

PHOTOSHOP 101 – INTRODUCTION

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OBJECTIVES:

- A.....What are these “Pixel” thingies?
- B.....Tools & palettes (quick tour)
- C.....Touch-up tools & techniques (stamp, erase & text tools)
- D.....Introduction to composite techniques (layers)
- E.....Cool tricks you wish you had known before

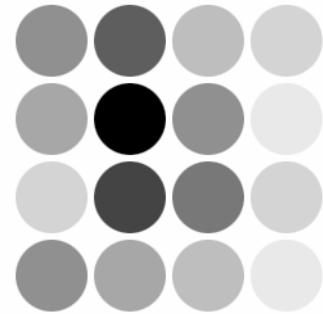
OBJECTIVE A:

What are these “Pixel” thingies?

Pixels are little dots. Little, magic dots that the computer arranges to make pictures. If you were to magnify an image greatly, you would see something like the image at the right. Remember, computers can't really see, so to it the dots are really just numbers and to keep track of them it needs to stack them in even rows, which form rectangles. This technique is called “rasterizing” and results in “raster” images. This is an important fact to remember, as it will become very useful in later lessons.

So now you know what pixels are! But why does Repographics keep asking about dots per inch, (DPI) or lines per inch (LPI)? Answer: to drive you mad.

DPI and LPI are basically the same thing, (the difference is very small and really not worth your time), they measure the amount of dots (pixels) you have packed in to an inch. And like candy, more is better! Also like candy, too much makes you heavy. Striking the balance is the hard part, (just like eating candy, *sigh*.)



To determine your optimal DPI, you need to use the following powerful mathematical formulas:

For web designers: $72 \times 1 = \text{optimal DPI}$.

For print designers: Your final Photoshop image dpi should equal 1.5 to 2 times the DPI your printer can output to.
DOES NOT APPLY TO DESKTOP PRINTERS!

For example, Repographics (here on campus) typically prints a 133 line screen. Therefore, your final dpi should be between 200 and 266 dpi. Do not scale the image once you have placed it in Quark, Pagemaker or Word. You should always know what the final image size is and then scan to accommodate it, or scale up within Photoshop to resample the image to a larger size. Be sure to check with your printer before scanning images for print production.

Dpi = 133 X (1.5 to 2)

For DESKTOP PRINTERS

Just use a maximum of 300 dpi. You won't see any difference with more than that.

Terms to remember:

raster: The grid into which pixels are arranged.

pixel: The units that make up an image in Photoshop. It is a small square block of color

VECTORS & PIXELS

Photoshop cannot manipulate complex vector elements or paths. Although Photoshop 7 can create simple vector shapes, it is not as robust as Illustrator when it comes to precise control of simple and/or complex vectors.

Photoshop isn't a page layout tool. This might seem obvious to most, and yet there are some who might argue

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quite the contrary. For a web designer, the text-editing tools in Photoshop might be perfect for their needs. They might never have the need to use Illustrator to set their type. However, a newsletter designer might want the crispness of a vector-based text element to capture a logo for a nice printed piece.

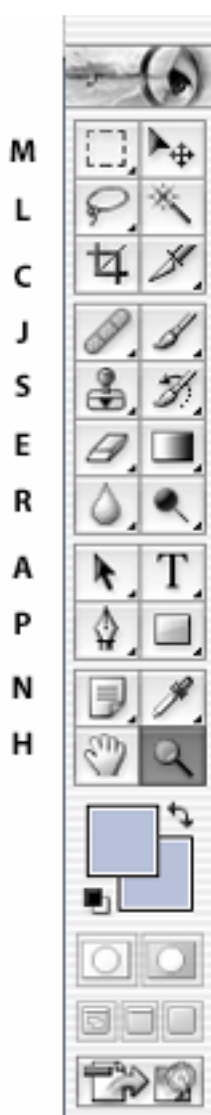
Terms to remember:

vector: A mathematically defined line or curve. Most often associated with vector drawing programs like Illustrator & Freehand.

path: An entity based on vectors. Paths can be created in Photoshop (for use as selections, strokes and clipping paths) but they cannot function as editable graphics.

OBJECTIVE B: TOOLS & PALETTES (QUICK TOUR)

Starting with the upper left hand tool, here are the basics . Each tool listed below begins with the keyboard shortcut used to access it, followed by the sub-tool (if any) in parens, as well as a brief explanation of what the tool is used for.



- M-Marquee** (square, elliptical, single-pixel vertical & horizontal)
Used to make shaped pixel selections.
- V-Move** (no subtools)
Used to move either an element on a layer or a selection
- L-Lasso** (& polygonal, magnetic lasso)
Used to make freehand pixel selections.
- W-Wand**(no subtools)
Used to make specific color selections
- C-Crop** (no subtools)
Allows quick cropping of an image
- K-Slice** (& slice select)
Used when slicing an image for web pages
- J-J-Healing Brush** (patch tool)
Uses the foreground color to paint like an airbrush.
- S-B-Brush**(& pencil)
Used to paint with the foreground color
- E-G-S-Stamp** (& pattern stamp)
Used to copy areas from one portion of an image to another.
- R-O-Y-HistBrush** (plus art history brush)
Used to alter pixels with any style of brush
- A-T-E-Eraser** (& background, magic eraser)
Used to erase pixels with or without specific control
- P-U-G-Gradient** (& several variations)
Used to create gradients of any variation.
- N-I-R-Smudge** (& sharpen & smudge)
Used to smear, soften or harden pixel display
- H-Z-O-Dodge** (& burn & sponge)
Used to lighten and burn areas of color
- A-Path Select** (& single anchor selection)
Used to select a vector line segment or anchor point
- X-T-Type** (no subtools)
Used to set type on a new layer
- P-Pen** (& several variations)
Used to make paths for stroking or clipping
- U-Rectangle** (& other shape variations)
Used to make vector shapes
- N-Notes** (& audio annotation)
Used to leave notes for others in a file
- I-I-Eyedropper** (& color sampler)
Used to select any color from an image
- H-H-Hand** (no subtools)
Used to navigate through an image
- Z-Z-Zoom** (no subtools)
Used to navigate viewing percentages
- X-X-Foreground/Background Color** (no subtools)
Used to switch between foreground/background colors

