❶ Getting started

The *Mult-e-Maths Toolbox* is a highly versatile resource designed to help you to enhance mathematics teaching and learning. It is the ideal resource to support your creativity and to help you to make effective use of an interactive whiteboard.

There are over 60 flexible interactive tools in the *Mult-e-Maths Toolbox* that enable you to create and save single mathematical activities or whole lessons. Being easy to use, the tools can also be displayed spontaneously within lessons and used to further children's understanding of concepts.

This guide will help you to get the most out of the *Mult-e-Maths Toolbox*. It summarises the general features of the product and explains how the tools can be used and adapted to suit your children's needs.

Further information about the full range of Mult-e-Maths products can be found on our website:

http://www.cambridge-hitachi.com/products/primary/multemaths/

This can be launched by clicking on the Mult-e-Maths logo in the top right-hand corner of the Toolbox workspace.

The *Mult-e-Maths Toolbox* can be used in many ways. These include:

- Planning, setting up and saving a lesson;
- Using unprepared tools in class to support and enhance other activities;
- Sharing saved activities with colleagues who also use the Toolbox, via email or a network;
- Changing activities for use with different classes.

Visit the Mult-e-Maths website for more information about the range of products available

Technical information

Minimum system requirements

PC only
Microsoft Windows ® 98 SE/ME/NT/2000/XP
64 MB of RAM (128 MB recommended)
600 MHz minimum processor speed
50 MB free hard disk space
800×600 or higher screen resolution (1024×768 recommended)
16-bit or higher colour monitor (32-bit recommended)
Adobe Acrobat Reader 5.0 or higher

For technical support, contact us at:
techsupport@cambridge-hitachi.com
or call 01223 325040.

Screen resolution

If you prepare activities on a different computer from the one connected to your interactive whiteboard, you are strongly advised to ensure that the resolutions of both computer monitors are the same. This is because a smaller screen resolution provides you with a smaller workspace, so activities prepared at a higher resolution can occupy more space than those at a lower resolution. Please refer to your Microsoft Windows ® Help index for information about how to check and change the screen resolution.

❷ Workspace overview

The *Mult-e-Maths Toolbox* consists of a workspace with tools that you can use and combine to create and save customised learning experiences. Each Toolbox document contains six blank sheets, making it easy to produce a series of progressive activities. Since the tools are accessible at all times whilst using the program, the Toolbox is also suitable for more spontaneous use.

