindBuster!

- [An Overview of MindBuster!](#)
- [The Menu Commands](#)
- [Playing the Game](#)
- [Odds and Ends](#)

## Odds and Ends

This is a catch-all section to put items which don't fit anywhere else. You may find one or more of these topics of some interest.

- **Frequently Asked Questions**
- **Standard Conventions**
- **Required Files**
- **Reference Material**

# Standard Conventions

A standard Windows convention is followed when referring to menu and submen commands. Most of these commands have an **underlined** letter which is a keyboard alternate to clicking with a mouse.

This game has a top-level menu with the items:

<b><u>G</u>ame</b> <b><u>C</u>ommands</b> <b><u>O</u>ptions</b> <b><u>H</u>elp</b>
--

In place of clicking on these items, you can activate them by means of an **ALT +letter** combination. In our case, these are **ALT+G**, **ALT+C**, **ALT+O** and **ALT+H** .

Once one of these has been activated, a submenu will pop open. These submenus typically have a number of items, each of which will itself have an underlined letter. Once the submenu is visible, one need only hit the underlined letter to activate the item.

In this document, these keystroke shortcuts are indicated by notations like: **Game | Exit**. The keystrokes required would be, therefore, **ALT+G followed by X**

A few items concerning this specific Help Document:

1. Keys on the PC keyboard are always shown in capital letters. Thus the F4-key is denoted as F4, the Enter or Return key is denoted as ENTER, etc.
2. When abbreviating the names of colors, the following are used:

<b>RD</b>	Red	<b>WH</b>	White	<b>BL</b>	Blue
<b>GR</b>	Green	<b>YE</b>	Yellow	<b>BK</b>	Black
<b>MA</b>	Magenta	<b>CY</b>	Cyan	<b>NP</b>	No Peg
3. This Help File was created with the assistance of a shareware program called HelpGen.

## Reference Material

If you are hooked by MindBuster!, i.e., Mastermind, you might want to read something about it. If you can find it, there is a paperback of some interest. **The Official Mastermind Book** by Leslie H. Ault, Revised Edition. A Signet Book, New American Library, 1976. It contains the rules and a good bit of strategy for Mastermind. It covers topics such as code solving, code searching, and tournament play.

# An Overview of MindBuster!

The following topics give an overview of the purpose, structure, and method used to play MindBuster! In addition, they illustrate some of the enhancements to the original game, as well as some points of strategy. The Rules subcommand (under Help) will give you a more detailed summary of the rules.

- Object of the Game
- Standard Setup
- Layout of the Screen
- How to Play
- Scoring A Guess
- Examples of Scoring
- Variations and Enhancements

## How to Play

When it is your turn you must (1) formulate a guess, (2) tell the computer that your guess is ready, and then (3) receive a score for that guess.

The main way in which to compose or formulate a guess is to drag-and-drop colors from the palette (on the left side of the screen) to the current row on the board. You can drop colors on previously-placed colors in that row, since your turn is not completed until you click the [OK] button. It is then that your guess will be scored.

There are a number of alternative ways in which to accomplish the above steps. These include using the Move Color command, Random Selection, and Copying a Previous Row. These alternatives are useful for playing without a mouse, or in a mouse-minimal fashion. These alternatives are explained in these notes.

# IQ Level of Computer

## Options | IQ Level of Computer

One of the options which can be set is the "IQ Level" of the computer. Simulations have shown that the computer, if properly programmed, can often guess a hidden pattern within 4 or 5 guesses. Since this can be disheartening to us mere mortals, it was thought prudent to "dumb down" the computer a bit.

This program has been written so that the computer will always play rather blindly for the first few turns. This gives the human player a sort of handicap in his/her favor and somewhat evens the playing field. In addition, the program has been designed so that YOU can set the IQ Level of the computer to either a "Homer Simpson" or "Albert Einstein" level. What this does is determine when the computer will really start to use its capabilities to the fullest. Obviously a beginner would do better to play Homer rather than Albert. Friends of the programmer have suggested things like Beavis-level and Al Bundy-level play. This has been resisted. The desired option is obtained by clicking on it. A check mark will indicate which option is and will be in effect.

See also

[Game Settings](#)



# Copy a Row

**Commands | Copy a Row**      or      **F5**

This command brings up a dialog box which allows you to copy all the colors of a previously played row into the currently active row. This box is illustrated to the right. You should note that the rows are always automatically numbered to facilitate using this box. Only the rows preceding the current row are enabled. When you click on the Copy button, the selected row will be duplicated into the current row. At that point you can accept it as is (which would not be too helpful) or modify one or more of the colors placed there.

