

Adobe illustrator Introduction

This document was prepared by Luke Easterbrook 2013

1 Summary

This document is an introduction to using adobe illustrator for scientific illustration. The document is a fillable form and you should check off things as you do them and also answer the questions in the spaces provided.

Adobe software has good documentation check it out via menu> help in any application. Don't muck through.

Tutorial videos via:

<http://tv.adobe.com/>

2 General software tips: GUI

Many of you will know about some of these things from using other software packages. Adobe uses standard Graphical User Interface (GUI, pronounced gooey) elements to those used in other programs. If you can come to terms with what these elements are and how they are used in all software then you will find software easier to use.

2.1 GUI elements include:

Menu Bar: (all programs have these) in MacOS these are at the top of the screen. In windows they will be at the top of the application window. These are usually not modifiable. TIP: in MacOS you can search the menu bar by clicking on help.

DO THIS (if using a mac): Open any application, go to help and search for the copy command.

Toolbars and dialog boxes/ panels: These are a collection of tools (buttons, text fields, cursor tools) that can sometimes be moved around, docked. Toolbars and dialog boxes/panels can be added or removed from the window. Sometimes they are tabbed.

Context sensitive toolbars dialog boxes etc.: Some toolbars are context sensitive. They will change depending on the active tool or the selected object on the screen. Look out for these.

Object selection: A standard cursor tool is used to select objects on the screen. There are two main analogues for selecting groups of objects:

1) rubber band selection: to select multiple objects you must draw a marquee (usually a box) that encompasses all objects to be selected.

2) intersecting selection: to select multiple objects you must draw a marquee that intersects or encompasses the desired objects. (see notes also below on selecting multiple objects one at a time).

Shortcuts are good because they make life easier and reduce the need to use a mouse.

2.2 General software tips: Shortcuts

The best shortcuts are those that are de-facto standards across software packages and operating systems. Software specific shortcuts are not good because when using lots of different packages you are more likely to muddle them up. In saying that if a particular function is used enough it may be time to consider using the shortcut.

TIP: hover over controls or look in menus to find out shortcuts in most software

TIP: make a list of shortcuts that you use and put it next to your computer for reference.

Some standard shortcuts:

ctrl (cmd-mac) + s = save

(not used in adobe cs) ctrl (cmd-mac) + b = **bold font**

(not used in adobe cs) ctrl (cmd-mac) + i = *italic font*

Shift + click = Add/remove object to selection

ctrl (cmd-mac) + c = copy

Shift + rotate, skew etc = rotate in steps, maintain aspect etc

ctrl (cmd-mac) + v = paste

ctrl (cmd-mac) + z = undo

3 Adobe Illustrator

3.1 About

Adobe illustrator is a vector graphics program that is geared towards making illustrations. It can also be used for tasks such as making posters.

DO THIS: Open adobe illustrator. Go to file> new and select an A4 landscape document.