The main features of the workspace include:
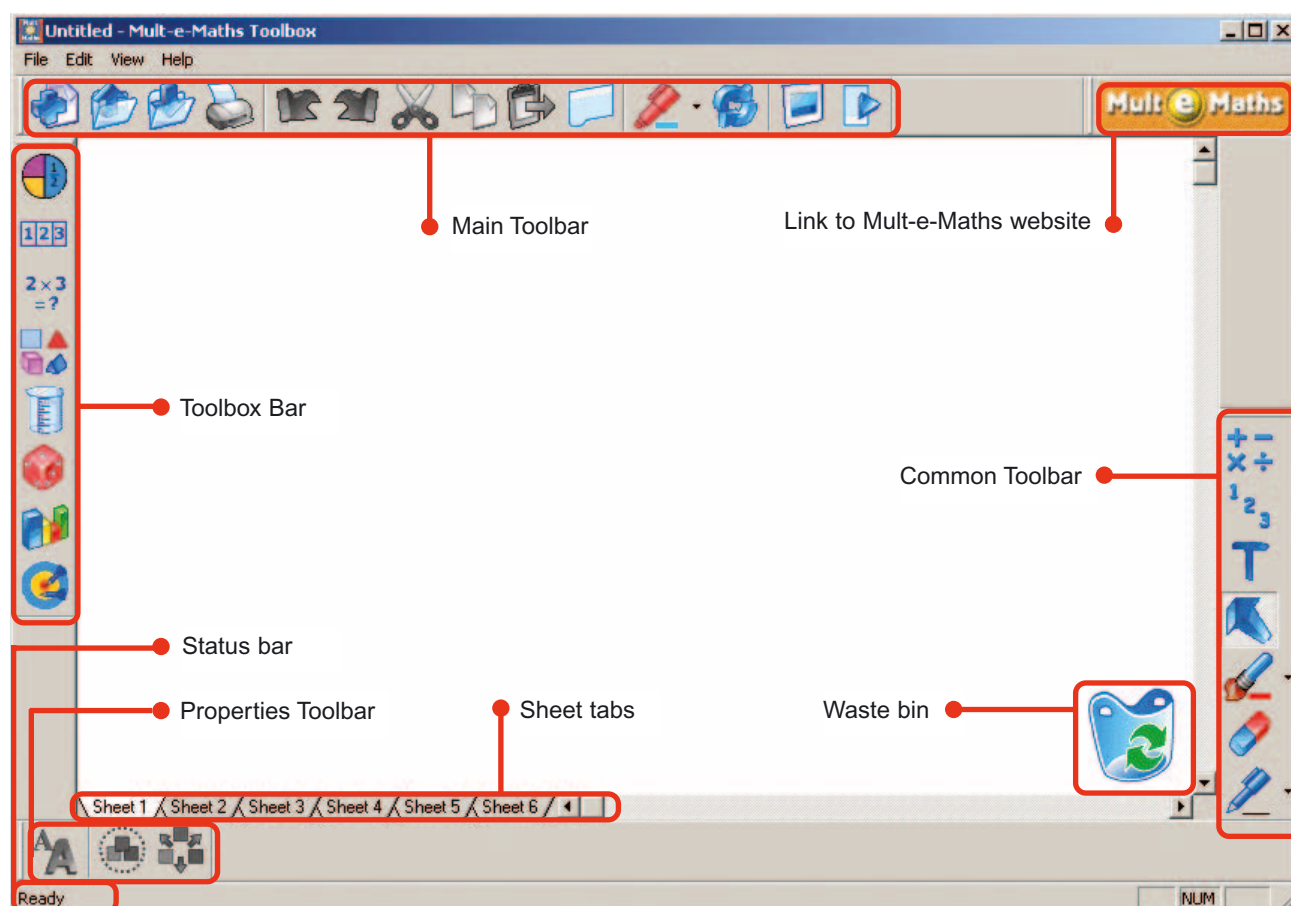
Menus

The *Mult-e-Maths Toolbox* has a drop-down menu system that allows you to interact with your Toolbox documents. These menus are File Menu (see page 5), Edit Menu (see page 6), View Menu (see page 6) and Help Menu (see page 6).

The menu options allow the user to: open, close and save documents and print sheets; select, cut, copy and paste objects; view or hide elements of the workspace; obtain information about the program. Shortcuts to several of these options are also available on the Main Toolbar (see page 7).

The following pages provide a detailed description of each drop-down menu.
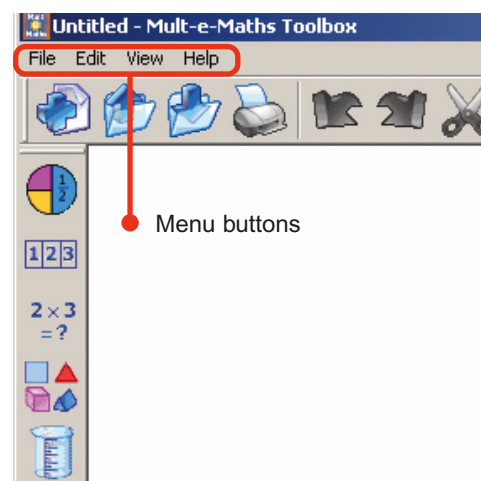
Click a menu button to view the menu options

