

12M Easiteach

Science



Getting Started Guide



Contents

Introduction	1
Installing RM Easiteach Science	1
Extend and Enhance your Use of RM Easiteach	1
Reviewing your License Agreement	2
Key Features	3
Magnetic Lines	3
Web Diagrams	5
Image Capture	7
Ruler	9
Caliper	12
Stopwatch	15
Timer	17
Science Symbols & Units	19
Calculator	22
Opening Existing Easibooks	24
Saving Easibooks	24
Tips for Using RM Easiteach Science	25
Drawing Curved Lines	25
Editing Web Diagrams	27
Capturing and Displaying Images	29
Known Values for Calibration	30
Multiple Timers and Stopwatches	30



Introduction

1

Welcome to RM Easiteach Science, a set of software tools to enhance the teaching of science skills and processes through interactive teaching.

RM Easiteach has been developed specifically for use on interactive technologies, including all brands of interactive whiteboards. It can transform the classroom teaching and learning experience, and help you deliver fast-paced, interactive and highly differentiated lessons.

Installing RM Easiteach Science

For information on how to install and license RM Easiteach Science, please refer to the separate installation guide supplied in the pack.

Expand and Enhance your Use of RM Easiteach

RM Easiteach Subject Tool packs are also available for Math, English Language Arts and Geography. These tools are easy to use, flexible software equivalents of familiar teaching tools that you already use in the classroom; for example, place-value cards for Math, writing frames for English Language Arts, and map-building tools for Geography.

Lesson Content Packs are also available. Developed with teaching experts, they provide teachers with a wealth of prepared material, all referenced to learning outcomes and objectives. Each activity has comprehensive teaching notes, vocabulary, objectives, and suggestions for further work. They are highly visual and easy to modify and update to suit your needs.

For more details please contact your RM Easiteach distributor or visit www.rmeducation.com

Reviewing your License Agreement

If you wish to review your License Agreement, which details how and where you are licensed to use Easiteach, do the following:

1. Click **Start > Programs > RM Easiteach > RM Easiteach**.
2. Click **File > About Easiteach**.
3. Click the **License Agreement** button.

Key Features

The Science tools are located on the Science toolbar. Select **Toolbars > Science** to display it.

Magnetic Lines

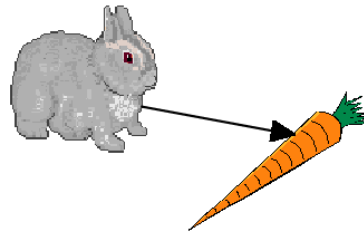
Allows plain or arrowhead lines to be attached magnetically to objects on the Easibook page. The links stay connected even when the objects are moved around.



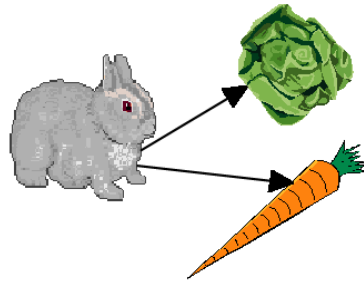
1. Click the **Straight Line** button on the Science toolbar, and select the line style required from the pop-out menu.



2. Now click on two objects to link them with a line. You can attach the ends anywhere on or at the edge of objects.



Moving an object onto the end of a magnetic line will also attach it.



An object can have multiple magnetic lines.

When the lines are drawn, return to **Use Mode**. The objects can be moved around and the lines remain attached. You can use magnetic lines to connect shapes, images, numbers or text.

To break the magnetic link at one end of a line, hold the hand cursor over the end of the line until two small arrows appear. Hold down and drag the end of the line away.

To break both ends, click on the center of the line and drag it away.

The **Poly Lines** tool allows you to create curved lines. See 'Tips for Using RM Easiteach Science' on page 25.

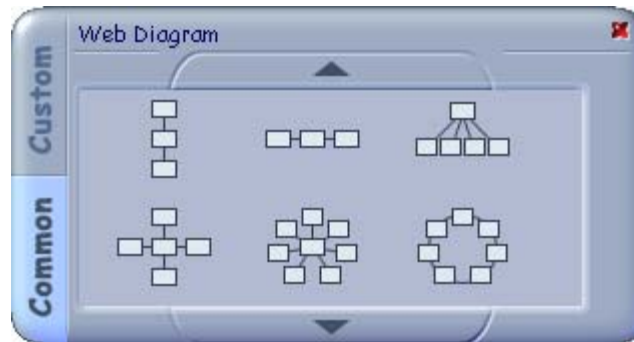


Web Diagrams

Allows common or custom web diagrams with magnetic lines to be placed quickly and easily on your Easibook page.