3.2 Basics with illustrator: workspace overview

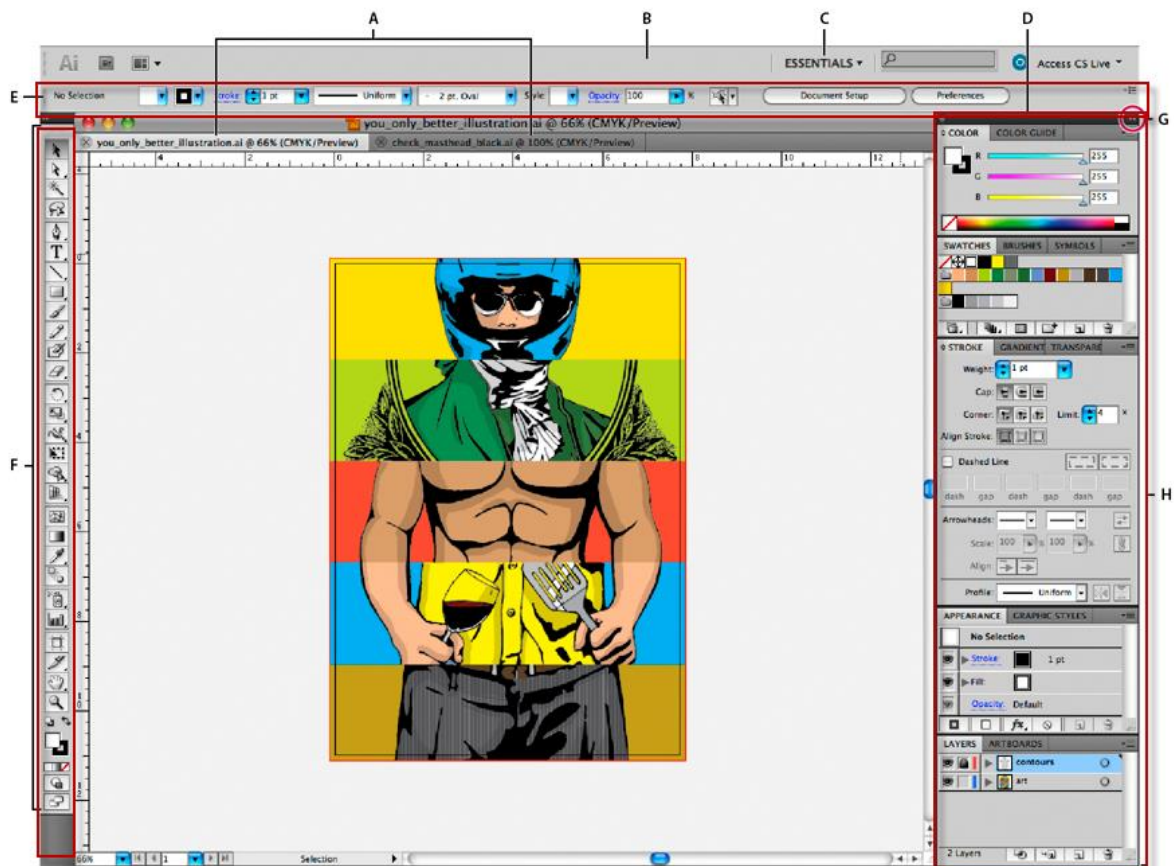


Figure 1: The default workspace has the document window and three other important areas. On the left hand side (labelled F) is the tools panel. At the top (labelled E) is the control panel. And on the right are panels and panel groups (tabbed panels) for the most commonly used activities.

There is a lot going on with the adobe illustrator workspace (application window), and at first glance it looks a little intimidating. The main thing to remember is that we aren't trying to learn all functions at once.

Tools panel: The tools panel gives us access to tools that change what the cursor looks like and what it does allowing you to achieve some task (e.g. drawing a square with the rectangle tool). Tools with an arrow at the bottom right are tool- groups and can be changed to different tools by clicking and dragging to the bottom right.

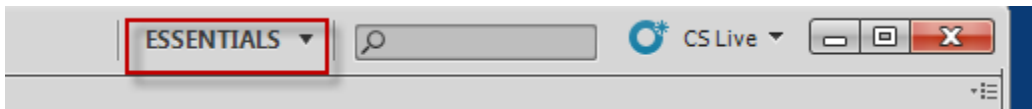
Control panel: The control panel will give you different options depending on the currently selected object or tool. It is context sensitive (i.e. when you select a different object the options will change.).

Panels and panel groups (right hand side): These panels and panel groups are combined together into one fixed block attached to the side in the default layout. The default panels pictured above are the main ones that you will use.

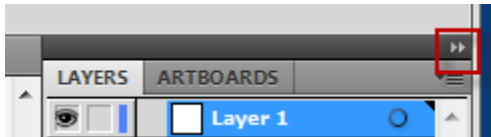
3.2.1 Customising or restoring panels and toolbars etc:

At the moment we don't really want to make any changes to the default panel layout, especially when using shared computers. You may want to make changes in the future, if you have it on your own computer, but only after using the software for a while.