You can select a row either by clicking on its number, or if you want by hitting **ALT+1**, **ALT+2**, etc. **ALT+C** will cancel the box and **ALT+O** will be the same as clicking the [OK] button.

Why is this wanted or useful? It can happen that you get to a point in the game where your guesses are fairly similar. E.g. you might know that the hidden code is either **RD BK BK WH** or **RD BK GR WH**. So, after flipping a coin or consulting your horoscope you decide on the first alternative. It is wrong! If you could copy that last-played row into the current one, then you would need change **only one color**.

A previous row can be **also** copied by clicking. To copy a previous row using the mouse all one has to do is to click anywhere in that previous row. That is all. The colors will be copied down to the current row. -- it is that simple. Try it! You'll like it.

## The Object of the Game

MindBuster! is essentially the game of Mastermind adapted for play on a computer. The game is a struggle between the one who MAKES a code or pattern and the one who tried to BREAK that code. Thus: Try to guess the hidden code or pattern. Obviously, the fewer the guesses the better.

The player is supplied with a collection of colored pegs. A turn or guess in MindBuster! consists in entering some pattern of colors in the holes and then having that pattern scored. The score will give the guesser some feed on how close or far the guess was from the hidden pattern.

A number of variations to the standard game are possible. These include: (a) the number of holes per row, (b) the number of available colors, and even (c) the number of players. Within all these variations, the basic idea remains the same: Guess the Code! Unless stated otherwise, this document assumes that you are playing a game with the standard settings of 4 holes per row and 6 possible colors.

If you are playing against an opponent (human or computer) there is the additional goal of guessing the pattern before the opponent does. The board game, and this implementation, places a limit of 10 guesses in attempting to figure out the hidden code.

## The Standard Setup

The normal (non-computerized) game is played on a board which has 10 rows with 4 holes in each row. The player is given a supply of **large** Red, White, Blue, Green, Yellow, and Black pegs (also called **Code Pegs**). In this computerized version, these Code Pegs are displayed as colored squares in a palette on the left edge of the screen. When played to the board, they are represented as squares on the board.

The scoring is indicated by placing zero or more **small** Black and White pegs, (also called **Key Pegs**) next to the guess. These small pegs are used to indicate how close or far a guess was to the hidden code. On the computer, the Key Pegs are represented by small Black and White circles or dots placed next to the guess.

# The Layout of the Screen

The screen is laid out as follows:

- A Menu Strip across the top
- A Palette of Colors at the left edge
- Two Buttons, [Random] and [OK] in the lower left
- A small Status Strip along the bottom
- The actual playing Board(s) in the major central portion

# Buttons

There are two buttons on the screen: [Random] and [OK]. These buttons may or may not be **enabled**, i.e. active and able to be clicked. When a button is not enabled is it grayed-out. In addition one or other of them may have the **focus**. This means that it is the currently active button -- the one which would be "clicked" if one hit ENTER. When a button has the focus, there is a small dotted outline around the word on the button.

The [Random] button, when enabled and clicked will generate a random pattern for a guess. When a turn starts, this button automatically has the focus. Thus when it is your turn to guess, you need only hit ENTER.

The [OK] button, when enabled and clicked will terminate the turn. It essentially means "I'm done!" [OK] will automatically get the focus when is it possible to say "I'm done!" Thus it will not be enabled until you have filled in all the slots for a guess.

If both buttons are enabled, only one of them will have the focus. You can use the TAB key to toggle the focus between them.

## Enhancements and Variations

This computerized version provides a number of ways in which you can set up and play the game. The **standard** game being one with four (4) holes per row and a palette of six (6) possible colors.

- **Holes:** The number of holes can be changed from the standard 4 holes per row to 5, if desired. Clearly this will increase the difficulty and complexity of the game.
- **Colors:** The number of colors in the palette can be set to any number from three (3) to eight (8). Generally, the fewer the number of possible colors, the easier the game. It is possible to play SuperMastermind if desired.
- **Players:** One can play the game by oneself (Solo). You can also have the computer try to guess your hidden code (Duel). Thirdly, two humans (Two-Players) can play against each other.
- **Scoring Assistance:** Since the method of scoring may be unfamiliar, the computer will automatically (and accurately) score each of the moves. In addition if you wish the computer will give you some visual feedback on just how the score was achieved. This is possible only in the Duel form of the game.

See also

[Game Settings](#)

# Start a Game

**Game | Start      or      F2**

The Start command initiates the play of a game. The game will be played with the settings and options currently in effect. Note that you **cannot** change the game configuration once a game has started. If a game is in progress and you wish to forget it and start another one, you must first use the Quit command to terminate the currently active game.