Click the **Web Diagram** button to bring up a palette with two tabs: Common and Custom.

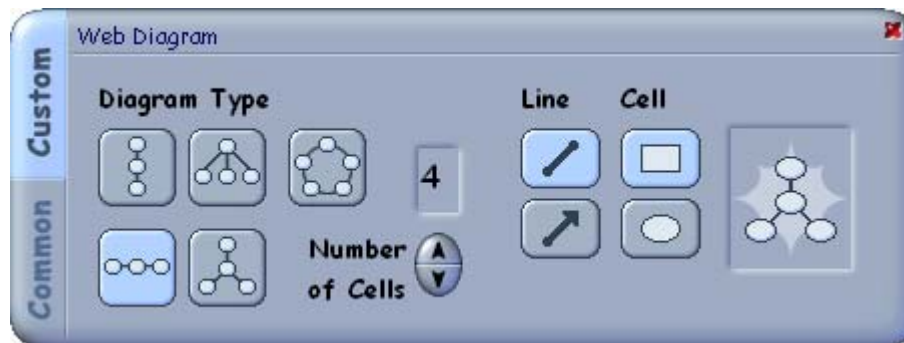


The default Common palette contains simple Vertical, Linear, Cycle, Tree and Map diagrams. You can change the cell shape from rectangular to oval by clicking the arrow below the window.

Select the required diagram and drag it onto the page.

To create a custom web diagram, choose the **Custom** tab.

6



Use the buttons to select the required **Diagram Type**, **Number of Cells**, **Line** and **Cell** shape. Your selection will be highlighted in blue. Click and hold the large Web Diagram icon, and then drag away to the Easibook page – your custom web will appear.

You will find some useful hints for editing common or custom web diagrams in 'Tips for Using RM Easiteach Science' on page 25.

You can also use the Magnetic Lines tool to create web diagrams with any combination of shapes, images, numbers or text.

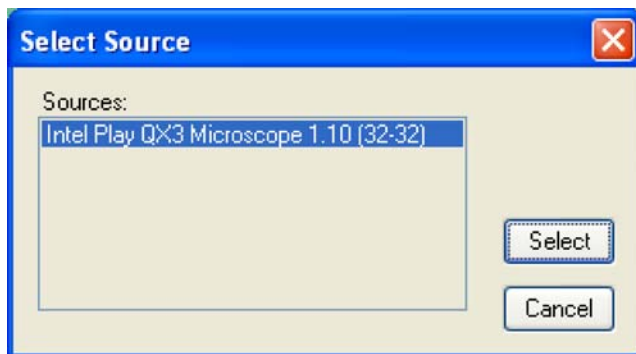
Image Capture

Allows you to capture and display images from a TWAIN device, such as a digital microscope, scanner or camera.

This function uses the Select Image Source and Capture Image buttons on the Science toolbar. Note that the Capture Image button is disabled until the image source has been selected.

To start the image capture:

1. Click **Select Image Source** in the Science toolbar.
2. Choose the required device from the **Select Source** pop-up box.
3. Click the **Select** button.





The **Capture Image** button is now enabled. Click it to display the pop-up box for the device selected. The appearance of this box depends on the device manufacturer, so its layout may differ from the example shown.

Select **Capture** to insert the image on your page.

You can drag, rotate or resize the image in the usual way once it is part of your Easiteach page.

To display images from non-TWAIN devices and other sources, see 'Tips for Using RM Easiteach Science' on page 25.



Ruler

Allows common and custom metric rulers to be placed on the Easibook page.

