

# 3

## Software

### By the end of this chapter you should:

- understand the importance of software to IWB use;
- be familiar with the SMART Notebook™ and ACTIVprimary™ applications;
- understand how to create text and insert graphics;
- understand how to import content from the internet and elsewhere;
- be comfortable moving, resizing and manipulating components within a presentation;
- be comfortable working with presentations using several slides.

### Professional Standards for QTS

This chapter addresses the following Professional Standards for QTS:

**Q4, Q7, Q8, Q16, Q17, Q23, Q25a**

## Introduction

An IWB provides a means of interacting with a computer and can take the place of a whiteboard and dry-wipe marker. This requires two broad types of software. There is the software that trundles along in the background and just keeps the different components in the system talking to each other. This allows you to perform all the tasks discussed in the previous chapter. Then there is the more familiar kind of software, the computer applications that allow you to design and deliver presentations and activities. This is the focus of the present chapter.

The ability to create presentations in an electronic format means that classroom resources can be created on a computer and saved to a portable disk or memory stick. The SMART Notebook™ and the ACTIVprimary™ software can be installed on most computers, even if they are not connected to an IWB, and they can then be controlled by a mouse. If you intend to use an IWB on a regular basis it is useful to obtain a copy of the software that you intend to use and install it on a computer that you have regular access to. This will allow you to get the most from your equipment as you can prepare resources in a relatively comfortable environment.

### *Software*

Both software packages allow you compose presentations from text, images, animations, free-hand annotations, drawings, video clips and sound files. What is more, content can typically be split across several slides, allowing a user to develop a resource that involves several discrete parts, much like the slides in a PowerPoint presentation. However, unlike the content of a PowerPoint presentation, anything in an IWB presentation can be resized, rotated and moved about the screen or even between screens. You are also able to add more content in a seamless fashion as you go, building on the materials you have prepared as the lesson progresses.

This content could come from a variety of sources and anything you create in other computer programs and much of what you discover on the internet can be copied and pasted in to your growing resource. The World Wide Web is a particularly fecund source, although you must always consider the implications of copyright and intellectual property rights. There is a large volume of materials that are freely available for use in teaching and requests to use restricted content for educational purposes are often very well received. Nevertheless, you must obtain written permission when it is not expressly provided and must respect any refusal. It can be safer and less time consuming to create a hyperlink to internet content and all IWB software packages provide a means of doing so (more is said on this subject later).

Finally, for this generic summary, IWB software packages allow the user to take a 'snapshot' of what they are doing at any stage, creating an image file of either the whole projected image or a region of the screen that is defined by the user themselves. This serves as an excellent record of learning or teaching and can easily be saved to disk, printed out or distributed to the class or to anyone else via email. This simple facility is very powerful and apart from anything else means that a teacher can recycle any teaching resources they create without losing all record of what a class has done with them.

## **SMART Notebook™**

In common with many applications, the Notebook application opens to reveal a work space or 'content area' and a series of menus and toolbars. In addition to this a side panel on the right contains a scaled-down image (or 'thumbnail') of the main content area. Initially you will see one blank thumbnail, but this will change and will be joined by others as your presentation grows. Ultimately you will be able to jump to any slide in your presentation by tapping on its thumbnail.

This panel is labelled 'Slide Sorter' and when you are not using it will often 'roll up', giving over more screen space to the content area. To open the slide sorter again just click on the label or 'tab' or, if you are currently dragging something, slide your finger across the board's surface to the tab and pause there until the panel opens. You will also see two other tabs: one called 'Gallery' and the other called 'Attachments'. The first contains a library of handy images and other kinds of content that can be dragged into your presentation. The second allows you to add materials of your own, effectively expanding your library of reusable resources. To access either of these simply tap on those labels and the relevant panel will appear in place of the slide sorter.

### **The tools**

Returning our attention to the bars across the top, we find a menu bar that contains some familiar and some less familiar options. These menus provide access to all the tools and settings you need, but the most important menu options, including all those that are peculiar to the Notebook software, are represented in the toolbar that resides immediately below. We shall now look at this more closely.

Some of these icons should be familiar to you from other applications and the ones below allow you to perform rudimentary processes.



Creating, opening and saving documents



Pasting content (that has been copied from elsewhere)



Zoom in on an area of the screen



Undo or redo things that you have done

It should be emphasised at this point that copying and pasting, though a simple and probably familiar operation, is of great importance for it allows you to import content that has been created in a wide variety of popular applications and the internet. You are not, in other words, restricted to moving content within an application, but can do so between applications as well.