File Menu

New	Access a blank Toolbox document.
Open…	Find and open a previously saved Toolbox document.
Save	Save the current document with its current file name and location.
Save As…	Save the current document with a different file name or location.
Revert	Return the current document to its most recently saved version, losing any changes made since the last save.
Print…	Print the current sheet. The default layout is landscape.
Print Preview	See how the current sheet will look when printed.
Print Setup…	Change the print options.
Preferences	Change the snapping objects feature (see below for details).
Recent files	See a list of the four documents opened most recently.
Exit	Exit the *Mult-e-Maths Toolbox.*
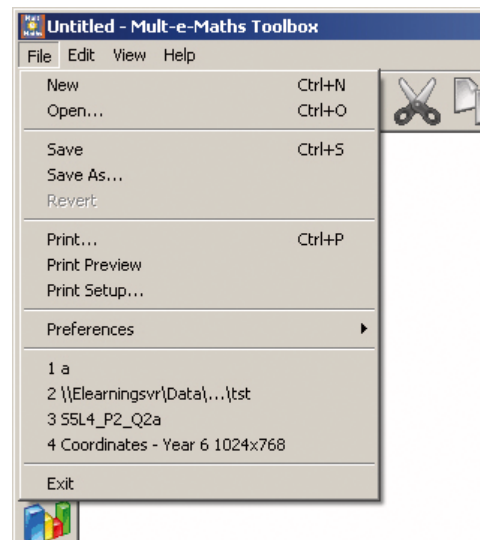
The menu bar with the File Menu open

Saving

Toolbox documents are saved as 'mem' files (files with a .mem extension, e.g. Countingin10s.mem).

After creating a new document choose File > Save As... In the 'Save As' dialogue box, choose the location you want to save the document to. Then choose a name for the document and click 'Save'.

To save the changes made to an existing document choose File > Save. Alternatively you can click the 'Save' button 🗊 on the Main Toolbar (see page 7).
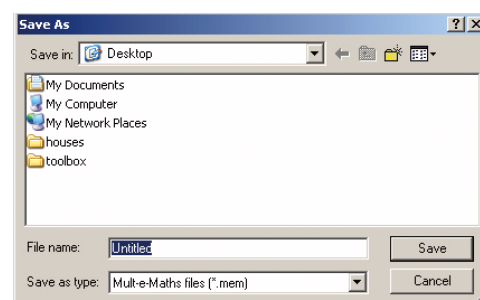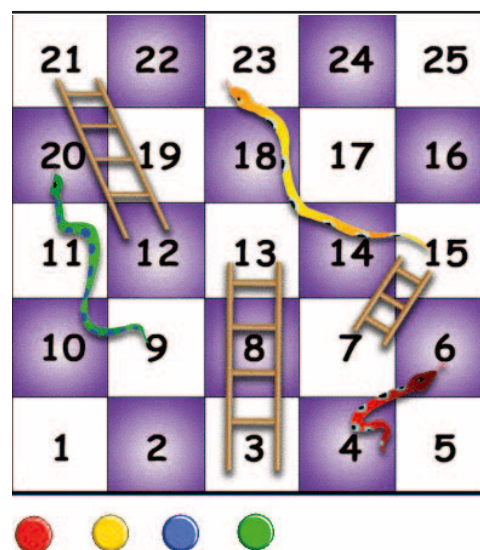

The 'Save As' dialogue box

Printing

You may find it useful to print out a sheet prepared in the Toolbox for children to use as an independent activity, e.g. the Snakes and Ladders Game Board. To do this choose File > Print... or click the 'Print' button 🗊 on the Main Toolbar (see page 7).

To alter the print settings choose File > Print Setup…

You could print out the Snakes and Ladders game for children to play independently

Preferences

This sub-menu contains two options which are revealed by hovering the cursor over 'Preferences':

Workbench size: If you are creating activities on a computer with a screen resolution significantly larger than that of your interactive whiteboard computer (e.g. 1280 × 1024 as opposed to 800 × 600), you can create an outline of the area available for your activity. This will help you to ensure that your activity will be wholly visible on the interactive whiteboard (see 'Screen resolution' on page 3). Click on the 'Workbench size' option and, using the table opposite, type the appropriate workbench dimensions for your whiteboard computer screen resolution into the 'Workbench Size' dialogue box. Clicking on 'OK' will create the appropriate area outline on your screen.

Snap together: With the default Toolbox setting, when you place one 2-D shape close to another, their sides will snap together. If you want to disable snapping, untick the Snap together option.

Screen resolution	Workbench width	Workbench height
800 × 600	690	415
1024 × 768	915	585
1152 × 864	1040	680

Table showing the workbench dimensions for different screen resolutions

Edit Menu

Undo	Undo the last action on the sheet.
Redo	Cancel the latest 'undone' action.
Cut	Remove selected object(s) from the sheet to the clipboard.
Copy	Copy selected object(s) from the sheet to the clipboard.
Paste	Transfer the latest content of the clipboard (i.e. a cut or copied object) to the sheet.
Delete	Remove selected object(s) from the sheet without storing on the clipboard.
Select All	Select all objects on the current sheet.