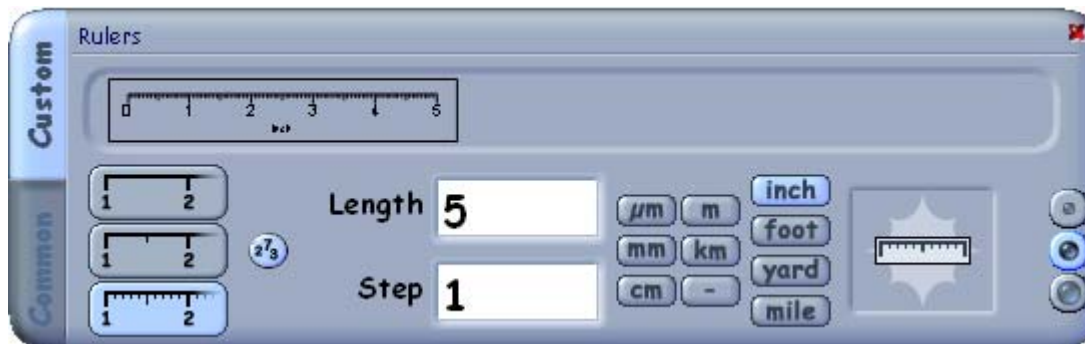
Click the **Ruler** button to display this palette:



By default the Common palette is displayed. This allows you to place common rulers on the page very quickly. Simply drag the ruler you want onto the page.

To create a custom ruler, select the **Custom** tab on the Ruler palette:

10



The preview window displays how the ruler will appear. You have a choice of three division modes and nine units of measurement.

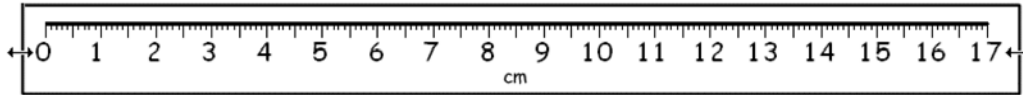
The Length and Step edit boxes control how the numbers are displayed on the scale. Acceptable Step values are 0.1 (length values 0–2), 1 (length values 1–22) and 10 (length values 10–224).

Clicking the **Display Numbers** button turns off the number display. When ready, drag the custom ruler from the preview window onto the page.

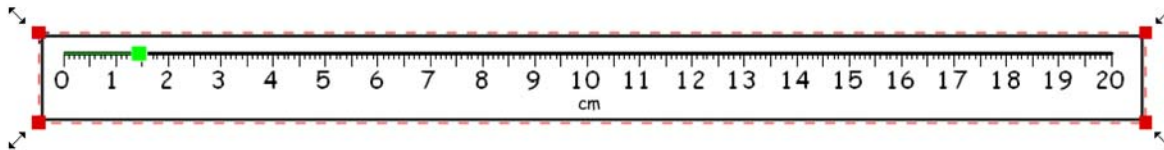
Once the common or custom ruler is on the page you can move it into position by dragging and rotating. Note that the center of rotation is at the **zero point** on the scale, not the middle of the ruler. 11



In Use Mode, you can lengthen or shorten the scale by dragging either end of the ruler.



In Edit Mode, you can resize the ruler by dragging at its corners. This may or may not affect its accuracy as a scale in a 'real world' sense, but it does allow you to calibrate the ruler if you have an image with a known dimension.



Caliper

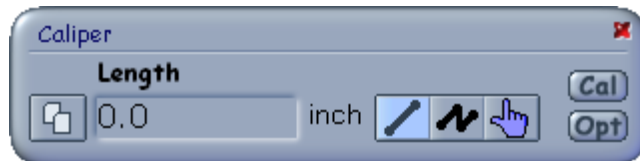
12

Allows accurate distance measurement to be carried out on the page using calibration.

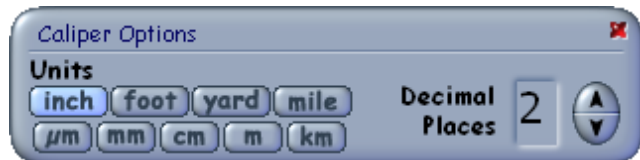
1. First place the images to be calibrated on the Easibook page – this example uses a dragonfly of unknown length and a coin that has a known diameter.



2. Click the **Caliper** button in the Science toolbar. The Caliper toolbar will appear, but all other toolbars are now hidden.



3. The default units are inches and the default accuracy two decimal places. To change these settings, click the **Options (Opt)** button to display the **Caliper Options** toolbar.



Begin the calibration by measuring the object with the known value. In this case the nickel has a diameter of 21.2 mm.