# Contents

**Help | Contents      or      F1**

This brings up the first page of the Help system which you are now reading. Actually, you wouldn't be reading this if you did not know that. MindBuster! Help is a standard Windows .HLP file and was created in part using the shareware program HelpGen.



## **HelpGen**

HelpGen is a shareware program which takes much of the drudgery out of creating a Windows Help file. It allows one to use a simple ASCII text editor (no need for Microsoft Word!) in conjunction with a set of macros. It is available on many Bulletin Boards. HelpGen is also available from Rimrock Software, P.O. Box 2406, Hayden, ID 83835-2406, USA.

## Drag and Drop

Drag and Drop is Window-ese for an operation common to many Windows programs. The basic concept is that an object on view is dragged by using the mouse from one location on the screen to another. It is accomplished by:

1. **Position** the mouse over the object to be moved.
2. **Click and Hold down** the left mouse button.
3. While the button is still down, **drag** the object, by moving the mouse to the desired target location.
4. When the mouse pointer is over the desired location, **drop** the object by releasing the mouse button.

# The Move Colors Command

**Commands | Move Colors**      or      **F4**

A command is available which brings up a dialogue box. This box is illustrated to the right. It will allow you to move the colors from the palette to the currently active row (while guessing or hiding a code). This command has been added primarily to assist those who wish or need to play the game without a mouse. It results in a dialog box being presented which allows one to move the colors by indicating the color to be move and the number of the slot where it is to go.

You indicate both color and slot by clicking on the appropriate item. Alternatively, you can use key-strokes: **ALT+R** for Red, etc. Similarly **ALT+3** will select slot 3.

The dialog box remains on the screen until it is explicitly removed. It is also possible to mix this method with the drag-and-drop method.

See also

[Numbering the Colors](#)

[Dragging and Dropping Colors](#)

[Blanks in a Guess](#)

[Blanks in a Hidden Code](#)

# About MindBuster!

## **Help | About**

Selecting the About command will display a small, informative box with the copyright notice, author's name, etc. It is typical of all such forms in Windows programs.

## Illustrating the Scoring

If you are new to MindBuster! (Mastermind) you may find the scoring mechanism a bit confusing. In order to assist you, several options have been provided which graphically illustrate exactly how the score for a given move was obtained.

Since the scoring, in terms of black and white pegs, is based on direct hits and near misses, this option shows them to you visually. The direct hits are shown by means of solid lines; the near misses by dotted lines. There is a line for each type of hit. The score of black / white pegs corresponds exactly to the number of solid / dotted lines.

This "Show me how that score was arrived at" option can be activated in two ways, via a command or via a game setting:

1. Illustrate the Score on Demand
2. Illustrate the Score Automatically

It should be obvious that showing the scoring method only makes sense when one is playing the Duel form of the game.

# Illustrate Last Score

**Commands | Illustrate Last Score      or      F6**

This command is enabled only when playing the Duel form of the game. It gives a visualization of the last score. Solid black lines connect the squares which are Direct Hits and dotted lines connect the Near Misses. Essentially, this is a "Show me the last score" on demand.

Note that this is different from the option which is available to have this done **automatically**. This latter option is selected under the Options command.

See also

[Automatic Score Lines](#)

[Game Settings](#)

# Automatic Score Lines

## **Options | Automatic Scoring Lines**

If you wish the computer to automatically show you how its guesses have been scored, you can turn this option ON before a game begins. This option is available only if one is playing the Duel version of the game.

If you only wish to see the scoring occasionally, then you can use the Illustrate the Last Score Command.

See also  
Game Settings

## Quit Current Game

**Game | Quit      or      CTRL+Q**

The Quit command terminates a game in progress. In addition, it will display any hidden code(s). After using a Quit command, you can begin another game, via Start, or Exit the program altogether.



# Exit

**Game | **Exit** or CTRL+X or ESC**

The Exit command (which requires a verification) will cause the MindBuster! program to terminate and return to Windows. If a game was in progress, any hidden code(s) will not be displayed. You should use the Quit Current Game command if you wish to see the hidden code(s) before exiting.

# The Sequence of Play

The basic steps in any game are (a) Set up secret codes, and (b) engage in trying to guess the code.

Once the hidden code (or codes) have been set, a game consists of a sequence of turns. Each turn is made up of the following phases:

- **Guess:** The one who is trying to Break the code makes a guess by placing 4 colored pegs on the board.
- **Score:** The Maker of that code then responds with a score. The score gives some clues as to how near or far the guess was from the hidden code or pattern.