What we do want to know is how to restore a panel if we accidentally remove it. The easiest way to do this is to completely restore the workspace, we can do this by choosing a different workspace and then switching back to the original.



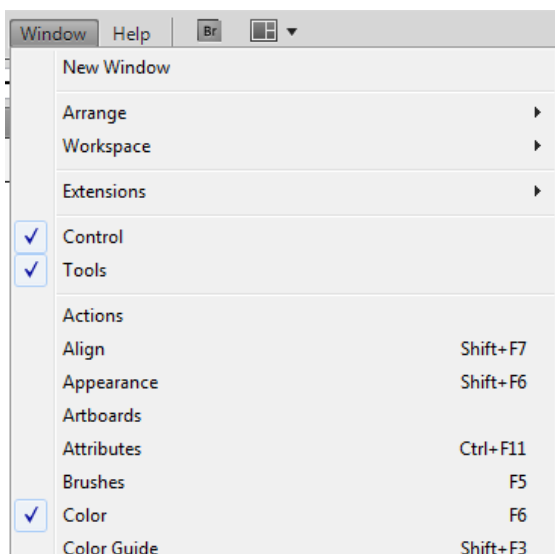
Notice the double arrows at the top right of the right hand side panels. If you click on this the tools are tabbed down. Clicking on this again restores all the tools, I prefer to have all the tools visible.



There is a similar double arrow on the toolbar.

DO THIS: Find out what the double arrow above the toolbar does.

If we want to remove or restore a panel we can do this via the window menu:



It is also possible to have floating panels that are not attached to the application window, I prefer to have them all docked. The docking behaviour is hinted at when dragging the window to different locations.

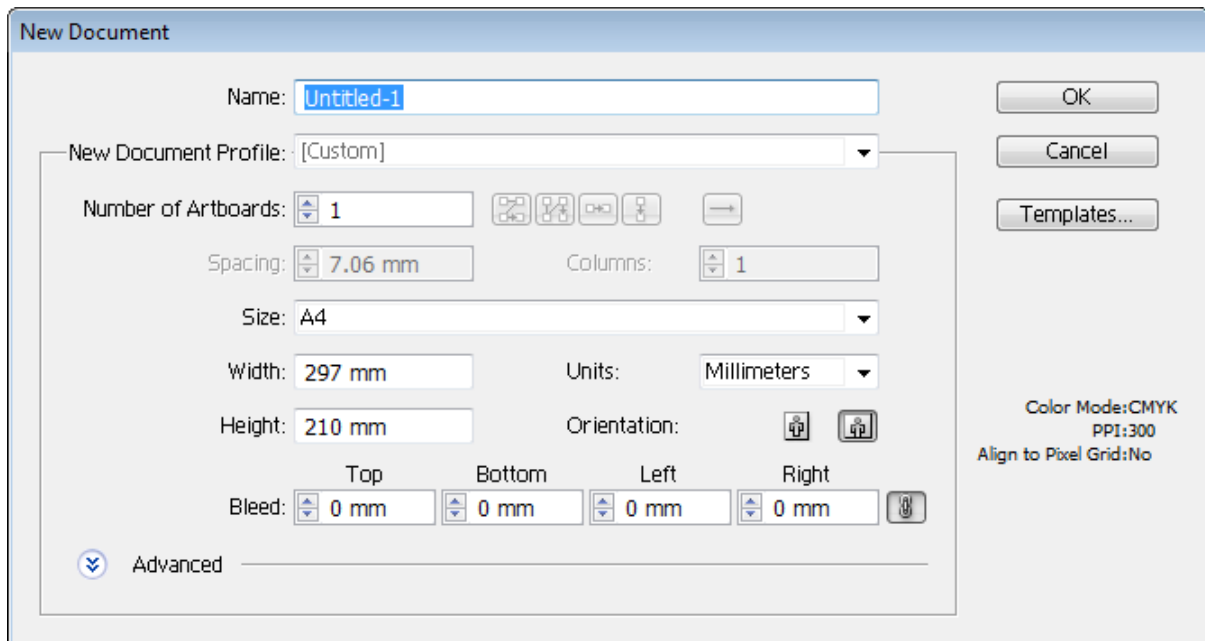
DO THIS: Enable the align panel. Sometimes we want to have a panel floating around for a while if we are using it.