The Edit Menu

View Menu

This enables you to hide toolbars or other elements of the workspace. See the General screen features section (page 10) for descriptions of some of these elements.

The View Menu
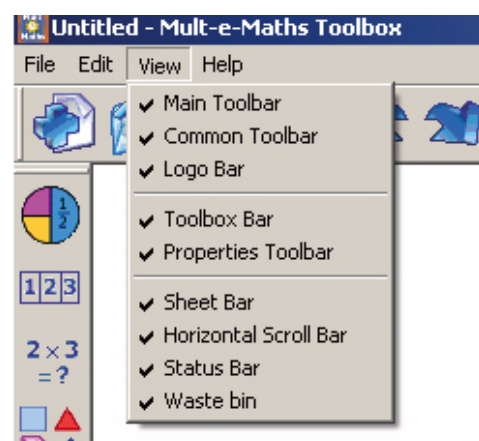
Help Menu

As well as including the *User Manual*, the Help Menu allows you to view basic information about the *Mult-e-Maths Toolbox*.

The Help Menu

General toolbars

Main Toolbar

For ease of use, some of the more frequently used menu options are also available as buttons on the Main Toolbar along the top of the screen. There are also other useful tools available on this toolbar.

	New	Create a blank Toolbox document.
	Open	Find and open a previously saved Toolbox document.
	Save	Save the current document with its current file name and location.
	Print	Print the current sheet.
	Undo	Undo the last action on the sheet.
	Redo	Cancel the latest 'undone' action.
	Cut	Remove selected object(s) from the sheet to the clipboard.
	Copy	Copy selected object(s) from the sheet to the clipboard.
	Paste	Transfer the latest content of the clipboard (i.e. a cut or copied object) to the sheet.
	Clear	Remove all objects from the current sheet of the current Toolbox document.
	Highlight	Highlight parts of typed words or numbers.
	Rotate	Click this button and then click an object (shape or image) to rotate it manually.
	Image bank	Choose from a bank of images that can be copied onto a sheet.
	Curtain	Display grab-handles that can be dragged to hide and reveal parts of the sheet.

Image bank

To stimulate children's imaginations and mental imagery, you may wish to prepare activities using the Image bank (see example below). It gives you the freedom to create real life situations on which to base mathematical problems. From the drop-down menu in the 'Choose Images' dialogue box you can choose from a selection of backgrounds, game boards and other objects, e.g. money, food, people and animals.

Click the image name to highlight it, then click the 'Add' button. You can add more images to your current selection, then, when ready, click the 'OK' button to place the images on the sheet. **Note:** By holding down the control key on your keyboard and clicking image names in the list, you can select several images at once to add to your chosen list.

Once on the sheet, images can be resized. To do this click on an image to select it, then click the 'Properties' button   and alter the scale as desired.

Example: Use a blank sheet. Click the 'Image bank' button   and choose Backgrounds from the drop-down menu. Select Sports shop, then click the 'Add' and 'OK' buttons.

Click the ‘Symbol pad’ button   (see page 8) and enter a price. Drag the price onto one of the items in the Sports shop scene. Repeat, adding price labels to various items in the scene.

Create word problems for children to solve based on the prices you have assigned to items in the shop scene. You could type the problems on the screen using the text tool   (see page 8). Children's answers and reasoning could be recorded on the screen using the pen tool   .
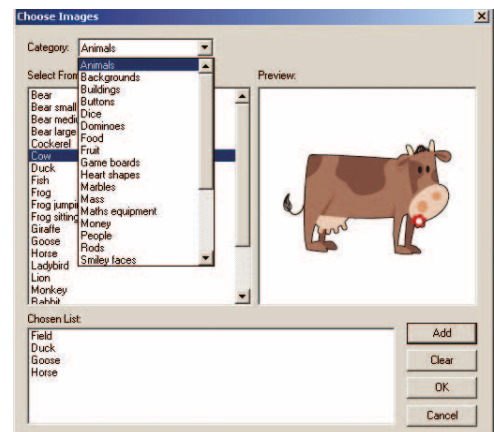
The 'Choose Images' dialogue box

You spend exactly £40 on T-shirts.
Which T-shirts could you have bought?

