

1		1
	X	
2		2
	+	
3		3
	-	
4		4
	/	
5		5
	X	
6		6
	+	
7		7
	-	



Written by Max Wainwright © thinkICT Ltd 2004

User Guide

CAL_BC_005

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Whilst this manual provides help in using 2calculate, we recommend you also watch the videos provided on the CD!

Introduction

“I’ve always been frustrated that spreadsheets have never quite made the contribution to improving children’s mathematics that they could. We’ve all seen how word processing and desktop publishing have improved our pupils enthusiasm for writing, but in the 25 years since spreadsheets were invented they haven’t really made an equivalent impact on mathematics learning.”

“Perhaps because traditional spreadsheets require pupils to think about using a spreadsheet not about mathematics... perhaps because they have a language and syntax of their own... perhaps because they hide the calculation and just show us the answer.”

2calculate changes all this. It is as simple to use as a calculator, yet is as powerful as a traditional spreadsheet. It encourages children to learn in a very visual way. It is designed to be a simple, flexible, and creative tool—I hope you and your pupils enjoy using it!”

Max Wainewright, Designer & Developer of 2calculate

Installation

3

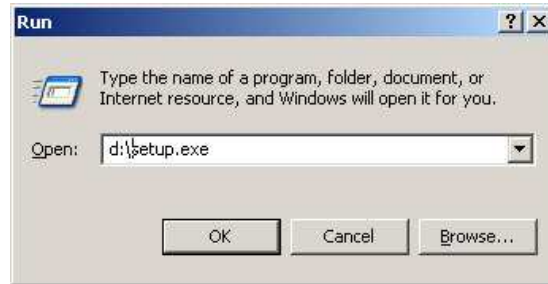
1. Put the CD in the drive

2. If nothing happens click **'Start—Run'**



3. Type **D:\setup.exe**
*(If your CD drive is drive E
Type e:\setup.exe etc)*

4. Click OK.



5. Follow the instructions on screen to complete the installation.

This will install your software & add a link from the 'start menu' to 2calculate

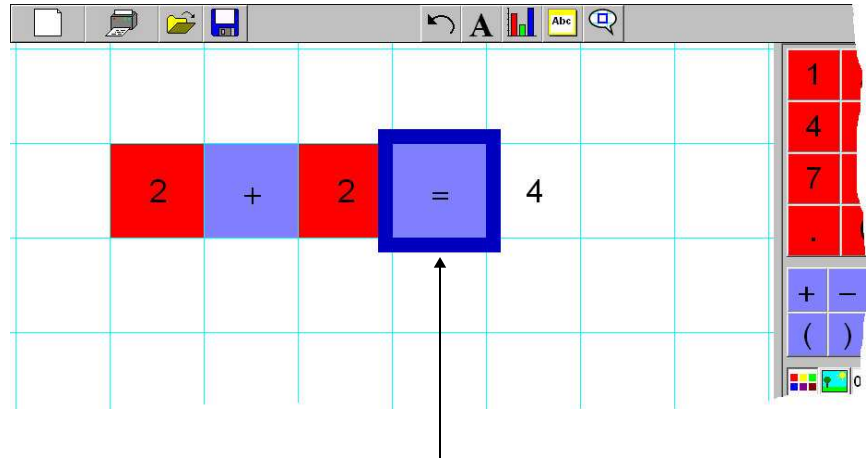
Getting started—a simple calculation

	4
--	---

Click **Start—Programs—
2simple Software—
2calculate**

To get going try typing a simple calculation. Use the keyboard or the red and blue buttons on the right hand side of the screen.

When you press = the answer will be shown.



Try using the cursor keys or the mouse to move the blue cursor square around. You can easily change a calculation by typing a new number over the top of the previous one. Use the backspace key to rub out a digit, or the delete key to rub out a whole square.