Here are six icons that are more or less unique to the notepad application.

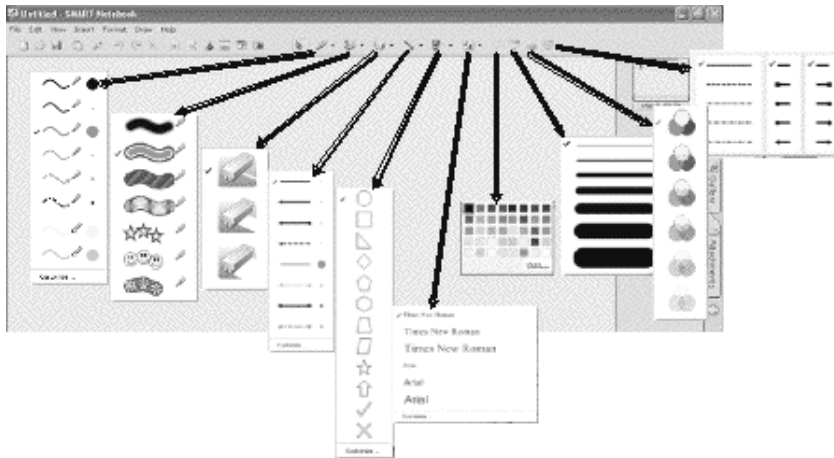


The first two allow you to navigate sequentially, backwards and forwards, through a series of slides. There is also a Blind tool that causes an opaque grey overlay to appear on top of the content area. This has handles on each side, which can be 'grabbed' – i.e. tapped on – and dragged towards the centre, thereby revealing the content behind in stages. The next button causes the content area to be displayed across the whole area of the screen, while the last activates the Snapshot tool.

If you click the Snapshot button a small dialogue box will appear, offering three options. The first option allows you to specify a region of the screen by clicking and dragging; the next selects the whole screen; and the third selects only the active window. Once you have chosen, the system greys out the areas it intends to copy and if this is confirmed (tap the camera icon in the centre of the greyed-out region) its contents are copied and added to your current presentation as a new slide. You may then access this slide like any other, but you will notice that you cannot manipulate its contents in any way; it is simply a static snapshot of whatever was being displayed at the time.

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The remaining icons or buttons on the toolbar refer to tools from the drawing menu and these are exploded in Figure 3.1. From here you can choose a variety of colours and styles for freehand drawing. Other buttons allow you to draw straight lines with various kinds of arrow-heads and other terminations and you can create basic shapes such as stars, rectangles and oblongs. You will also find buttons that allow you to format typed text and to set a range of properties such as colour, line thickness and opacity.



**Figure 3.1. Notebook toolbar items** (SMART Board™ Interactive Whiteboard screenshots courtesy of SMART Technologies Inc.™ All rights reserved.)

You tend to use this toolbar more often when creating presentations, when you may not have access to the IWB and its pen tools. However, you may well use these tools during a presentation too – in order to create shapes or arrows, for example. In either case, using the tools on this toolbar bypasses the normal process of using the pen tray to shift into drawing mode and as a consequence you cannot return to mouse mode in the normal way. You therefore need a quick and simple way of moving the system back into mouse mode. You can do this by clicking the Selector button, which is depicted below:



Selector button

## Adding content

We have so far seen several ways of adding content. You can use the toolbars described above to create simple graphics or typed text and you can use basic cut-and-paste operations to introduce content from elsewhere. In addition you can use the pen tools to create annotations and freehand drawings simply by picking up a pen and drawing within the content area of the screen and you can drag pre-prepared graphics and flash tools from the gallery.

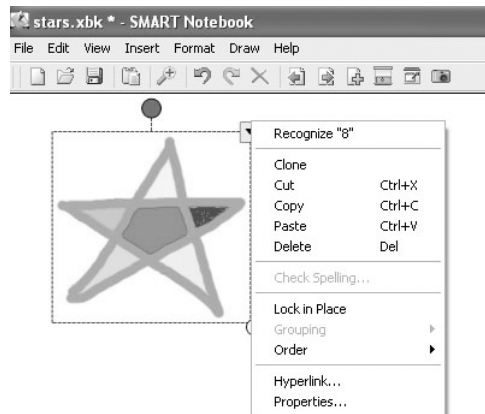
Every time you introduce a new piece of content the system defines it as a separate 'object', which means that you can continue to select it and manipulate it separately from everything else. To select an object you simply tap on it, causing a blue, rectangular box to appear around it. This 'bounding box' has two 'handles': a green circle that extends from the top edge of the bounding box, and a white circle that is located at the bottom right-hand corner.

