MathBase2 2008

Installation

Before installing MathBase2 first uninstall any previous version. Click:

Start > Control Panel > Add or Remove Programs > MathBase2 School Edition **>** Remove

MathBase2 may be installed on any Windows PC. Run setup.exe from the CD and follow the on-screen instructions. By default, the MathBase2 program is installed at location

C:\Program Files\ MathBase\ MathBase2.exe

A MathBase2 shortcut will be created on the start menu and can be accessed by clicking:

Start > All Programs > MathBase > MathBase2

To create a desktop shortcut, locate the program file at

C:\Program Files\ MathBase\MathBase2.exe

and right click MathBase2.exe, then click 'Send To' then click 'Desktop'.

MathBase2 installation uses msi files. The actual msi file is MathBase2.msi and may be used to install MathBase2 on a network as required.

Introduction

MathBase2 comprises twelve programs dealing with whole number:

1. Simple Functions
2. Add & Subtract in 1000
3. Numbers that make
4. Sequencing Numbers
5. Ordering Numbers
6. Rounding Numbers
7. Simple Equations
8. Place value
9. Tens, Fives & Hundreds
10. Units & Tens in 100
11. Add & Subtract in 50, 100 and 200
12. Units, Tens, Hundreds & Thousands

The normal operation of MB2 is controlled by **left** mouse clicks, **right** clicks are used to provide help information. To turn **HELP** on or off, go to any program screen and click the **Ops** button then in the **options panel** click the large purple button labelled 'Help'.

Clicking the MathBase logo on each game screen can also provide useful information and may be of help to pupils with visual difficulties.

1. Simple Functions

The game has two grids with cells that contain numbers. The **brown button** may be used to change the number of cells. Select a number on the left with the mouse and match with a number on the right (a number which is one more) causing both cells to disappear. The aim is to match all the cells and clear the screen.

There are six functions to choose from. These appear as a row of **orange buttons** with the current selection coloured green. The initial number range 5 can be increased in steps up to 1000 using the **purple buttons**. If the **MathBase2 logo** is clicked, brief instructions are shown which may be hidden by clicking a second time.

A wrong match will result in both cells remaining red; a corrective message will appear that must be clicked for the game to continue. Each wrong match scores a fault and is displayed in yellow. Five faults are allowed before the game must restart.

The number of correct and incorrect matches is shown at the bottom of the screen as well as the total number of attempted matches and the percentage of correct matches. These figures are cumulative so if the player returns from playing another game they will still be in place.

The player can start a new matrix by clicking the **New** button. The button marked **Man**(ual) can be set to **Auto**(matic) in which case cells on the left are selected automatically after each correct match.

The **1m** button starts the formation of a red disc that will give the player 1 minute to match as many cells as possible. This can be varied from half a minute to three minutes by clicking on the **Ops** button and using the **options panel**. The time can also be expressed in seconds.

Typing CTRL + L at the keyboard will disable the **Exit** button and a red letter **L** will appear in the bottom right hand corner. To remove the 'LOCK' press CTRL + L again. The MathBase screen may be reduced to the taskbar by pressing ESCAPE (Esc) on the keyboard.

2. Add & Subtract in 1000

In this game, all numbers on the left have the same number added or subtracted. The number added or subtracted is chosen using the **orange buttons**. Any number in the range 1 to 99 can be selected using a single button or a combination of buttons.

The range of numbers appearing on either side is selected with the **purple buttons** in steps from 5 to 1000. For small number ranges, only a limited number of orange buttons will operate. For example, **only orange buttons 1, 2 and 3 will work when the range is set to 5**.

Clicking on the MathBase2 logo will provide brief instructions. Use the 'Ops' button to change an operation from addition to subtraction.

3. Numbers that make...

From the top row of **purple buttons**, select numbers 5 to 20. The game is played by matching numbers (one from each side) that make the selected number. For example, select number 10 and the game involves finding partitions of 10. However, a player may select any number from 5 to 10,000 by clicking the box on the right.

The **orange buttons** restrict the numbers appearing in the two grids to simple multiples. For example, we can find partitions of 1000 using multiples of 50.