If the computer or another human is playing against you, then the roles are reversed for the next time. Play alternates between Guessing and Scoring until the pattern is guessed or 10 guesses have been used. In the computerized version, the computer will automatically supply the appropriate score.

## Entering Names

Whenever you start playing, the computer in a gesture of humanity will ask for your name (or names if two persons are playing). This serves to personalize a few of the messages which will be generated.

An input box will appear asking you to enter your name. Since no one is looking, this is your chance to be cute, bawdy, or the person of your dreams. The names entered will be used until the configuration of the game has changed. Specifically, the same name(s) will be used until you change either (1) the number of holes, (2) the number of colors, or (3) the style of the game. If you change one or more of these, you will again be prompted for a name. You can accept the default name by simply hitting ENTER. If you erase the default and simply enter no name at all, a very boring default name will be used.

These names are independent of any you may enter into the Hall of Fame. The current name by which you are being identified will, however, be offered as the **default** name when entering your name in the Hall of Fame. Simply hit ENTER to accept that name or enter another, possibly more creative, name for the list.

## A Status Line

At the very bottom of the screen there is a single line which gives the status of the game and briefly indicates what is to happen. You can usually ignore it, but it is there to remind you of certain options at certain times.

## Type of Game: Solo, Duel and Two-Player

### Options | Type of Game (# of Players)

MindBuster! can be played in three modes.

- **Solo:** In this version, the computer generates a hidden code and you attempt to guess it. You are on your own.
- **Duel:** In this version, both you and the computer generate a hidden code for the other to guess. Play alternates between your guesses and those of the computer. If the computer guesses yours first, it offers you the opportunity to continue to play just to see if you can guess its code.
- **Two-Player:** In this version, two human beings enter hidden codes and play against each other. The computer will do all the scoring for you.

The desired option can be obtained by hitting Options | Type of Game.

See also

[Game Settings](#)

## Scoring a Guess

Understanding the method of scoring guesses in MindBuster! is the key to successful play. Basically, each move gets a score on the basis of **Direct Hits** and **Near Misses**.

A **Direct Hit** is scored when a color in your guess is both a color in the hidden code **and** is in the same position in both the guess and the hidden code. Briefly: **right color in the right spot!**

A **Near Miss** is scored when there is a color in the guess which is also in the hidden code, but it is in the **wrong** position.

See also

[Examples of Scoring](#)

## Examples of Scoring

An example or two of the scoring follow.

Suppose that your guess is the top pattern pictured to the left (**RD GR BL BK**), and that the hidden code is the pattern on the bottom (**YE RD BL WH**). You would have scored 1 Direct Hit -- for the **BLs**, and 1 Near Miss -- for the **RDs**. Such a score would be indicated on the screen by the display of one black dot for the Direct Hit and one white dot for the Near Miss.

There follow are more patterns and score to explain and illustrate this scoring method. Do not worry if you do not grasp it thoroughly all at once -- it generally becomes easier to understand as you play.

The combination of guess and hidden pattern shown here is very easy to score: No Direct Hits, No Near Misses! No matches of any kind. You would be awarded no black pegs, and no white pegs. Actually such a 0,0 score is usually very helpful since it allows you to eliminate certain colors from appearing anywhere in the hidden code.

By now you should realize that the patterns here to the left would be awarded a score 2 black pegs (Direct Hits) [for the **RDs** and the **BLs**] and 1 white peg (Near Miss) [for the **BKs**]. One of the things to notice is that the score of 2,1 (or whatever score you get) gives no direct clue as to **which** colors match. All you know is that there are so many matches of a particular type.

What if a color in the guess is **both** a Direct Hit and a Near Miss? Such a situation is illustrated to the left here where there is **RD-RD** match as well as a **RD-RD** near miss. MindBuster! will only use a given square **once** in the process of scoring. This combination will receive only 1 black peg for the first -- and only -- Direct Hit. It gives preference to Direct Hits over Near Misses. So, if a color both a Direct Hit and a Near Miss, it and the square it matches will be used only once -- to contribute to the Direct Hit count. In general, if a square is used to award a peg of either color, it is not used again in that score.

See also

[Another Scoring Example](#)  
[Illustrate the Scoring](#)

# Creating a Pattern

The process of creating a pattern -- either for a hidden code or for a guess -- requires you to supply colors for the various positions in the pattern. This can be done deliberately or randomly, or a combination of these two methods. That is, you can generate a random pattern as a start and override or change one or more the colors if you wish.