A selected object can be moved within the content area or into any other slide, by dragging the item to a new location or onto one of the thumbnails in the slide sorter. You can also click and drag the white circle, either towards or away from the centre of the object, to increase its size, or rotate it by dragging the green circle in one or another direction.

A consequence of this approach is that you must try to anticipate what components of your presentation need to be manipulated independently of one another. This is particularly true when you are writing or drawing freehand, for in this case you need to consciously define separate objects. For example, if you were assembling a list of names you could define each name as a separate object and then sort or group them freely in later stages of the activity. The IWB is not good at making this sort of judgement, but you can tell the system when you have completed an object by returning the pen to its tray. In our example we would do so after writing each name.

## Manipulating content

In addition to moving things about, it is also possible to edit the properties of discrete objects independently of one another. If you click on any object you will see that, in addition to the green and white handles referred to above, there is also a little box with a downward-pointing arrowhead located in the top right-hand corner. If you click on this you will see a pop-up menu appear, as illustrated in Figure 3.2.



**Figure 3.2. Content manipulation menu** (SMART Board™ Interactive Whiteboard photographs courtesy of SMART Technologies Inc™. All rights reserved.)

This menu gives you access to more or less all the tools that apply to manipulating screen objects. The object depicted in this illustration is not text, but the system is nevertheless attempting to provide a reasonable translation. If one were to tap on 'Recognise "8"' it would convert the whole thing into an editable piece of typed text, the character 8 in this case. As you can probably already appreciate, converting words and even whole sentences from freehand annotations into typed text is a quick process. What is more, the system will often volunteer several different possible interpretations of what you have written – so it is pretty reliable.

The next set of options should be familiar, although 'Clone', which is equivalent to the whole cut-and-paste operation, may not be. Click on this option and a copy of your selected object will appear, slightly overlapping the original. This can then be dragged to any location on or between screens.

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Below this you have an option to check spelling and in Figure 3.2 this is greyed out, as it would not be applicable until you had converted the object into typed text.

Next we come to three options that are very important for resource design: 'Lock in place', 'Grouping' and 'Order'. If you click on 'Lock in place' you will, as the term implies, lock the selected object so that it cannot be moved, resized or manipulated in any way. Any subsequent tap on this object will evoke a single option to 'Unlock'. This is very useful in designing resources because you can lock components in a template that you don't want to move inadvertently. For example, the rings in a Venn diagram could be locked since you wouldn't want to accidentally move them in the process of populating the various sections created by their intersection.

In order for the Grouping option to have any effect you must either have more than one object or an already grouped set of objects selected. Clicking this option would allow you to join several objects into one – lots of separate words into one sentence, for example – or split up an existing group. Grouping is often used for convenience. Say you had grouped a collection of boys' names from a pool of mixed examples, you might then choose to group them so that you can move or resize them in one operation. However, grouping can be used to great effect in prepared presentations, allowing you to link different components within a presentation so that moving one object moves another, revealing or concealing another area of the screen perhaps. To select two objects simultaneously you may either click and drag a selection box (i.e. tap on empty space and drag) around the two objects you want to group or hold down the 'Ctrl' key on your keyboard and click each object separately.

Tap on 'Order' and you will be provided with several options that affect the level or layer that the object is assigned to. This will influence whether it conceals or is concealed by other objects at a given location. You may move your object straight to the top or bottom layer ('Send to back' and 'Bring to front') or move one layer in either direction ('Send backward' and 'Bring forward'). Organising content across layers is important and it is always a good idea to rehearse an activity to check that the ordering of the various objects is as effective as it can be. Be warned that selecting an object when it is covered by another at a given location can be problematical.