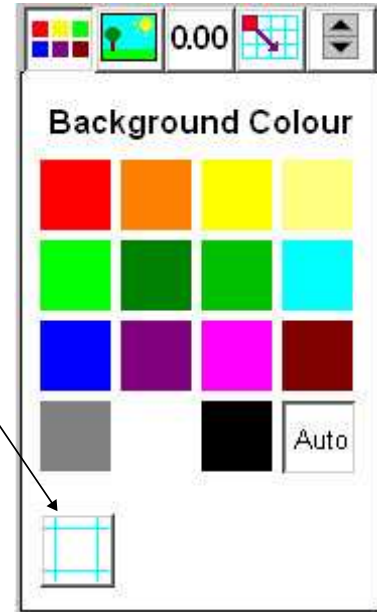
To introduce 2calculate to your class why not set them a simple challenge: **How many ways can you make 10?** This will allow them to get used to 2calculate as they try out different ideas. Eg $5+5=10$, $2+8=10$, $12-2=10$, $5 \times 5 - 15=10$.

Selecting squares & changing colours

5

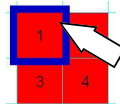
The colour for each square (or *cell*) will automatically be set. Numbers will be red, text yellow and operations blue. To change the colour of the current square just click a colour from the first tab in the bottom right corner.

Click this button to add a border around the square.

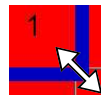


Selecting multiple squares

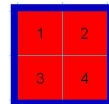
1. Click on one of the squares.



2. Click on the corner of the blue cursor and drag to select all the squares.

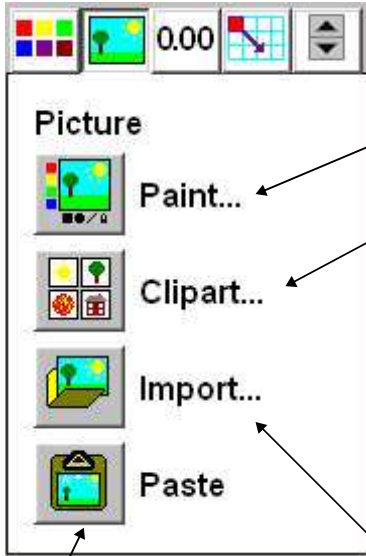


3. Release the mouse button.



NB To select the whole page hold down 'CONTROL' then press 'A' (for ALL)

Pictures and Images

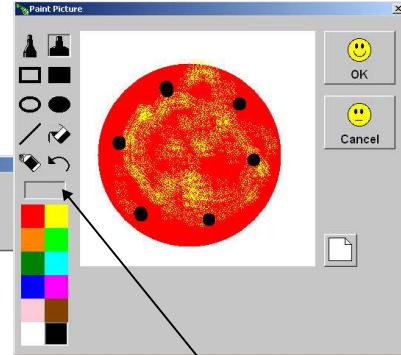
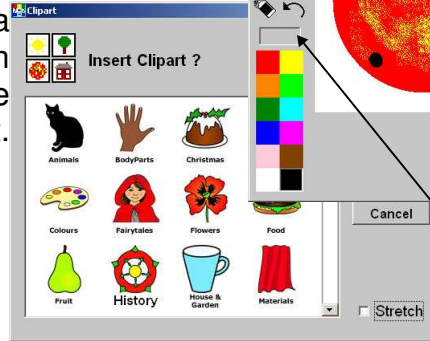


Paste in a picture.

Import an image that has been saved in another program.

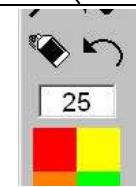
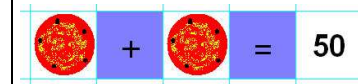
Choose a category then select a piece of clipart.

Draw your own pictures then click OK



Value your pictures!

Enter the price of your pizza!