DO THIS: Mess around with the toolbars a bit and then restore them by resetting the workspace. Do this by choosing a different workspace and then switching back to the original.

TIP: If you have developed a set of tools you like then you can save your workspace via the workspace drop down menu.

3.3 Page size: a fundamental concept often overlooked.

Adobe illustrator uses “artboards” which are equivalent to “page size”. You may use a standard artboard size such as A4. On creating a new document you will be prompted to set the artboard size.



To edit your artboard go to file>document setup>edit artboards (document setup also available in the control panel at the top of the window), or directly using the artboard tool 

TIP: Although it is possible to have more than one artboard in a document I am yet to find a use for scientific illustration purposes.

DO THIS: Verify that your current document is A4 landscape, using the edit artboard tool.

The best practice is to open up a new empty document and consciously set it to the desired size. A common mistake is that people will open an image in illustrator and start tracing over it without scaling it to fit the artboard. You will find this out now.

DO THIS: Open the image “reflected_007.jpeg” in adobe illustrator this image is located in the files folder.

Q: How big is the artboard? Is the image smaller or larger than the artboard?

A:

I recommend not using this method ever again. Instead use the methods which will be demonstrated later to **place rasters**.

Q: What do you think will happen when you print or export this?

A:


We will talk more about setting up artboards later.

3.4 Using some basic tools in illustrator

1. Create new empty document to work in. (close others or just delete objects.)

3.4.1 Panning

For each tool sometimes there are several methods to use it. For example to pan (scroll) the canvas:

1. you can use the hand tool ,
2. the shortcut *spacebar held down*,
3. the scroll bars at the right or bottom,
4. gestures on a trackpad
5. or the middle mouse wheel (hold ctrl/cmd to scroll sideways).

DO THIS: Try panning using each of the methods above.

3.4.2 Shortcuts

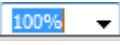
For most tools we access them by clicking on their icon in the toolbar, or alternatively a keyboard shortcut can be used. The best time to acquire keyboard shortcuts is when you find yourself doing the same things over and over and get sick of it.

TIP: Keyboard shortcuts won't work if you are using the type tool. To get out of the type tool and switch to the select tool click escape. Beware, this won't work if you haven't typed anything yet.



3.4.3 Zoom tool

Options for zooming

1. click using the zoom tool to zoom in
2. alt + click using the zoom tool to zoom out
3. alt + scroll to zoom in or out.
4. Change the zoom in the lower left 