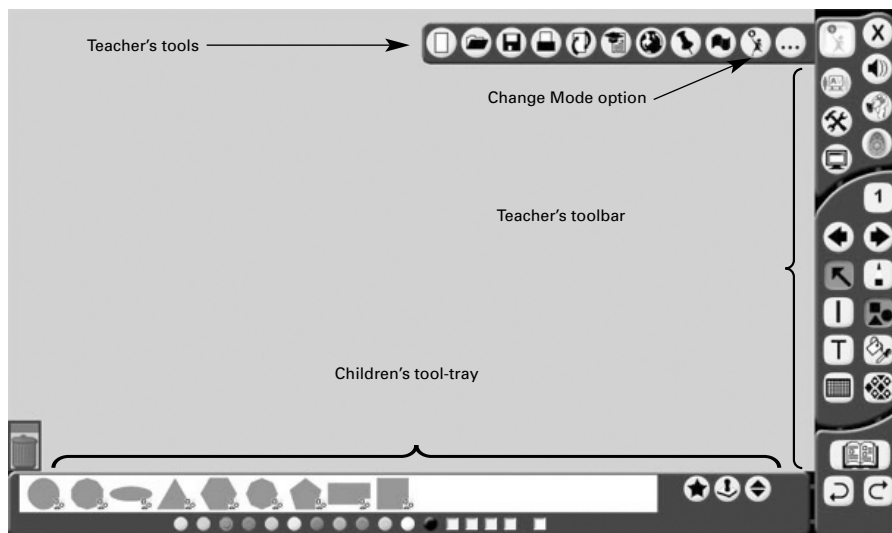
Finally, you have two further options, 'Hyperlink' and 'Properties'. Click on 'Hyperlink' and you will be confronted with a dialogue box that invites you to supply a web address. From this point on, this object will have a small symbol attached to it. Any tap on that object from then on will activate the hyperlink and the web page you specified will appear in a new window. This is a powerful way of increasing the scope of your presentation and can help you avoid all kinds of copyright and intellectual property issues.

If you click on 'Properties' you will find that a dialogue box appears containing all the options on the toolbar. This may seem redundant, but given that you need to stretch every time you reach for the toolbar you will find this dialogue box a real boon when working in a classroom situation. Apart from anything else this dialogue box contains an image of the object that changes as you fiddle with the properties, effectively allowing you to preview the impact of the changes you are making before you click 'OK' and commit them to your presentation.

## ACTIVstudio™

The ACTIVprimary™ software package is a version of the ACTIVstudio™ software that is appropriate for use with young children, having controls that are incorporated into a child-friendly interface. A panel located along the bottom of the screen provides access to

'tool-trays' that children would typically use; while another, running up the right-hand side, contains what are characterised as teachers' tools. This view of the system is called the flipchart view (see Figure 3.3), but the user can conceal the flipchart at any time, revealing the normal Windows desktop. Having done this the user is then able to control the computer via the stylus and may access a range of annotation tools from a less obtrusive, Floating Toolbar.



**Figure 3.3. Overview of the ACTIVprimary™ flipchart**

Returning to the flipchart view, it is important to realise from the outset that this view contains two modes, design mode and presentation mode. To shift between modes you click the 'Teachers' tools' menu button and select the 'Change Mode' option from the menu that appears as a result. To reverse this mode change you simply repeat the process. The Change Mode button will be yellow (as depicted in Figure 3.3) while the system is in presentation mode, but will show red in design mode. We will stay in presentation mode for the time being.

## The tools

The top section of the side panel presents a series of general tools including the buttons that allow you to toggle between modes. In addition to this there are buttons for:



Recording and playing sounds



Accessing preset activities



Clearing the screen completely or just of annotations or objects

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Accessing useful tools



Interacting with voting systems



Toggling between Windows and flipchart view

Of these perhaps the only button that requires further discussion is the Useful Tools option. This menu contains a number of tools that might find a role in your classroom activities. For example, the Ruler tool places a semi-transparent but clearly calibrated rule on the flipchart, which can then be selected and manipulated like any other object on the screen. The Dice-rolling tool provides a simulation of dice rolling and the clock face provides an attractive facility for time-keeping. The best way to familiarise yourself with these tools is to just explore this menu and start thinking about when such facilities might be used effectively.

Of greater importance, perhaps, is the Snapshot tool, which is invoked by clicking on a button that bears a camera icon. The Camera tool itself allows the user to capture a snapshot of any region of the screen that they choose. The default setting is to record the contents of a rectangular area defined by a click-and-drag operation. However, a small up-down arrow button next to the Capture button allows you to toggle between other settings as well. You may define the area by clicking a number of boundary points or with a freehand line.