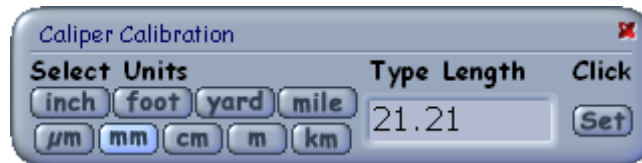
1. Select the **Single Line** button in the Caliper toolbar.
2. Click on the edge of the coin to place the start of the measurement line and click again to place the finish point. This will draw a line across the diameter of the coin.



If you make a mistake, select the **Single Line** button and begin again.

Now click the **Calibration (Cal)** button to display the Calibration Wizard.

1. Type the known length of the coin into the **Type Length** box.
2. Select the unit of measurement – the default setting is inches.
3. Click **Set**. This will calibrate the Caliper – you have given the actual length of the line you created above.



Now you can measure objects with unknown sizes – in this example, the length of the dragonfly. 14

1. Select the **Single Line** button in the Caliper toolbar and draw a measurement line along the body of the dragonfly. The calibrated measurement is displayed in the Length box.
2. To paste the measurement into the Easiteach page, first click on the **Copy** button.
3. Then close the Caliper toolbar. The measurement appears on the dragonfly, and can be dragged to an appropriate position. You can also paste the measurement elsewhere on the page if required, using the **Paste** button on the Easiteach toolbar.



To measure more complex lengths, such as the perimeter of a wing, select the **Poly Line** button. Click on the start point and at intervals along the edge of the wing. Finish the line by either double-clicking or right-clicking the mouse button.

You can also use the Poly Line tool to draw curved lines. For details, and hints on using known area values, see 'Tips for Using RM Easiteach Science' on page 25.

Stopwatch



Allows a count-up stopwatch with a range of 9h 59m 59s and a resolution of up to 1/100th of a second to be displayed on the Easibook page.

Click the **Stopwatch** button on the Science toolbar to place the stopwatch on the page.

You can select **Analogue**, **Digital** or combined (**Both**) mode.

You can also change the decimal places displayed, by using the **Set Decimal Places (DP)** button.



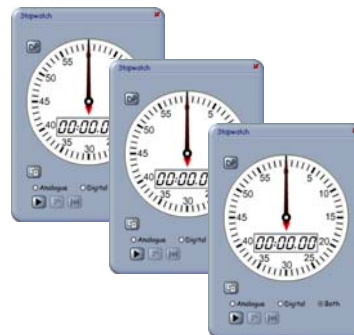
Click the **Start/Stop** button to start and stop the stopwatch. This button will display the start symbol  when stopped, and change to a stop symbol  when running. Pressing start after a stop will continue the time from where it was stopped.

If you want to record a lap time, you can freeze the clock display by clicking the **Lap Time** button. The button will flash, showing that the display is frozen but the timer is still running in the background. Press the **Lap Time** button again, and the display will update with the current time and continue.

Press the **Reset** button to reset the timer to zero. If the timer is running when the **Reset** button is pressed it will keep running from zero.

Click the **Copy** button to copy a digital time to the clipboard. The time can then be pasted onto the page.

For multiple stopwatches, see 'Tips for Using RM Easiteach Science' on page 25.



Timer

Allows a countdown timer with an alarm to be displayed on the Easibook page.





Click the **Timer** button on the Science toolbar to place the timer on the page.

You can select **Analogue**, **Digital** or combined (**Both**) mode.

Set the timer by clicking the **Set Minutes** and **Set Seconds** buttons. Holding down the buttons will accelerate the increments.

You can also set the timer by dragging the hands on the clock.



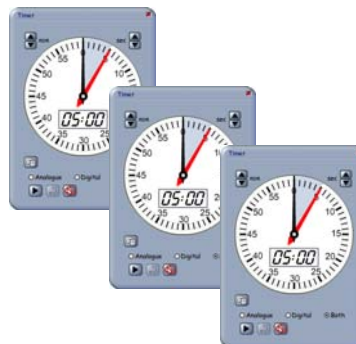
Click the **Start/Stop** button to start and stop the timer. This button will display the start symbol  when stopped, and change to a stop symbol  when running. Pressing start after a stop will continue the time from where it was stopped.

When the time is up, the stopwatch flashes as a visual alarm. Press the **Reset** button to stop the alarm and reset the timer. If the timer is running when the **Reset** button is pressed, it will keep running from the initial point at which it was set.

To enable the audible alarm, select the **Audible Alarm** button. Click again to disable the alarm.