Use the Image bank to create problems for children to solve

Common Toolbar

These tools can be used alone or alongside the specialised Toolboxes
for added functionality.

	Symbol pad	Generate a string of numbers and symbols, displayed in the text box area of the dialogue box. Drag the string onto the sheet to display it as an object.
	Number pad	Drag characters (digits 0-9, decimal point, minus sign) onto the screen.
	Text	Use this button to insert a text field. Then use the Keyboard pad and Number pad, or your computer keyboard, to enter text.
	Select	Click on this button to enable you to select menu options, click buttons and select objects. Clicking on this button turns off other tools (e.g. pen, eraser, rotate).
	Palette	Change the pen colour. The colour selected here will also be the colour of text entered using the text tool, and of lines and arrows drawn from within the Shape and Space Toolbox (see page 19).
	Eraser	Click on this button and then on pen markings to erase them.
	Pen / Pen thickness	Draw freeform shapes on the sheet. The 'Pen' button features a drop-down menu to change the thickness of the line. The selected pen thickness also determines the thickness of lines and arrows from the Shape and Space Toolbox (see page 19).

Adding text

Choose the 'Text' button and click the cursor where you would like
the text to appear (it can be repositioned by dragging later). Use the
Keyboard pad and the Number pad, or your computer keyboard, to
enter the desired text. Click away from your completed text to close
the Keyboard pad and the Number pad.

Click the 'Symbol pad' button to type numbers with units of
measurement, equations or inequalities. Enter the desired characters
and drag the expression from the 'Symbol pad' dialogue box to the
sheet. (**Note:** When the 'Text' tool is being used, characters typed on
the Symbol pad will automatically appear on the sheet.)

Changing text

Clicking on text, numbers or an object containing a label reveals the
font toolbar. You can change the font or font size, set the text to bold
or italic, or underline text. If you have entered two or more lines in one
piece of text, you can align them to the left, centre or right. There is an
abbreviated font toolbar (without the alignment feature) for labels, for
example within the Block Graph tool (see page 29).

To change the text colour after typing, click the 'Palette' button
and select a colour from the drop-down menu of colours. Then drag
the cursor over the text you wish to change.

Selecting objects

To select an object, choose the 'Select' button and click on the
object. If an object is capable of being resized or having part of itself
moved in some way, it is displayed with grab handles, i.e. small
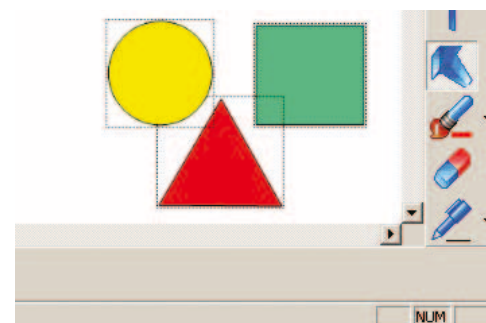squares that can be dragged.

To select several objects simultaneously, click on an empty part of the
screen near the shapes and drag the cursor so that at least part of
each object is included in the dotted rectangle drawn. Each selected
object will then be displayed inside its own dotted rectangle. The
objects can now be moved as one by clicking and dragging one of the
selected objects. (See page 9 for how to group several objects
indefinitely.)
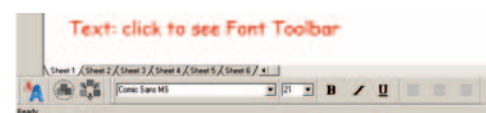
The font toolbar is displayed below the Sheet tabs
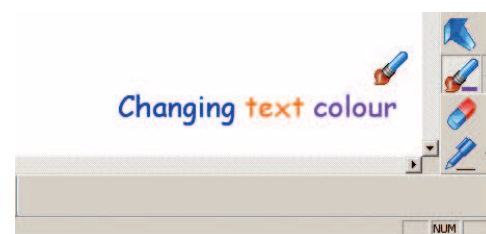
Use the 'Palette' button to change the text colour

Three selected objects