DIGITAL IMAGES GUIDE

A GUIDE TO SUCCESSFULLY CAPTURING AND SUBMITTING DIGITAL PHOTOS
DIGITAL IMAGE QUALITY GUIDELINES

There’s a lot to know about getting quality results with digital photography. However, there are some key guidelines to help ensure your success. We’ve recapped those guidelines here as a quick reference:

1. **Careful with cropping.** If you crop a section of a photo and enlarge it, you will lose image quality. Refer to pages 6-7 for more details.

2. **Professional photo processing.** If you submit printed digital photos or place them on layout boards, you’ll get the best results by processing them at a professional photo lab. Most local discount stores, drug stores and photo processors offer digital photo processing.

3. **Photo printing.** Lifetouch strongly recommends professional photo processing to ensure the best image quality. However, if you choose to print digital photos or images, use high-gloss photo-quality paper and an inkjet printer. Image quality is not sufficient for reproduction if a laser printer is used.

4. **Scale scanned image.** To ensure that resolution is not lost, scale images when you scan. If you want the final image at twice the size, scan it at 200 percent. For more information on scanning, see pages 10-11.

5. **Avoid multiple saves.** If you save a JPG image multiple times, the quality of the image will be degraded.

6. **Create a back-up.** Always save your original photos. Then make alterations or resize a copy of the original image. That way, you’ll always have the original photo if quality is lost.
The photos in your yearbook will capture school memories for a lifetime—so you want them to look great! If your school will use digital images in your yearbook, it is important to understand how to capture and submit images that will work well.

Whether you will print digital images to place on a layout board, submit digital prints for placement in a template or upload photos to the WebEase or Volumes website, this book will provide the information you need to achieve great results.

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LEARNING ABOUT PIXELS

WHAT IS A PIXEL?
A digital image is made up of many small squares called pixels. Pixels of varying colors are combined to form an overall image. The number of pixels in an image will impact its quality. The more pixels per square inch, the sharper the image (see examples below).

30 pixels per inch. Each pixel can be seen in the photo.

72 pixels per inch. Pixels are visible, causing jagged edges in the photo.

300 pixels per inch. Pixels are so small that they aren’t visible to the eye.
LEARNING ABOUT PIXELS

PIXELS AND PHOTO SIZE

A camera creates a digital photo by capturing an image through the lens and translating it into pixels. Once the image is captured, it will always contain the same number of pixels.* The size of those pixels will be determined by the size of the photo. The bigger the image, the bigger (and more visible) the pixels. The number of pixels in an image will determine the maximum size at which it should be printed. See the Digital Image Size Chart on page 16.

*If the photo is manipulated using image editing software or is cropped, pixels could be lost.

Notice that when the photo is enlarged, the pixels become larger and easier to see, reducing the quality of the image.
UNDERSTANDING RESOLUTION

You want your yearbook photos to be as sharp as possible. Good resolution will give you a clear, sharp image. The word resolution has many meanings, depending on the topic. There is printer resolution, monitor resolution, image resolution and more.

**Printer Resolution** refers to the dpi (dots per inch) in a printed linear inch. An inkjet printer creates dots of color from manufacturers' liquid ink. A laser printer creates dots using powdered toner.

**Monitor Resolution** refers to the number of dots per inch as well. Screen resolution can be misleading because an image can look great on your computer, but look terrible when printed. Most computer screens have a resolution of 72 dpi. A 72 dpi photo will look great on a monitor with a screen resolution of 72 dpi. The same 72 dpi image reproduced in print will be very pixilated because more resolution is needed to print images. **Don't trust your monitor for print quality.**

**Image Resolution** refers to the ppi (pixels per inch) that make up the digital image. A large number of pixels per inch (small pixels) ensures that the little squares are not visible in the final product.
UNDERSTANDING RESOLUTION

CHECKING RESOLUTION OF DIGITAL FILES

To check the resolution of your digital files, open the file in your favorite image editing program (for example, Adobe® Photoshop®). Choose the Image Size option to check the image resolution. Change the unit of measurement to pixels to get the most useful measurement.

Most photos taken by digital cameras have a 72 dpi resolution when downloaded to your computer. Lifetouch recommends 300 dpi in order to create a high-quality image in your yearbook. To change your final resolution to 300 dpi, be sure that the Resample Image check box is unchecked. Enter 300 in the Resolution field. This will not change the number of pixels, but will display the width and height at which the image can be printed with a 300 dpi resolution.

When the resolution is increased from 72 to 300 pixels per inch, the width and height of the image will decrease. Make sure that the Resample Image box is not checked.

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IMAGE RESOLUTION AND CROPPING

You may need to crop a digital photo and then expand that cropped section to fit a photo box. For example, you may have a 4x6 photo, but only want to use a 2x3 section of it. If you enlarge that 2x3 section into a 4x6 photo box, you will remove half of the pixels in the photo, and the quality (dpi) of the photo will decrease. However, if you crop out that same 2x3 section and place it in a 2x3 photo box, the photo’s dpi and the quality will remain the same.