When it is your turn to create a pattern, it can be done in a number of ways. See the following for details:

- **Random Selection**
- **Drag and Drop Colors**
- **Copy a Row**
- **Move Colors Within a Pattern**
- **Move Colors via a Dialog Box**



# Random Selection

## Commands | Random Selection      or      F3

Often, especially at the beginning of a game, you would be satisfied with a purely arbitrary, i.e. random selection of colors. This could be either for generating the Hidden Code or for one of your guesses.

This command has the same effect as clicking on the [Random] button (or hitting ENTER when [Random] has the focus.) In addition, there is a shortcut key, F3, which also has the same effect. What is this effect?

The Random Selection command, the Random button, or the F3 key, will cause the program to generate a totally random selection of colors for the currently active guess. (In case one is in the process of making a Hidden Code to be guessed, the program will generate a random pattern for this too.)

In case you don't like or want the pattern generated, you can repeat the process and get **another** random pattern. There is no limit to the number of times you can do this in any given situation. Once a pattern has been generated in this fashion, you may override any or all of the colors by any of the other available means, such as drag-and-drop.

### **Notes:**

1. Generating a random pattern will wipe out any colors which may already have been placed in that pattern.
2. The random pattern will **never** contain an empty hole -- i.e. it never generates the [No Peg] color.
3. There is no guarantee that the pattern generated is clever or useful as a guess. It is just what it says: **random**.

See also

[Dragging and Dropping](#)

# The Rules of MindBuster!

## **Help | Rules of MindBuster!**

This command gives the user the Rules of MindBuster! The form in which they are presented is in a form different from the standard Help format. The various portions of the rules are itemized and the user can peruse whatever section(s) of the rules he or she wishes. These rules apply to Mastermind also and could be used when playing that game on a real board. For the record, the sections presented there are:

1. Introduction
2. Number of Players
3. Sequence of Play
4. Scoring the Guesses
5. Scoring - Examples
6. Some Basic Strategy
7. Miscellaneous

## Dragging and Dropping

Dragging and Dropping is used primarily in MindBuster! to **drag** colors from the color palette and **drop** it on the playing board. This can be either for generating a hidden code or for making a guess.

The drag-and-drop operation can also be used to drag a color from one spot in a guess or code to another spot. Thus, if you wished to make a guess of four (4) reds, you could (a) drag a red from the palette to the first slot in the guess, and then (b) drag the red from the first slot to the second slot, and then the third, and then the fourth.

Drag-and-drop can be used to override either a portion of a random guess selection or to override a part of a guess which was obtained by copying the guess of a previous row.

See also

[Moving Colors Without a Mouse](#)

[Copying a Previous Row](#)

[Moving Colors with a Guess](#)

## Moving Colors within a Guess

One can not only move colors from the palette to the board, but can move them from one spot in the current guess to another. This can prove handy at times.

Suppose that you wish to make a guess consisting of **RD BK BL RD** . You need only drag the **RD** from the palette to the first slot. Once it is there, you can drag it **from the first slot to the fourth slot**.

You can even do this once all the slots have been filled (but before you hit the [OK] button!) Thus, if you have copied a previous row, you presumably want to change it before you make it the next official guess. Sometimes, it all you have to do is drag one of the present colors to another slot to get your desired pattern.

This is clearly an alternative to dragging the color from the palette to the guess, which still is available.

# The Menu Structure

- Game
- Commands
- Options
- Help

## The Menu Structure: Game

- Game
  - Start
  - Quit Current Game
  - Exit
  - Hall of Fame
- Commands
- Options
- Help

## The Menu Structure: Commands

- Game
- Commands
  - Random Selection
  - Move Colors
  - Copy a Row
  - Illustrate Last Score
- Options
- Help

## The Menu Structure: Options

- Game
- Commands
- Options
  - Type of Game (# of Players)
  - Number of Colors
  - Number of Holes
  - IQ Level of Computer
  - Sound Effects
  - Keep Statistics
  - Numbering the Colors
  - Automatic Scoring Lines
- Help



## The Menu Structure: Help

- Game
- Commands
- Options
- Help
  - Contents
  - Rules of MindBuster!
  - About MindBuster!

# Playing the Game

The following topics give further explanations about the actual playing of the game of MindBuster!

- [The Sequence of Play](#)
- [Entering Names](#)
- [Creating a Guess](#)
- [Dragging and Dropping Colors](#)
- [Keyboard Shortcuts](#)
- [Playing without a Mouse](#)
- [Some Basic Strategy](#)

## Playing without a Mouse

Since it is a Windows program, MindBuster! was designed primarily to make use of a mouse. However, even the most die-hard of Windows programs often provide the user with ability to access various menus, features, and commands using one or more keystrokes rather than mouse clicks.