OBJECTIVE C: TOUCH-UP TOOLS & TECHNIQUES

STAMP TOOL

Many times an image contains a blemish, a scratch or other anomaly which needs to be removed. In these instances, it is best to use the STAMP tool to clone a portion of the image to cover unwanted pixels. The stamp tool is best when used in areas of continuous color, pattern or noise. The steps to using the stamp tool involve sampling a desired area, then “cloning” that area to the unwanted pixels.

To clone a section of an image, follow the directions at right...

- 1- Select the STAMP-S
- 2- In the stamp options panel, select a BRUSH SIZE, then set the MODE to NORMAL, OPACITY to 100% and be sure that ALIGNED is checked. This will ensure that the initial selected area will follow along with the stamp as you edit.
- 3- Place the STAMP tool in a region of the image where the color and/or pattern is clean (the desired area), then press and hold the ALT key while clicking the mouse button. This essentially “samples” this section of the image. After clicking the mouse button, you can let go of the ALT key.
- 4- Now move your cursor to the area you want to replace and slowly “paint” over the pixels with the sampled area. As you can see, whole portions of an image can be cloned and/or eliminated altogether.

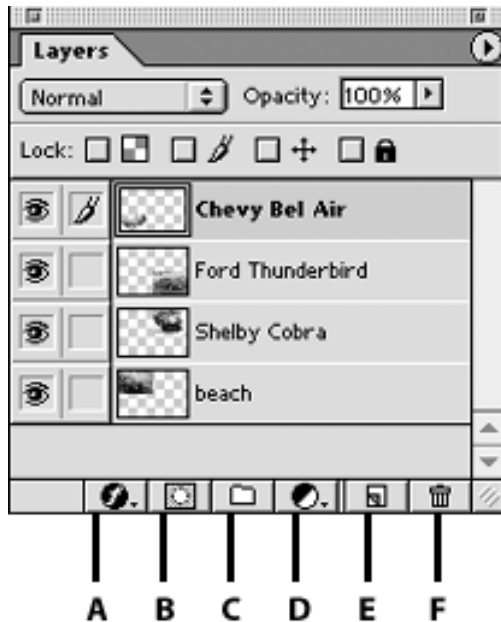
REPLACING COLORS

A quick and easy way to replace a color within an image is to use the airbrush tool to color the pixels of a given area. You don't need to select the pixels to be changed at all, you simply need to “paint” the pixels the color you want. In doing so, PhotoShop retains the dark and light variations of the area you are painting.

To replace a color in an image, follow the directions at right...

- 1- Choose a color to paint with...either through the foreground swatch or the EYEDROPPER-I in the toolbox
- 2- Switch to the AIRBRUSH-J. In the sponge options panel, select a BRUSH SIZE, then set the MODE to COLOR and the PRESSURE to 100%
- 3- Be sure you are on the layer you wish to edit, then begin painting over the areas you wish to color...repeat until the entire area is covered. If you painted too far over an area into pixels you didn't intend to, simply select a color to match and paint those pixels back to their original color.

OBJECTIVE D: INTRODUCTION TO COMPOSITE TECHNIQUES



The **LAYERS PALETTE** (shown at left), is one of the most powerful features of Photoshop. Here, you can add new layers, set the property of a layer (opacity, hue coloring, etc). Here is an overview of the layers palette:

- A- LAYER STYLE** – Allows you to apply drop shadows, embossing and a variety of other effects to a layer without permanent change (until flattening)
- B- LAYER MASK** – Allows you to mask portions of a layer using the additive tools (fill, airbrush, brush, etc)
- C- SET** – Allows you to group layers together. This is particularly useful if your file contains a large number of layers
- D- ADJUSTMENT LAYER** – Allows you to make adjustments on a layer without permanent change (until flattening)
- E- NEW LAYER** – Allows you to create a new layer. You can also drag a layer over the icon to copy the selected layer.
- F- DELETE LAYER** – Allows you to delete a selected layer (you can also drag a layer over the icon to delete it).

ORDER

The order in which layers appear in the layers palette is the order in which they are visible (from the top to the bottom).

MODE

The **MODE** of a layer defaults to **NORMAL**, but can be changed to one of 16 other modes.

OPACITY

The **OPACITY** of a layer defaults to **100%**. Again, experiment with this while using more than one layer.

BACKGROUND

The **BACKGROUND** is what sits at the bottom of a PhotoShop file. Nothing can be placed below it until the background itself becomes a layer. The background is indicated by the italic *Background* with an accompanying locked icon.

OBJECTIVE E:
COOL TRICKS YOU WISH YOU HAD KNOWN BEFORE

CROP TOOL

Ever scan an image and have it come out crooked? It's especially troublesome when there are straight elements in the picture like light polls. Instead of trying to rescan, use the crop tool! Drag out a square approximately the same size of the image. Next, move the mouse over one of the corners and notice how the pointer turns into a curved "thingy." Rotate the box so that it matches the angle the picture should be. Next resize your selection box exactly the size you want it. Now press the enter key (AKA the "yes please" key) and marvel at the straightness of your image.