The Snapshot button – invokes:



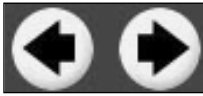
the Capture tool

## Adding content

In the next panel down, we find what might be characterised as the drawing and annotation tools. Here the thinking behind the interface design becomes clear, for each time one of these tools is selected, a distinctive ‘tool-tray’ appears along the bottom of the screen, putting a relevant selection of controls within reach of a child user. In the depiction of the interface in Figure 3.3, you can see that the ‘Draw shapes’ tool is selected from the lower of the two side panels. This is signified by its being highlighted in red. As a result of this the bottom panel or ‘tool-tray’ is currently displaying the shapes that a user can create and a list of colours that can be applied to them.

You can also see that three other buttons are located apart from the rest on the right-hand side of the tool-tray. These resemble a star, a rubber stamp and a pair of arrowheads. These are known as ‘additional options’ and each tool-tray has a something similar. Here, the star allows you to control the thickness of the outlines of your shapes, the rubber stamp allows you to go into a mode where each pen-click creates a clone of the last shape you created, and the up and down arrow lets you choose from a bigger range of shapes. It is a good idea to explore the tool-trays and the additional options as this will make you more efficient and more flexible in what you do. In every case clicking the button for an additional option a second time effectively turns that tool off, restoring the system to its normal settings.

In addition to drawing shapes and lines the side toolbar also provides tools for:



Moving between pages (and accessing new ones)



Drawing freehand



Typing text



Filling continuous areas of space with colour



Inserting backgrounds of various colours and patterns



Inserting a grid as a background

In this way you can start to introduce content into your presentation very quickly. Of course richer content, imported from photo editors, say, from other Windows applications or from the internet can be cut and pasted into the presentation too (see below). You can also use the stylus, when you are in annotation mode, to create freehand annotations or drawings. Anything introduced in this way will be treated as a separate object and can be manipulated in a variety of ways.

## Manipulating content

If you click on one of the options on a tool-tray for that tool, an object of that type – a line, a shape or a background, say – appears on the content area. In these cases the system immediately reverts to mouse mode, which is to say it assumes that you will then want to move the object you have created or manipulate it some other way. Similarly, any content that is pasted in from outside the ACTIVprimary™ application is treated in the same way. You will see that the object itself is selected and that a number of handles will be visible around it. These allow you to resize, rotate and sometimes distort the shape. Tapping on any object within the content area will cause it to become 'selected'.

The freehand drawing tool and the text tool are slightly different in the sense that the selections you make in the tool-tray do not cause any content to appear, but affect the thickness and colour of the line, if you go on to draw, or the character and style of the text if you then type. Similarly, the tool-tray for the dropper tool simply provides a means of choosing a colour that will be introduced once the user taps on a region of continuous space within the screen.

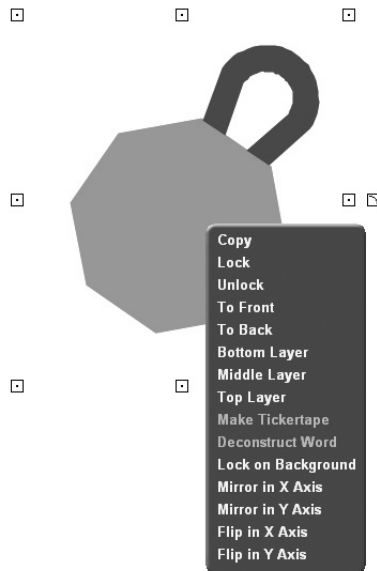
Another important consideration to bear in mind when using the freehand drawing tool is that once you have started, you need a way to tell the system to stop drawing, and an effective way of doing this is to click the Selector button, which is located on the same region of the side toolbar and is depicted at the top of page 28.

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Selector button

This is not the end of it, for you can manipulate your objects in other ways. However, we have gone as far as we can in presentation mode and we need to change to design mode before we can go further. To do this, simply click on the 'Teachers Tools' button (Figure 3.3) and select the 'Change Mode' button in order to enter design mode. You are now able to summon more editing options and do so by 'right-clicking' on an object in your presentation. This causes a menu like the one in Figure 3.4 to appear.