.MindBuster! is designed so that the user can play and make use of keyboard shortcuts to access many, if not all, of the features of the program with key strokes. This should make it easier for persons with physical limitations to play the game.

The most significant Windows-style operation which is difficult in this fashion is a drag-and-drop operation. Unfortunately this particular operation is very common in MindBuster! since it is the most common way of moving colors into a guess.

To expedite this latter operation, a dialog box entitled **Move Colors** has been added. Although using this dialog box method is not as cute as dragging the colors, it does make it possible to play the game **entirely** without a mouse.

See also

[Move Colors](#)

[Copy a Row](#)

[Color Numbers](#)

[Keyboard Shortcuts](#)

# Keyboard Shortcuts

A number of the choices and commands available to the player during the game can be accessed quickly by means of shortcut or accelerator keys. They are listed below. Hint: you can get a printed copy of these shortcuts by clicking on the Print button above.

- **F1**      **Help Contents**
- **F2**      **Start a New Game**
- **F3**      **Random Selection**
- **F4**      **Move Colors**
- **F5**      **Copy a Row**
- **F6**      **Illustrate Last Score**
  
- **CTRL+Q**      **Quit Current Game**
- **CTRL+X**      **Exit**
- **TAB**          **Moves focus to next field / key**
- **ENTER**        **Selects item with the focus**
- **ESC**          **Same as Exit**

## Some Strategy

Although there are no "best" guesses, in general it is usually best to first try to establish the colors in the code, and then, once the colors are known, figure out in which positions they belong.

A set of suggested "opening moves" follows. Letters are used here to represent colors. Thus, if it is suggested that a move be **A B C D** what is intended is that you play four **different** colors -- any four of your choosing. On the other hand, **A A B C** would represent a move with three colors, the first two positions being the same color.

A suggested set of opening moves is:

1. **A B C D**
2. **E A B C**

(Note the repetition of three of the four initial colors.) Experience has shown that the results of the above two guesses can in fact give a lot of information, depending on the results. For example, if you have only 5 colors, then count up the various hits in both moves. If they are less than 5 it means that one of the colors is duplicated.

Another set of opening moves, if you have 7 colors, might be:

1. **A B C D**
2. **E E F G**

This combination has the advantage of quickly identifying the use of doubles in the hidden code.

# Frequently Asked Questions

After understanding the basic rules, players of MindBuster! often come up with one or more questions. Here are a few of the most common such questions:

- **Can the same color be used more than once in a guess or code?**
- **Can one or more of the holes in a guess be left blank?**
- **Can one or more of the holes in a hidden code be left blank?**
- **What are the chances of breaking the code on the first guess?**
- **Is there an element of luck in winning MindBuster! ?**
- **What happens when all 10 rows have been used up?**
- **Can / Does the computer play better than a human being?**

# Numbering the Colors

## Options | Numbering the Colors

One of the options which can be turned On or Off is that of **Numbering the colors**. This option can be useful for a couple of reasons.

1. If the game is being played on a machine with only a monochrome screen, or perhaps even on one with 16 wonderful shades of gray -- or if one is colorblind -- it may be very difficult to distinguish between the "colors". Numbering the colors provides another way in which to distinguish the various colors.
2. It can be of assistance to a person who is color blind.
3. Some people actually can visualize numbers better.

See also

[Game Settings](#)

[Blanks in a Guess](#)

[Blanks in a Hidden Code](#)

# Keeping Statistics

## Options | **Keep Statistics**

It is possible to keep track of the best games played so far. Thus, the computer will record the name of the best player in a 4-Hole & 6 Color game, 5-Hole & 3 Color, etc. These statistics are kept only if this option is set ON.

If the option is ON and you win a game which is the best so far in that particular category, you will be prompted to enter your name for posterity. You can enter your real name, initials, a nickname, or whatever. Feel free to enter made-up names, names of friends, enemies and the like. A list containing names like Miss Piggy, Purple Panda, etc. is more interesting than one containing only initials!

If at any time you wish to clear all the names and start with a clean slate, there is a [Reset] button which will do just that.

One can simply **view** the current list of names in the Hall of Fame by the command sequence Game | Hall of Fame.

See also

Game Settings



# The Hall of Fame

## **Game | Hall of Fame**

This allows you to view the Hall of Fame. It gives you a listing of the names of persons who have played the best games of the various configurations available.

See also

[Keeping Statistics](#)

## Duplicate Colors?

You can play as if you had an unlimited supply of pegs of each color available. Thus there are **no restrictions** on doubles, triples or even quadruples of one color.