Whenever a cropped section of a photo is enlarged into a larger photo box than its current size, you will lose resolution. The difference in appearance won’t be as noticeable if you enlarge the photo a small amount (from 2x3 to 4x6). If you greatly enlarge the photo (from 1x2 to 7x14), the difference will be drastic. If you plan to tightly crop your photos, start with higher resolution images or take photos of subjects at a closer range.
In this example, the same photo is cropped and placed into different sized photo boxes. Notice that the cropped sections lose quality when they are enlarged to fit the photo space.

- **School Days**
  - Bobby Baxter sits and contemplates his daily homework in study hall.

- **Fashion Flair**
  - Samantha smiles pretty for the camera as she shows off her new trendy haircut.

No resolution is lost and quality remains the same because the cropped section of the photos did not need to be expanded to fit the photo box.

Resolution is lost and quality decreases because the cropped section of the photo was expanded to fit the photo box.
PHOTOGRAPHY TIPS

Quality photos are the key element of a successful yearbook. Your photos tell the story of your school year through memories. Check out the following tips to create amazing photos that will bring back those memories for years to come.

BASIC COMPOSITION
Master photographers are aware of one simple rule, the rule of thirds. To apply the rule of thirds, imagine horizontal and vertical lines that divide the frame into thirds. The center of interest can be placed at one of the four intersections.

If you want the subject to fill the frame for a close-up, it is okay to center the pose. However, get close enough to fill the frame. At least 50 percent of the frame should be filled by the subject. Close-ups take practice because initially it may feel awkward to get so close to your subject. Coach your photographers to get close, and then step in even one step closer.

Proper application of the rule of thirds helps the photographer avoid placing the center of interest in the middle of the photo.

Not close enough

Proper close-up: At least 50 percent of the frame is filled by the subject.
PHOTOGRAPHY TIPS

LIGHT
Due to its nature, direct sunlight is often too harsh for outdoor photos. Although there are some camera settings and conditions under which images can be captured successfully in direct sunlight, it is preferable to shoot daytime outdoor photos in shade. Photos that are taken in the shade benefit from indirect sunlight, which allows for a softer, more natural look. In the shade, pose your subject(s) so that the sun is behind him/her to create softer shadows and better highlights. It may be necessary to force a flash on shots taken in the shade, depending on the degree of backlight present. It is considered good practice to shoot more than one shot of each pose using different settings and varying the use of the flash to make sure you capture an image where you can see the subjects clearly.

USING THE FLASH (INDOORS)
Always use the flash for indoor photos. For outdoor photos, even if you think there is sufficient light, Lifetouch recommends using the flash. Take one shot using the flash and then one shot without the flash for any outdoor photos. After the photos have been processed, you can choose the best shot. Sometimes using a flash outdoors will fill in shadows that you did not notice or add light to a subject’s face. Scanning is the process of converting a continuous tone image (photo or artwork) into a series of pixels (digital image). If you will scan images for your yearbook, please follow these guidelines.
SCANNING

SCANNER

For best results, send your images to Lifetouch for reproduction. If you choose to purchase or use a scanner, keep in mind that not all scanners are alike and scanner settings vary.

MODES

Generally, there are three scanner modes. Certain modes are best for certain types of images. Refer to your scanner’s manual for details.

- **Bitmap (or line art).** The scanner assigns only black and white colors to create a high contrast image. This is the best mode for black-and-white artwork such as clip art.

- **Grayscale.** Reduces a continuous tone photo down to 256 shades of gray.

- **RGB.** Assigns varying shades of red, green and blue.

**Note:** All images will be converted from RGB (Red-Green-Blue) to CMYK (Cyan-Magenta-Yellow-Black) for printing.
RESOLUTION

In order to capture your image in the highest possible quality, it is crucial to use the proper resolution settings.

**Photos.** Scan photos between 225 and 300 ppi (the closer to 300, the sharper the image) at your final image dimensions. Scanning at over 350 ppi is not necessary.

**Line Art.** Scan clip art, drawings and any images that include text at 600 pixels per inch or higher. Since line art is black and white, the file size will be smaller but retain high resolution. If the resolution is too low (200 ppi), an image could have jagged edges.

SCALE IMAGES

You must scale images when you scan. Scanning images at 300 percent will provide the best quality. If you want the final image twice as large as the original, scan it at 200 percent. Increasing the image size in Adobe Photoshop after the scan will reduce the quality of line art and photos.
What happens when you mix and match various types of printouts on a montage page? Low quality printouts will really stand out on the page. The following montage page (shown in color and black and white) demonstrates the end results achieved with various printers.