**Figure 3.4. An object selected in the ACTIVprimary™ application**

There are eight directional handles that let you resize and re-proportion your shape; a small box just to the right, which can be dragged clockwise or anticlockwise to achieve rotation; and the pop-up menu. This menu contains the option to lock, which means it cannot be accidentally moved or transformed in any way; or unlock, to reverse the lock instruction and change layer.

The layer that an object occupies dictates what covers what in cases of overlap, and you have the option to move the selected object to the front or to the back of the presentation, or to move it backwards and forwards one step at a time. Finally, you can 'Lock on Background', which will lock the object and move it onto the same layer as the background.

Unavailable in this example are the two options to 'Make Tickertape' and 'Deconstruct Word'. These are only available when the selected object is a piece of editable text. These allow you to make a piece of text move across the top or bottom of the screen like tickertape, or to break a sentence or phrase into separate words. You perform the latter task by right-clicking on a particular word within a text object and selecting the 'Deconstruct Word' option. A copy of that specific word will then appear.

Of course this leads us to consider text. You may very well have noticed that you have a button on your side panel that allows you to type in text. When writing like this you can set font, point size and colour by using the bottom tool-tray. However, you will want to write free-hand as well, especially in classroom situations, and you may well want to be able to convert these annotations into 'editable' or 'typed' text.

Writing is easy, as you simply tap the button for the Pencil tool and then write directly onto the board with your stylus. However, converting text to type is a slightly more complicated procedure. Here you must tap the button for the 'Recognise Text' tool, which is located in the 'Special Tools' tool-tray (see Figure 3.3). This then opens a dialogue box within which you write freehand. The system attempts to recognise what you are writing as you go along. Once you accept the translation it places the typed text onto your flipchart.

## Conclusion

This has been a fairly condensed and breathless walk-through, and we will encounter some more tools, like spotlights and magnifiers, later on. However – as the following directed task is intended to demonstrate – once you have internalised what you have been shown so far, you should be ready to create and deliver exciting presentations. The bad news is that you now face the hardest task of all: designing useful and interactive classroom presentations. The good news is that the following chapters will provide you with considerable help in this.

### PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK

You may need to refer back at times and you will certainly need to think creatively around the broad instructions provided.

The objective here is to create a resource that allows all the children in a class to come up to the board and move a star of their preferred colour into a defined region. Having done this, you will move the chosen stars into a new slide and organise them into columns, finally replacing the columns with solid 'bars', modelling the representation of data onto a chart. You will need to make two slides to support this activity and they should resemble 1 and 2 in Figure 3.5.

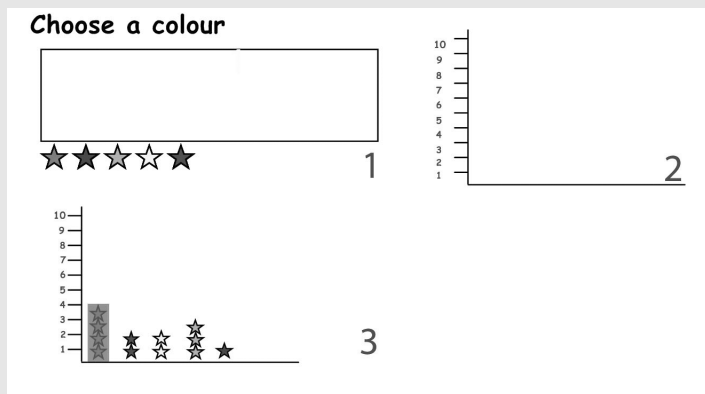


Figure 3.5. Creating a bar chart

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**You will need to consider how to duplicate the shapes of each colour so that a number of children can select the shape of the same colour, how to construct your y-axis so that the calibrations occur at regular intervals, and how to group and lock components of each template so that they can't be inadvertently disturbed. Do you need to consider the order of any of these components or does the way that the exercise runs ensure that this is unproblematic?**

**Finally, rehearse the exercise so that you end up with something resembling 3. Try to anticipate problems and ways in which the exercise could be improved.**

#### **A SUMMARY OF KEY POINTS**

**After reading this chapter you should be aware of the following:**

- > **the importance of core generic operations such as taking and saving snapshots of your work;**
- > **how to start building presentations;**
- > **how to introduce content and how content is 'viewed' by IWB software applications;**
- > **ways of manipulating objects;**
- > **ways of composing, ordering and grouping objects;**
- > **ways of creating hyperlinks to content located elsewhere.**