.It can even be desirable to make a hidden code with two or more pegs of the same color. This actually makes for a slightly more difficult pattern to guess. Codes with 3 or more of the same color are much more risky and dangerous.

## Blanks in A Guess?

The official rules of Mastermind do not prohibit leaving a slot in a guess blank. In fact, there are situations where it is desirable to do so in order to pinpoint some of the information already known.

In this computer version, one leaves a hole in a guess blank by the [No Peg] "color" there. Thus, one must explicitly leave a hole empty.

See also

[Blanks in the Hidden Code?](#)

## Blanks in A Hidden Code?

This version of MindBuster! **DOES NOT** allow one to leave a hole in a hidden code pattern blank or empty. Hence, "real" colors must be used when setting up a hidden code. The [No Peg] "color" will not be allowed.

To allow a blank hole in a hidden code would essentially be the same as introducing another color. It would also make the use of blanks in guesses less effective.

See also

[Blanks in a Guess](#)

## Winning on First Guess?

There is a small chance that a code can be guessed on the very first turn. With 4 holes and 6 colors there are 1,296 possible different codes or patterns which can be concocted. So, on a purely random basis, the one has a 1 in 1296 chance of doing it.

If the hidden pattern has 4 **distinct** colors, then there are only 360 possible patterns. For the mathematically inclined, here is how the possible 1296 codes break down. (The symbol 3-1 stands for any pattern in which there are three of one color and 1 of another color -- in any order; 2-1-1 would mean that there are 2 of one color, 1 of some second color and another one of some third color. Again, the order makes no difference).

<u>Pattern</u>	<u>Number with that Pattern</u>
4	6
3-1	120
2-2	90
2-1-1	720
1-1-1-1	360
Total:	1296

## Luck or Skill?

MindBuster! is a game which combines skill with a certain amount of luck. All the skill in the world will not help you if it is your 10th guess and you know for certain that the hidden code is one of two possible patterns. At that point, all you can do is guess and hope!

Occasionally a player will make a lucky guess early. However, from about the 3rd guess on, skill and logical play becomes very important. All we can say is **Good Luck!**

Remember that it is possible to dumb the computer down a bit. This can be accomplished by setting the [IQ Level of the Computer](#) to be that of Homer Simpson.

## Only 10 Guesses?

All things must come to an end--even a game! When all 10 rows have been filled with guesses the game is over. The answer(s) or hidden code(s) will be shown. Your torment is over. You can either play another game or exit the program completely.

## Who is Smarter?

It is probably the case that the computer can play a better game than a human. It is able to make thousands of calculations and comparisons within seconds. How "smart" the computer plays depends entirely on how it was programmed to play. In this version, after the computer is allowed to use its smarts, it actually "knows" which patterns are no longer possible answers. Properly programmed, a computer could use this information to maximize its subsequent guesses.

There is really no way to "psyche out" the computer either by your style of playing or by using what you consider to be weird codes.

See also

[IQ Level of Computer](#)



## Another Scoring Example

To the left there is an example of three successive guesses made during the progress of a typical game. These three guesses give some information concerning the hidden code being sought. In fact, they actually allow us to determine the hidden code. Let us examine what information these scores give.

The first guess received two black dots, indicating that two of the four colors played were Direct Hits. Which two is unknown, however, at this time. The next two guesses and their scores help resolve the ambiguity.

The second guess received **NO** dots. This means that the hidden code has **NO Red** squares. Looking back at the first guess, this means that the colors in slots 2 and 3 (the **Blue** and the **White**) cannot have accounted for the Direct Hits recorded. Therefore we can conclude that the **Black** and the **Green** are on the mark. So the situation is **BK ?? ?? GR**.

The third guess has one Direct Hit and one Near Miss. Since we know the colors of the first and last squares, the Direct Hit must be due either to the **Yellow** in the 2nd slot or the **Black** in the 3rd. But which one? If one thinks about the situation, especially trying also to figure out which color accounted for the Near Miss, one can conclude that the 3rd slot cannot be **Black**. [One argues something like this: Suppose that the 3rd slot were **Black**, then trying to account for the Near Miss would force you to conclude that the second slot was **Yellow**. But if the 2nd slot was **Yellow**, the score would have been different -- it would have been 2 black dots!]

So, one can conclude that the pattern looks like: **BK YE ?? GR**. The only question is what is in the 3rd position. Note that the second guess eliminated **RD**. The 3rd guess also eliminated the possibility that the 3rd slot is **BK**. Therefore, the pattern is either **BK YE GR GR** or possibly **BK YE YE GR**. Looking at the 3rd guess solves this question.