4. Sequencing Numbers

To play this game, a start number is selected using the **purple buttons**. A number to be repeatedly added or subtracted is selected using the **orange buttons**. The operation, add or subtract, is selected with the small **yellow button**. Use the number box on the right to select any start number from 1 to 10,000.

The start number will appear as a red cell on the left. The player has to click the numbers on the left in correct sequence. Numbers will transfer, one by one, to the right as they are selected.

When all numbers have been cleared, the player can start a new game or continue the sequence by clicking the **last remaining red button**.

NB Starting with a small number and selecting subtraction may lead to a very short sequence. Sequences that count backwards will require the selection of a higher start number. A typical exercise would be to start at 100 and count backward in 2's.

5. Ordering Numbers

Three rows of numbers are to be put in ascending or descending order by clicking. Each row is independent. The range of numbers can be increased in steps from 10 to 10,000.

6. Rounding Numbers

Numbers up to 10,000 can be rounded to the nearest 5, 10, 20, 50, 100, 200, 500 and 1000.

7. Simple Equations

This game involves simple equations based on the four rules as developed in the 21 stages of the Number Bonds program found in MathBase1. For example the **Add A** gives equations based on addition within 5. When the HELP feature is turned on, right clicking each button will indicate the precise range of arithmetic involved. To change the missing number boxes to letters use the **options panel**.

8. Place Value

This game deals with place value in the **context of calculation** with the four operations. These simple calculations are intended for rapid response. The possible number of settings is 3 x 21 = 63 allowing a graded approach. The basic arithmetic is based on the 21 stages of MB1 Number Bonds; the place value dimension is added by displacing figures to the left by up to three zeros. To change the number of added zeros, use the **option panel**.

9. Tens, Fives and Hundreds

The nine buttons on the left deal with addition and subtraction of two multiples of 10 in 100, 150 and 200. The middle buttons deal with two multiples of 5 in 100, 150 and 200 while buttons on the right deal with two multiples of 100 in 1000, 1500 and 2000.

The 27 buttons are now arranged into nine vertical groups of associated additions and subtractions. The groups are lettered from R to Z for ease of identification. To turn these calculations into simple equations use the **options panel**. Use the HELP facility to view the precise meaning of each button.

10. Units and Tens in 100

The nine buttons on the left deal with addition and subtraction of UNITS to numbers within 100. The middle buttons deal with the addition and subtraction of TENS. The buttons on the right provide practise working with both TENS and UNITS.

The 27 buttons are now arranged into nine vertical groups of associated additions and subtractions. The groups are lettered from R to Z for ease of identification. To turn these calculations into simple equations use the **options panel**. Use the HELP facility to view the precise meaning of each button.

11. Add & Subtract in 50, 100 and 200

The nine buttons on the left deal with mental addition and subtraction of 2-digit numbers within 50. The middle block has calculations within 100. The last block deals with mental calculation within 200.

The 27 buttons are now arranged into nine vertical groups of associated additions and subtractions. The groups are lettered from R to Z for ease of identification. To turn these calculations into simple equations use the **options panel**. Use the HELP facility to view the precise meaning of each button.

12. Units, Tens, 100's and 1000's

This program deals with place value in the context of addition and subtraction. The first block of nine buttons deals with UNITS and TENS. The middle block includes HUNDREDS and the rightmost block includes THOUSANDS.

The 27 buttons are now arranged into nine vertical groups of associated additions and subtractions. The groups are lettered from R to Z for ease of identification. To turn these calculations into simple equations use the **options panel**. Use the HELP facility to view the precise meaning of each button.

Different groups deal with different aspects of composition and decomposition. Some groups avoid the complication of composition and decomposition altogether. For example, 2369 + 400 = 2769 does not involve composition.

Other groups involve the composition or decomposition of a ‘complete’ power of 10 i.e. 10, 100, 1000 or 10,000. These problems are of intermediate difficulty. For example, 13645 + 400 = 14045 involves the composition of a complete 1000.

Finally, other groups involve ‘general’ composition or decomposition and are the hardest. For example, 2378 + 50 = 2428 involves general composition.