3.4.4 Selection tool

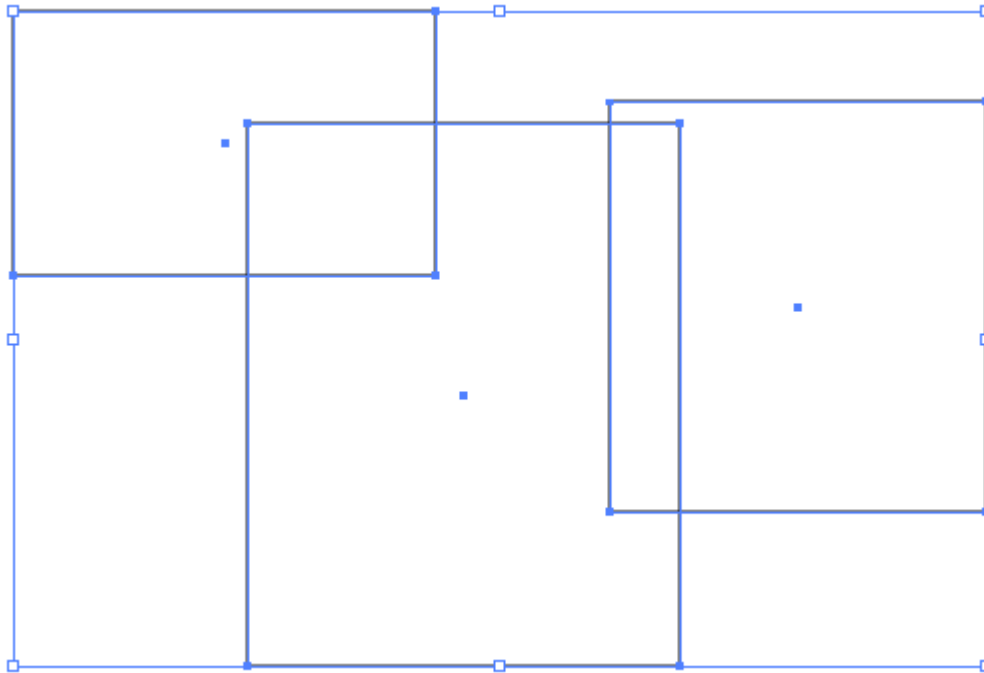
The most common tool you will use is the selection tool. This is the black cursor not the white one. We can't do much with the selection tool until we have something to select. So let's draw some rectangles.

DO THIS: Draw a few boxes within the artboard area using the rectangle tool. Click and drag to draw boxes.

TIP: Hover the cursor over the tools to find out what their name is (keyboard shortcut also shown in brackets).

DO THIS: Switch to the selection tool and draw a marquee (rectangular selection) that intersects all the rectangles. You will need to start the marquee where there are no objects drawn otherwise you will just move an object.

You should see blue outlines around all the rectangles and blue squares at all the nodes. There will also be a blue outline that fits around all the objects, we see from this that illustrator uses the intersecting rule for object selection.



To select multiple objects one at a time: select the first object then hold down the shift key and continue selecting objects.

TIP: To remove an object from the selection shift-click on the object a second time.

TIP: If the object you are trying to select has no fill then you cannot select the middle of it, you can select the edges (stroke) though, or use small intersecting rectangular marquees.

DO THIS: Deselect the rectangles by clicking elsewhere on the canvas or by going to select>deselect. Now try selecting them using the shift-click method described above.


3.4.5 Tool hints and the selection tool.

When you hover over a certain area of an object or a selection of more than one objects a hint will be displayed that tells you what the tool will do. With the three rectangles selected if we hover over the corners boxes or side boxes of the objects the icon changes to a resize icon.

DO THIS: Resize the rectangles any way you like.

If we hover on diagonal away from the object we get an option for rotating.

DO THIS: Rotate the boxes around.

There are of course dedicated tools for rotate and scale , as well as other transformation operations.

3.4.6 Tool options

There are two common methods to access tool options. Some tools use both options, some either or some have no options.

1. Simply double click on the tool in the toolbar.
2. With the tool active click anywhere on the artboard.

Q: What method/s is used for the following tools (1 or 2 or both or neither) :

Pencil:

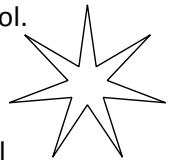
Line:

Rounded rectangle:

3.4.7 Tools for other shapes

The other shapes (circle etc.) that can be drawn are accessed by dragging down in the rectangle tool.

DO THIS: Select the star tool and try drawing a star that matches that shown on the right:



Holding down shift while drawing a shape will constrain the shape's shape in certain ways. This will depend on which shape is chosen.

Q: What does holding down the shift key while drawing a square do?