The Toolbar - New, Print, Save & Open



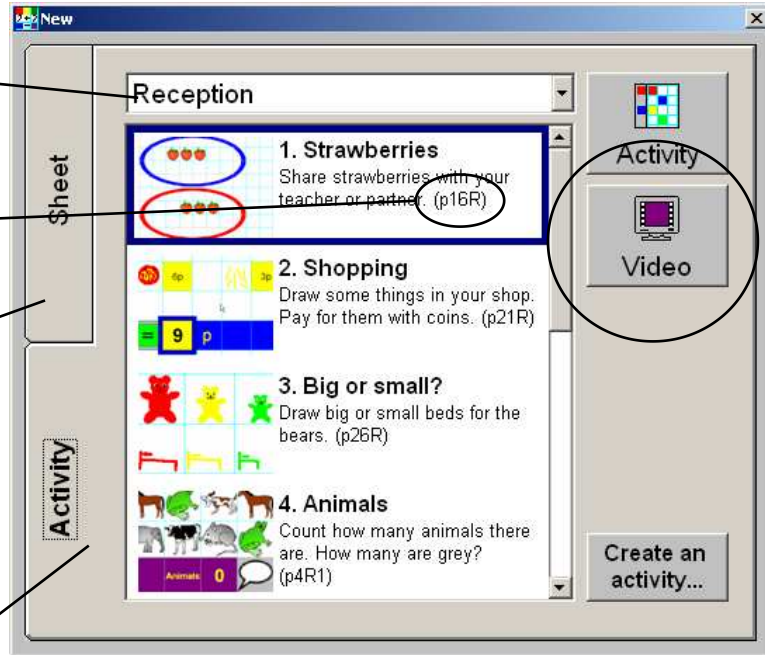
Choose the size of squares you want - small, medium or large.

Click here for other year group activities and videos

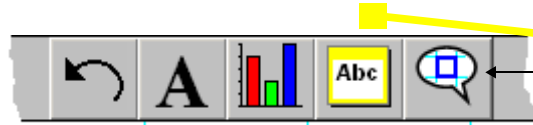
Reference to National Numeracy Strategy

Click on **Sheet** to start a new piece of work

The **activity** tab lets you complete a pre-prepared task. Here you can also watch the videos. (Circled)



Undo, Fonts, Graphs, Text boxes & speech



Undo:
Take back a mistake!

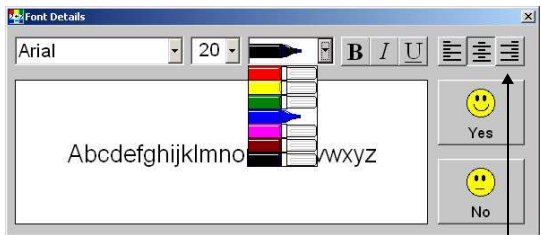
Fonts:
Change the font style, colour & size

Speak:
Reads aloud the number in the blue cursor square

Close text box
Use the text boxes to add information.

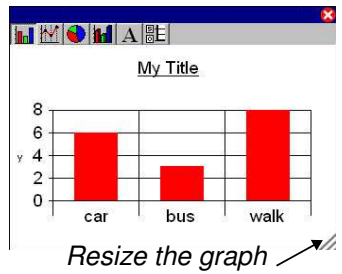
- Making a Graph:**
1. Enter your data on the sheet
 2. Click the Graph button.
calculate will automatically highlight the data with a dotted box. Drag the handles to change this.
 3. Your graph will be displayed

car	6
bus	3
walk	8



These buttons set whether the text will be centred, or left/right aligned.

- These buttons change the graph type
- Labels the graph
 - Changes the axis values



Number display and Currency

Number display

0.00 Decimal

1p 2p

5p 10p

20p 50p

100p

The way 2calculate shows the number in a square can be set either to decimal, fraction or currency.

Click here to change



2

0.00 Decimal

2 decimal places

The number of decimal places displayed can be changed here.

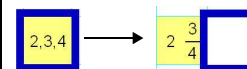
To set the number format for a group of squares drag the cursor box from the corner around the group. (see page 6)
(*Control-A* selects the whole sheet) then choose decimal etc.