Click the **Copy** button to copy a digital time to the clipboard. The time can then be pasted onto the page.

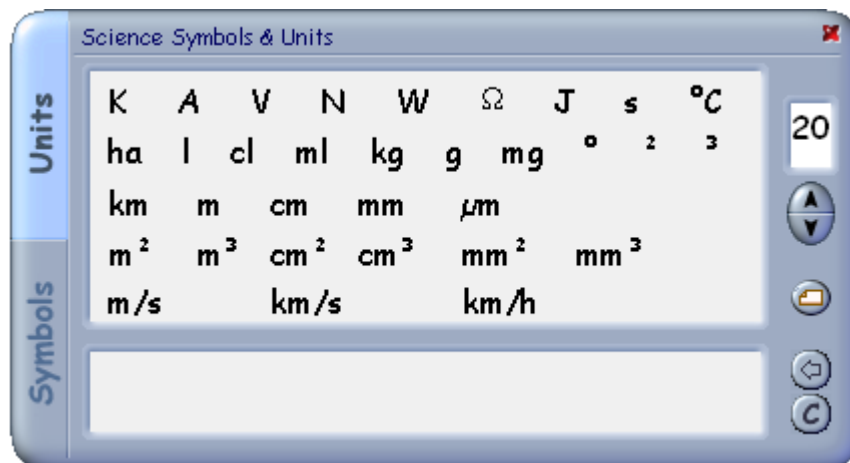
For multiple timers, see
'Tips for Using RM Easiteach Science'
on page 25.




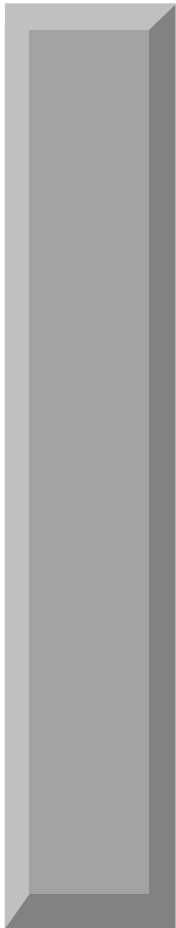

Science Symbols & Units


Allows science symbols and units to be placed easily on your Easibook page.


Click the **Science Symbols & Units** button to display this palette:



The palette contains two tabs: Units and Symbols. The Units palette contains a selection of commonly used units of measurement.



- 



Other settings on the **Science Symbols & Units** palette include:

1. Selection of font size, adjusted by using the **Increase** and **Decrease Font Size** arrows
2. **Backspace**, for deleting the last character in the palette window
3. **Clear** to clear the window
4. You can also display your figures as cards by selecting the **Card Background** button.



23cm



20

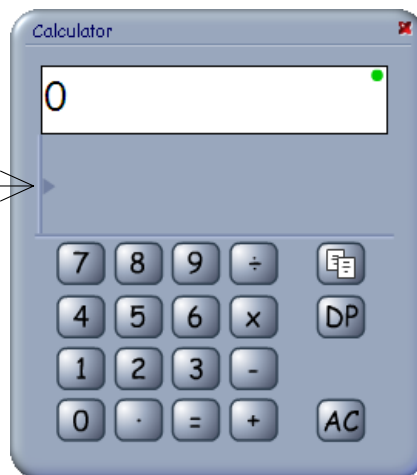


Calculator

The science calculator is an enhanced version of the standard Easiteach calculator. Its special functions allow the use of memory, brackets, square roots, and percentage calculations entered in traditional and descriptive forms. Calculations appear in full on the display and can be copied to the clipboard for pasting onto the Easibook page.

To place the calculator on the page, click the **Calculator** button in the bottom frame of the Easibook.

Click here
to reveal
scientific
functions



To reveal the scientific functions, click on the grey arrowhead in the section between the numeric pad and the display.

You can enter calculations in the traditional way, or in a descriptive manner.