**Hidden Code**

Click button for the answer.

# The Number of Holes Option

## **Options | Number of Holes**

The basic, standard, out-of-the-box version of Mastermind, and therefore MindBuster!, has ten rows each with four (4) holes. This means that the hidden code as well as the guesses are composed of four colors. If you desire, you can change this to five (5) holes per row. This provides a more challenging game since the possibilities for patterns increase dramatically.

This option is set before a game begins by using the Options | Number of Holes command sequence. A list will be displayed where you can check the desired number (4 or 5).

This setting does not change essentially how the scoring is done. The only difference is that a score can consist of up to five (5) black or white pegs. This setting is also independent of the number of colors available.

See also

[Game Settings](#)

# The Number of Colors Option

## **Options | Number of Colors**

The basic, standard, out-of-the-box version of Mastermind, and therefore MindBuster!, has a supply of pegs which come in six (6) colors: Red, White, Blue, Yellow, Green, and Black. If you wish, you can play the game with as few as three (3) of these colors, or with as many as eight (8) colors. The additional two colors available are Magenta and Cyan blue. Increasing or decreasing the number of colors clearly affects the difficulty of the game.

This option is set before a game begins by using the Options | Number of Colors command sequence. Once at the list you merely check the desired number. This option is independent of the number of holes, which can also be changed.

See also

Game Settings

# Sound Effects

## **Options | Sound Effects**

The above command sequence will turn on or off noises made at very points in the game. A number of files are included which will provide some minimal sound effects for those with the proper hardware. This can range from a speaker driver to run the tiny (and usually tinny) speaker included in most PCs to a full-blown audio subsystem.

This option allows you turn these sounds On or Off. The presence or absence of sound drivers and associated hardware does not effect the playing of the game at all.

See also

[Game Settings](#)

## **Super Mastermind**

A game in which there are 5 holes per row and 8 possible colors is often called Super Mastermind. On the computer it should probably be called **Super MindBuster!**

**BK YE GR GR**

# Files

This program requires several files in order to be run successfully:

- **MINDBUST.EXE**: The executable program itself.
- **MINDBUST.INI**: A file which saves the game parameters, settings, and Hall of Fame information from run to run.
- **MINDBUST.HLP**: The Help file for MindBuster!
- **MINDBUST.RUL**: A file containing the Rules of the Game. Although it is in a somewhat specialized form, it is basically an ASCII text.
- **\*.WAV**: Various sound files. Not absolutely necessary to run the program.
- **VBRUN200.DLL**: A runtime support file required by Visual Basic (the language in which the program was written). It is **not** necessary to have a copy of Visual Basic, itself, on your computer. The file VBRUN200.DLL should present in one of the following locations:
  - > Your Windows directory, usually C:\Windows
  - > Your Windows System directory, usually C:\Windows\System
  - > The directory where the rest of the game files reside.

If you are critically short on space, the .HLP file and the various .WAV files could be eliminated. Of course, you would then not have the benefit of having on-line Help and no sound effects.

## **Visual Basic**

The program was written in Visual Basic 2.0. Visual Basic is a dialect of Basic offered by the folks at Microsoft. It provides the Windows programmer with easy ways in which to implement forms, dialog boxes, lists, buttons, and the other doodads usually associated with Windows programs.



## The Color Palette

The colors which are available for using in making guesses are shown in a palette or strip (similar to that pictured here) positioned at the left edge of the screen. The number of colors shown depends on the current setting of the Number of Colors option. The last "color" listed or shown on the palette will always be [No Peg].

See also

[Blanks in Guesses](#)

## **[No Peg]**

The last color shown on the palette is indicated as [No Peg]. This is used when you wish to intentionally leave a position in a guess blank.

## **MASTERMIND**

**Mastermind** is the classic game of logic, wits, and deduction which has captured the imagination of users for years. **MASTERMIND** is a registered trademark of Invicta Plastics (USA) Ltd. Copyright © 1976 Invicta Plastics (USA) Ltd.

## **SHAREWARE**

This version of MindBuster! is Shareware. That means that we depend on your honesty to support its developer. Quite a few hours were spent in developing the program. It is hoped that it will reward the user with a similar number of enjoyable hours of playing.

Registered users will be rewarded with information concerning future enhancements and able to receive them at a reduced cost. The suggested support is \$10.00

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## **Hidden Code**

The main object of the game is to figure out a hidden code or pattern of colors. The hidden code which you try to discover is generated either by the computer (in the Solo or Duel games) or by your human opponent (in a Two-Player game). In the Duel games, the computer tries to figure out the code hidden by you.