Just click to enter a coin on the sheet. Coins can be added, multiplied etc:

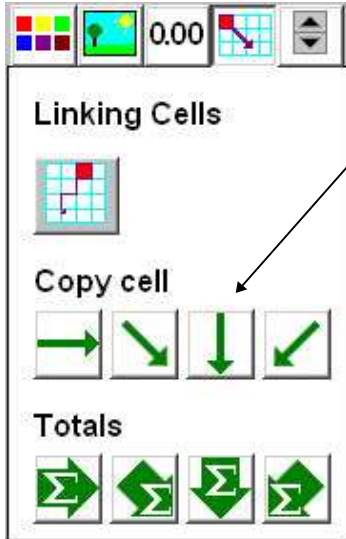
2p + 10p = 12

Entering a Fraction

To enter $\frac{1}{2}$ just type 1,2 then move to another square. To enter $2\frac{3}{4}$ type 2,3,4 etc.



Copying, linking squares & Totals




When solving mathematical problems or creating an ICT based model* we sometimes need to use the same value twice on a page. The thin green arrows allow us to do that.



Try changing the left cell...

- 3
- 4
- 5
- 
- 12

Use the thick 'Sigma' arrows to automatically total a row or column of numbers. Try it!

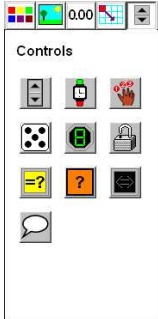
To copy a value between squares further apart, click the first cell, then click the link button  then the 2nd

*What is 'Modelling' in ICT?

Modelling in ICT means creating or using a *model* or simulation of a real life situation, on a computer. For example we could start by creating a page in 2calculate which added up how much money we made by selling 3 pizzas for 25p and 2 apples for 10p each in the school tuck shop . We could then use 2calculate to explore what would happen if we changed parts of the model—by putting up the prices for example. Changing certain values within the page and seeing what happens is what is meant by modelling.

Controls

1	1
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The fifth tab contains the following controls. Please watch the videos on the CD for further information. Experiment!



Spin button. Click to place it on the page, then use the arrows to change the adjacent square.



Auto timer. Click to place it on the page. Click the green button to start the timer, the red to stop or reset it. It will increment the cell that is adjacent to it.



Count If. Once on the page, this button will look at the picture, number or text to the left of it, and count how many times it occurs elsewhere on the page.



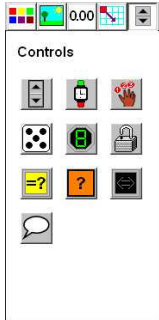
Dice. Once on the page, this button will generate a random number between 1 and 6. Click any one of the dice on the page to 'throw' them all again.



Random number. Identical to the Dice control, except the number is from 0 to 9. Place two next to each other to make a random number from 0 to 99 etc.

Controls

1	2
---	---



The fifth tab contains the following controls. Please watch the videos on the CD for further information. Experiment!



Lock Square. Click to place it on top of a number, operation, image or text to lock it in place. It can still be copied simply by dragging the square to another place.



Check answer. End a calculation with this control and it will check the answer pupils enter next to it. It will change colour to show them if they are correct.



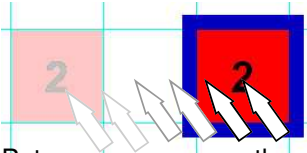
Hide Square. Place this over a number square and it will be hidden. Clicking on it will prompt the pupil to enter a number. If they enter the correct (hidden) number it will be shown.



Auto speak. Place this on the page and it will read aloud the number in the square immediately to its left whenever it changes.

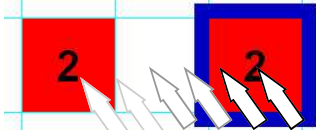
Moving, copying & pasting squares

To move a square:



Put your mouse over the middle of a square and drag it to another square.