A:

Q: What about a star?

A:

DO THIS: Draw some perfect circles using the tool options for ellipses.

DO THIS: Draw some perfect circles using the shift key.

3.4.8 Type tool

There are several different types of type tool available. The standard type tool can be used to make text at a point (point type) or type in an area (area type). There is another tool the vertical type tool that does the same thing but the text runs vertically rather than horizontally.

TIP: You will probably only need to use the normal type tool.

Point type: Point type is a horizontal or vertical line of text that begins where you click and expands as you enter characters. Each line of text is independent—the line expands or shrinks as you edit it, but doesn't wrap to the next line. Entering text this way is useful for adding a few words to your artwork.

To use point type, click once with the type tool. You will see the standard flashing text indicator bar (caret) as in other programs. At this point you can start typing.

Area type: Area type uses the boundaries of an object to control the flow of characters, either horizontally or vertically. When the text reaches a boundary, it automatically wraps to fit inside the defined area. Entering text this way is useful when you want to create one or more paragraphs.

If you just want a rectangular text frame select the Type tool and drag diagonally to define a rectangular bounding box.

Area type on existing objects: Any object may be used for the text frame. The standard type tool will change to an area-type tool (like a tool hint) when you hover over an object indicating the object will turn into a text-frame. The object will lose its properties (stroke and fill etc.), so if you really want to keep a copy of the object then duplicate it first (e.g. by copy and paste). Generally this happens unintentionally when we are trying to write text near objects. To avoid this type out your text away from your drawing and then bring it into place.

DO THIS: Start typing some point type text beginning with the words “point type”. If you keep typing you will just make one long line. Type and use the enter key to make a few lines of text. Now beside this make some area type, make the first two words “area type.” Keep typing until you overfill the box. If you like you can copy and paste some of the placeholder “lorem Ipsum” text rather than typing your own gibberish. The placeholder text is in a file called “Lorem Ipsum.”

Notice that when you overfill the type area a small red rectangle appears in the lower right.

DO THIS: Find out what happens when you try to resize the point type “object” and the area type “object” (do not just change the font size in the control panel!).

Fill in the blanks. When resizing the point type object the font size/shape.....

When resizing the area type object the font size and the bounding box for the type

TIP: To get out of the type tool and switch to the select tool click escape.

Q: How could we easily convert between an area type object and a point type object?

A:

DO THIS: Try out the vertical type tools to see how they work.

There are few other things to do with making text that we will address later.

3.4.9 Pencil tool

The pencil tool can be used to draw free form lines. It is particularly useful for tracing over things, especially when annotating photos etc. When using the pencil tool I prefer if possible to use a drawing tablet rather than a mouse as it is much easier to draw natural lines.

DO THIS: Have a play with the pencil tool and draw some lines.

3.4.10 Pen tool

The pen tool is used to draw more precise lines and also for editing existing lines. There are two basic modes for drawing using the pen tool. You may do a series of clicks to create nodes with straight line segments or a click and drag to create curves.

DO THIS: Try out both the drawing modes with the pen tool on the same line.

If you would like to make a closed path you can hover over the start point and click when a small loop appears next to the pen-cursor.

DO THIS: Draw a new closed path using the pen tool.

3.4.11 So many tools, so little time.

There are many other tools to use in Illustrator and you probably won't go near any of them for a while, if at all. We want to limit the tools we use in the beginning, and use more advanced tools as and when required. If you think to yourself, there must be an easier way of doing this..., you can almost guarantee there is, you just haven't learnt the right tool/technique or combinations of tools/techniques yet. I haven't learnt them all yet either.

3.4.12 Using the built in help for tools, etc.

If you ever need to know how a tool works then the built in help is a good first option. Otherwise some searching on the internet is sure to show you the way.

DO THIS: Use the built in help to find out how to use the eyedropper tool. Have a play around in your document until you have a handle on how the tool works.