For example, the square root of $4 + 3$ can be keyed



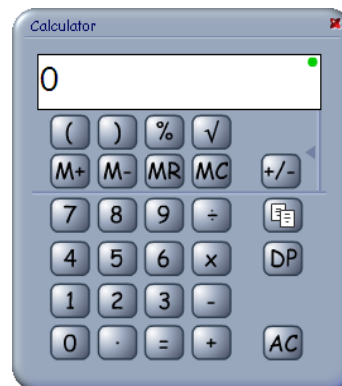
to display:

$$\sqrt{4+3}=5$$

Percentages can be entered traditionally as $50 \times 10\% =$ or more descriptively as $10\% \times 50 =$ ("ten percent of 50 is ...")

$$10\% \times 50 = 5$$

To copy the contents of the display to the clipboard, click the **Copy** button on the numeric pad. The calculation can then be pasted onto the page.



Opening Existing Easibooks

To open an Easibook, go to **File > Open > Browse...** and navigate to the Easibook you want to open. Then click **OK** to open the Easibook.

Easiteach Science can also open Easibooks created in other RM Easiteach products: RM Easiteach Starter, RM Easiteach English Language Arts, RM Easiteach Geography and RM Easiteach Math. However you may not have access to modify all the features in an existing Easibook, since some are controlled by licensing. For example, RM Easiteach Math tools are only available to licensed RM Easiteach Math users.

Saving an Easibook File

To save a new Easibook file, go to **File > Save**. Check that you are saving to the correct directory and folder, and insert a file name.

Some Easibooks are templates. These are opened as *<untitled>* to stop you saving over them. To save amendments, go to **File > Save As...**

To save an existing Easibook under another file name, go to **File > Save As...**

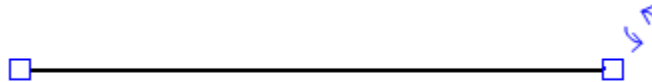
A warning is displayed before a document is closed, if changes have been made and not saved. You are given the choice to **Save** the file, **Discard** it, or **Cancel**.

Tips for Using Easiteach Science

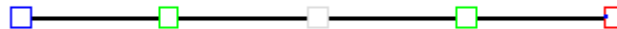
Drawing Curved Lines

You can draw curved Bezier lines using the **Poly Line** function. This is found in **Magnetic Lines** and the **Caliper** on the Science toolbar.

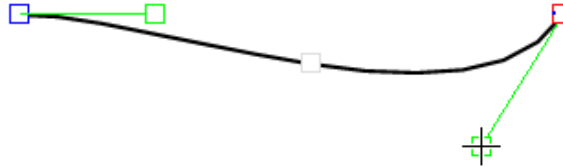
1. Click once to start the line, and either double click or right click on the mouse to finish.
2. Return to **Use Mode** and click on the line. Two blue boxes appear.



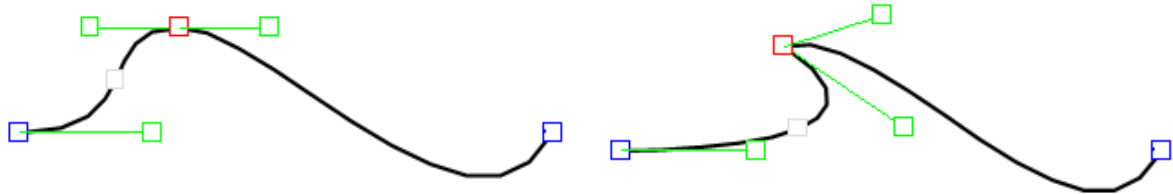
3. Click on one of the blue boxes. The blue box will turn red, and two green boxes and a central gray box will appear on the line. These all allow you to shape the line into any type of curve.



4. Click and drag on one of the green boxes. This creates 'handles' which you can use to pull the line into the required curve. Use the **Undo** button if you want to undo a curve. 26



5. To set another curve point, drag on the gray central box. It will turn red and give you two more green boxes which you can use to pull the line into the required shape.



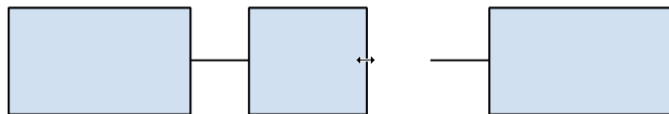
6. Dragging on any of the highlighted boxes will change the shape of the line. It is worth spending a few minutes practising, selecting and dragging on the boxes to get the feel of this powerful drawing tool. Once you are comfortable with it, you will be able to create any curved line of any complexity.

Editing Web Diagrams



Common and custom web diagrams can be used as quick templates. Once you have placed these templates on your page, you can modify them to create the web diagram you require.

You can resize the cells by selecting and dragging on a side or corner when the small double arrows appear.