<table>
<thead>
<tr>
<th>Printer Type</th>
<th>Paper Type</th>
<th>Resolution Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dye Sublimation Printer</td>
<td>Photo Paper</td>
<td>High Resolution</td>
</tr>
<tr>
<td>2. Inkjet Printer</td>
<td>Plain Paper</td>
<td>High Resolution</td>
</tr>
<tr>
<td>3. Inkjet Printer</td>
<td>Plain Paper</td>
<td>Low Resolution</td>
</tr>
<tr>
<td>4. Professional Lab</td>
<td>Professional Paper</td>
<td>Original Photo</td>
</tr>
<tr>
<td>5. Laser Printer</td>
<td>Plain Paper</td>
<td>High Resolution</td>
</tr>
<tr>
<td>6. Inkjet Printer</td>
<td>Photo Paper</td>
<td>High Resolution</td>
</tr>
<tr>
<td>7. Color Laser Printer</td>
<td>Plain Paper</td>
<td>Low Resolution</td>
</tr>
<tr>
<td>8. Black &amp; White Laser Printer</td>
<td>Plain Paper</td>
<td>Low Resolution</td>
</tr>
</tbody>
</table>

Processing your digital photos at a professional lab will give the best results!
PRINTING PHOTOS

Note: Online yearbook programs such as WebEase and Volumes will benefit by uploading images to ensure maximum quality.

Even the very best, highest resolution photo won’t reproduce well in the yearbook if it is not printed properly. The following guidelines will ensure that your photos will be picture perfect!

PHOTO PROCESSING LAB
Digital photo processing labs can be found in camera stores, drug stores and discount retail stores. Using a photo processing lab will generally produce the best results when printing digital images. The equipment used by a photo processor will automatically color correct and optimize your digital images.

Check it out Print-for-print, it is often less expensive to have small prints produced at a lab compared to printing them on your own inkjet printer!

USING A PRINTER
For the best image quality, Lifetouch recommends submitting your images digitally or going to a photo processing lab. If you opt to print photos on a printer, follow these guidelines:

Printer. An inkjet printer, set to the highest setting, will achieve good results. Photos printed on a laser printer will not reproduce well in the yearbook.

Paper. The paper used plays a huge role in the quality of output from any printer. Always use high-gloss photo-quality paper. Often, your inkjet printer’s manual will recommend compatible photo quality paper.

TIP! If students or teachers will submit digital photos, ask them to provide you with the digital file so that you can print it. This will allow you to ensure that it is printed properly.
DOWNLOADING IMAGES FROM YOUR DIGITAL CAMERA

Follow these steps to download and save images to your computer.

**Connect your camera or card reader** to the computer and open your camera software application. View your photos on the computer. They will still be on the memory card and will not be on the computer’s hard drive until you save them there.

**Check your software settings** to ensure images will be downloaded from the camera at the highest quality setting possible.

**Create a back-up CD** and verify that the images have been copied, can be opened and are in working order. Save the original images in one location and only alter or make changes to the copy of your image. If your image copy loses quality or is accidentally deleted, you’ll still have the original.

**NOTE FOR WEBEASE AND VOLUMES CUSTOMERS:** Prior to uploading photos to your WebEase or Volumes website, review the photos for quality and content. Submitting photos that will probably never be used (dark, blurry, duplicates, etc.) will create more work when you are building pages because they will appear in your Image Library, unless you delete them. You will be able to work most efficiently if you do not keep unusable images in the Image Library.
The chart below shows the maximum size at which digital images will reproduce well in your yearbook. Always use the recommended size or smaller, rather than the maximum size. The Digital Camera column shows the minimum number of megapixels needed to capture the recommended number of pixels (for example, a 1 Megapixel camera should not be used for photos larger than 4.27 x 3.2”).

### DIGITAL IMAGE SIZE CHART

<table>
<thead>
<tr>
<th>DIGITAL IMAGE SIZE</th>
<th>PRINT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIGITAL CAMERA</strong></td>
<td><strong>PIXEL DIMENSION</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>640 x 480</td>
<td>2.14” x 1.60”</td>
</tr>
<tr>
<td>756 x 504</td>
<td>2.52” x 1.68”</td>
</tr>
<tr>
<td>760 x 576</td>
<td>2.54” x 2.52”</td>
</tr>
<tr>
<td>1024 x 768</td>
<td>3.42” x 2.56”</td>
</tr>
<tr>
<td>1152 x 864</td>
<td>3.84” x 2.88”</td>
</tr>
<tr>
<td>1 Megapixel</td>
<td>1280 x 960</td>
</tr>
<tr>
<td>2 Megapixels</td>
<td>1600 x 1200</td>
</tr>
<tr>
<td>3 Megapixels</td>
<td>1760 x 1168</td>
</tr>
<tr>
<td>2048 x 1536</td>
<td>6.83” x 5.12”</td>
</tr>
<tr>
<td>4 Megapixels</td>
<td>2272 x 1704</td>
</tr>
<tr>
<td>2400 x 1800</td>
<td>8.00” x 6.00”</td>
</tr>
<tr>
<td>5 Megapixels</td>
<td>2560 x 1920</td>
</tr>
<tr>
<td>6 Megapixels</td>
<td>3008 x 2256</td>
</tr>
<tr>
<td>7 Megapixels</td>
<td>3071 x 2304</td>
</tr>
<tr>
<td>8 Megapixels</td>
<td>3263 x 2448</td>
</tr>
<tr>
<td>10 Megapixels</td>
<td>3888 x 2592</td>
</tr>
</tbody>
</table>