To copy a square:



Put your mouse over the middle of a square, hold down the **control** key and drag it to another square.

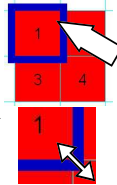
Copy & Paste



Click the right mouse button in a square, then choose Copy, Cut or Paste

Moving or copying multiple squares

1. Click on one of the squares.
2. Click the corner of the blue cursor & drag to select all the squares.
3. Release the mouse button.



*These squares can then be moved or copied by dragging the **first square**.*



If a picture is pasted, whilst a group of squares is selected, then each square will receive a copy of the picture.



If **shift** is held down whilst pasting to a selected group of squares, then the picture is split between the squares.



If **shift** is held whilst pasting text, each letter will be pasted into a separate square.

*You can use the standard keyboard short cuts—**Control C** to **Copy**, **Control X** to **Cut** or **Control V** to **Paste** the selected cells. **Control A** selects **All** the squares on the page*

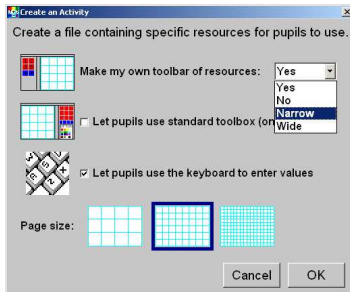
Making activities

Once you have become experienced at using 2calculate, you might want to create your own activities to teach a particular concept in maths or ICT. You can create your own activity file to do this. These means you can:

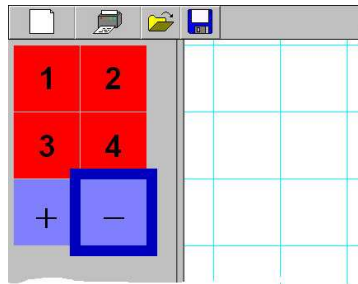
- provide a starting point for a particular problem.
- give pupils a simpler page, focussing on the specific numbers, operations & pictures they need.
- Share ideas & resources with colleagues in your school, or by email.

1. Click the '**New**' button, the '**Activity**' tab then '**Create an activity...**'

2. Choose from the options shown, then click **OK**.



3. Move the blue cursor to the left & place any numbers, words, operations etc on the grey toolbar.



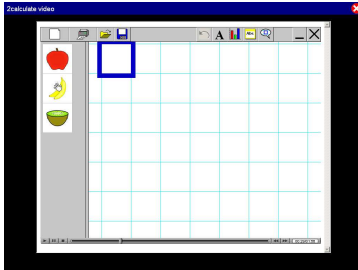
4. Save your activity.

If you have a network in your school try to save activities in a public or shared folder. This way it will be easy for all pupils to access the activities.

Using the training videos

The CD supplied contains over 30 tutorial videos. If these have been installed then they will be available by clicking the **New** button, then clicking the **videos** tab. You can then choose a video & click **OK** to play it.

In addition to showing you how to use the software, the videos are also designed to give you ideas on how to teach particular concepts and skills.



Once the videos have started playing you will see the program being used. To pause or rewind the video use the buttons at the bottom of the screen:



Click the red exit button to return to 2calculate.

Why not use the videos:

To introduce the start of an activity in the ICT suite? As part of an INSET session?

As a way to remind individual pupils how to do an activity?

To learn more!

/



Special thanks to Daniel for all his testing, support & feedback! Emma for the wonderful clipart; Sean for the VB help & installations; Nigel for his never ending enthusiasm; Katie, Melissa & Abbie for their ideas and all the staff at 2simple for their continued dedication, help and patience .

Thanks to Rachel, Bob, Ivan, Julie, The Klingons, Jo, Adam & Nori for their continued support and encouragement. A special thanks to Debbie, Emlyn and Gabriel for their inspiration.

Get ready 2calculate!

Max Wainewright, 2004



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