If necessary, adjust the ends of the magnetic lines by clicking on the end of a line and dragging it to the object.

You can insert different cell shapes or objects. Select and delete the shape, then choose another from the Easiteach toolbar or access an image through **Resources**.



Just move the object into place and reconnect the ends of the magnetic lines if necessary.



To link more cells or objects to a common or custom web diagram, or to create a web diagram with any combination of shapes, images, numbers or text, use the **Magnetic Lines** tool.



Individual cells can be colored by using the **Fill** and **Fill Color** buttons on the Easiteach toolbar, and clicking inside the cell.



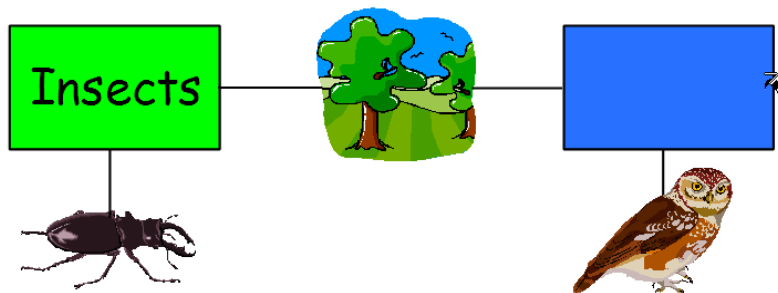
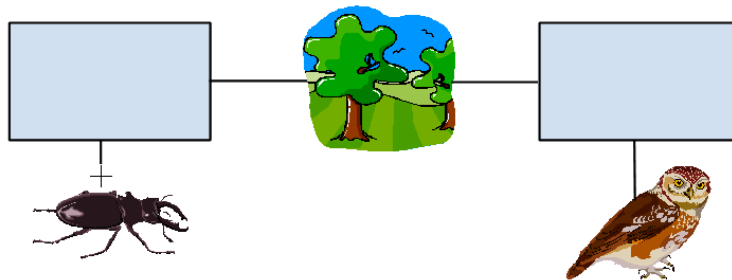
To add text and numbers, select **Edit Mode**, click into an empty area on the page and type the text.



Return to **Use Mode**, and select and drag the text into position.



You can also add numbers and symbols using the **Science Symbols & Units** tool.



Capturing and Displaying Images

29

If you do not have a TWAIN camera or other TWAIN device, you can still display images from many digital cameras on the Easibook page by accessing them through **Resources**.

1. Either download and save the images as a file, or have the camera plugged in as a separate drive.
2. Select **Resources**, in the bottom frame of the Easibook.
3. Choose **Multimedia Bank**.
4. Click the **Browse** button in the Multimedia window to browse to the drive and folder containing the required image.
5. The image will display in the Multimedia window.
6. Drag the image onto the Easibook page.

The image can be selected, moved, resized and cropped in the usual way. Note, however, that digital image files can be very large, so you might want to resize and compress the image in an external graphics program before incorporating it into your Easibook.

Known Values for Quick Calibration

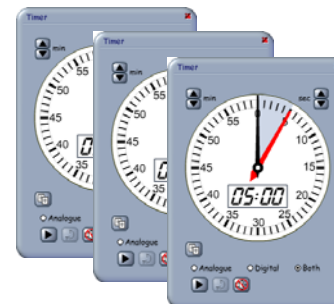
The Key Features section of the Introduction describes how to calibrate the Caliper. However, one quick and easy method of doing this is to select a ruler from the **Ruler** tool in the **Science** toolbar, and use this to calibrate the known value.

If you are using a QX3 microscope, the diameter of the microscope's field is 20 mm at X10, 3 mm at X60 and 1 mm at X200.

Multiple Timers and Stopwatches

You can conveniently launch a single timer and stopwatch from the Easiteach Science toolbar. In addition you can display multiple timers and stopwatches on the Easibook page - so that, for example, several students can have their own timers at the same time. If you need more than one timer or stopwatch:

1. Click **Resources** at the bottom of the Easibook frame, and select **Science Multimedia Bank**.
2. Choose **Flash Tools** from the menu.
3. Select and drag the required number of objects onto the Easibook page.





RM Part Number: 17U-762

RM Easiteach Science Getting Started Guide (US English) v1.
©Copyright Research Machines plc, 2005. All rights reserved.