

VECTOR

VS.

RASTER

Confused over the difference between the two file types? When starting a project, we request our clients and customers have their logo or design in a vector format. When we request a vector format, it usually leads to confusion and blank stares. Keep reading to understand the difference. Hopefully, by the end of this, you will understand the benefit and need for vector graphics when it comes to ordering promotional products, trade show displays, printed material, etc. We want to help your business succeed!

RASTER IMAGE

Raster images, which can also be referred to as Bitmap images, are created using a fixed number of colored pixels. “Raster, or bitmap, images consist of tiny squares called pixels. These pixels contain bits of color, and when combined, they build images. Raster images are supposed to be used in photography and digital applications” (Shutterstock).

So think about it like this — when you take a photograph, that photo is composed of pixels, which is essentially a bunch of little squares put together to create the overall image. That is why when you zoom in on a photo, it starts to get that blurry look. That blurry look means you are seeing all of the little squares/pixels that are used to create the image. The more pixels in a photo the better quality photo, and the higher the resolution. That is why professional photographers, or people with nice, high-quality

cameras, always have clearer photos than those taken on cell phones or a low-quality camera. Professional cameras are able to produce more pixels per image. While on your cell phone, you will notice if you take a photo and then zoom in, you will start to see that blurry look. That is because your cell phone takes pictures that are constructed of fewer pixels than a professional camera. “Obviously pixels make an image look unprofessional and unsightly. As a rule of thumb, it is best to only downsize a raster image to avoid heavy pixelation” (Shutterstock).



It is important to understand what raster images are before we start to discuss vector graphics. Many of our customers do not understand why their raster image will not work when being printed. If we were to take a picture that was taken on your cell phone and put it on a billboard, it is going to appear very blurry, low quality, grainy, and distorted. That is because there are not enough pixels in your photo for it to be scaled to that size. The same thing applies to postcards, flyers, banners, etc. Raster images cannot be resized without dramatically compromising their resolution. Even though professional photographers are able to produce a photo with high resolution, that is still not the same as having a vector graphic when it comes to having a logo or design on one of our products. A vector graphic allows you to have your logo produced on a wide variety of media without ever affecting the resolution. It is important that your logo/designs are created in the best way possible because that is a reflection of your brand. Also, you want a good quality logo so that you are able to have your logo screen printed, embroidered, be put on a billboard, banner, or flyer. It is a small investment that will definitely pay off in the end.

Common files types for raster images - .JPG, .GIF, .PNG, .TIF, .PSD, .PDF (if saved from a bitmap based program)

VECTOR GRAPHICS

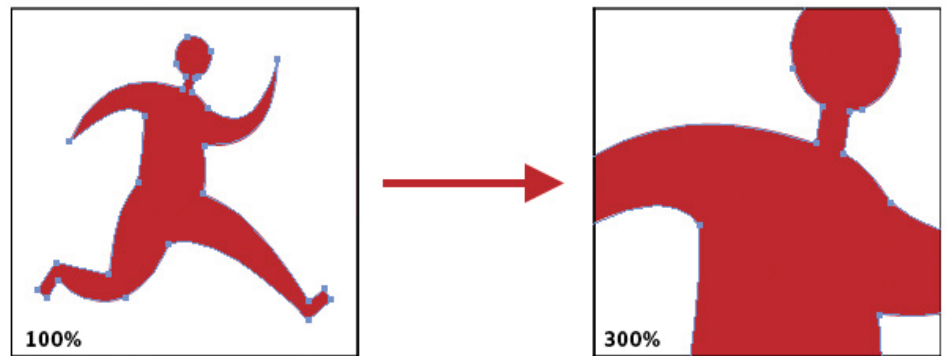
Vector images are essentially made up of shapes, versus pixels like in raster images. A vector graphic is an artwork made up of points, lines, and curves that are based upon mathematical equations (Adobe). Vector images allow for more flexibility. Your company logo and brand graphics should be created as a vector. A vector image is scalable. The size can be enlarged or made small without reducing the quality, which is not possible for a bitmap image.

Vector images are what should be used to create logos, icons, typesetting, and digital illustration. In fact, most professional logos, if not all, are in vector format. Adobe Illustrator, which is what we use here at Anita's Marketing, is the industry-standard that is used to create, design, and edit vector images. Having your logo, or any design, created in Adobe Illustrator can avoid a lot of problems when it comes to your graphics.

When first starting a business, I know it may be tempting to just go online to a website or the latest "design" app on your phone, to create a logo for free. The majority, if not all, of these websites, do not allow you to download your logo in a vector format. It may be quick, cheap, and easy, but in order to develop a professional brand, it is important that you take the time to have a logo professionally designed. A great logo is important, but so is how it is made. In the end, a professionally designed logo will save you time and money.

Our clients have learned through the years that having your logos and design in a vector format is essential. It can be difficult to understand that pixels do not produce well. Screen printing, vinyl cutting, and large format printing all require vector graphics. We are here to help you. Just ask!

Vector image formats - .EPS, .AI, .SVG, .PDF (if saved from a vector based program)



VECTOR vs. RASTER IMAGES

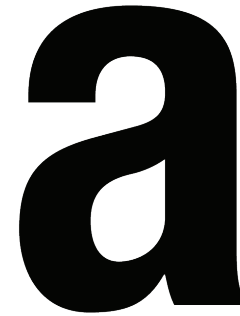
Raster



Vector



VECTOR



I HAVE SHARP EDGES

BITMAP

vs.



I AM FUZZY

Raster



Vector



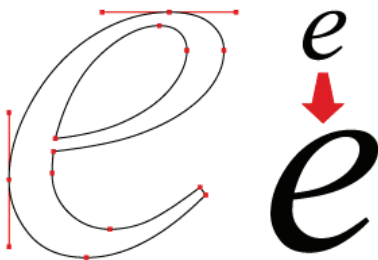
raster

↑
pixellated edges depending on size and image resolution

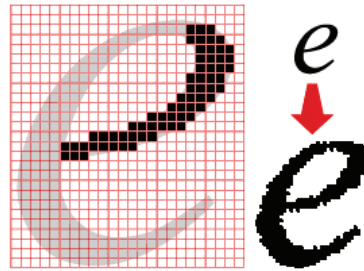
e
vector

↑
sharp clean edges at any size

VECTOR GRAPHICS



BITMAPMED (RASTER) GRAPHICS



VECTOR

BITMAP



"Hi! I'm Raster. I'm a pretty shaky character."



"Hi! I'm Vector. I'm a pretty smooth operator."



VECTOR

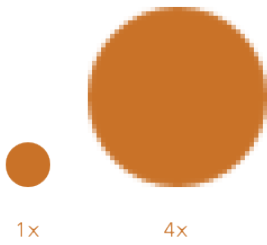


RASTER

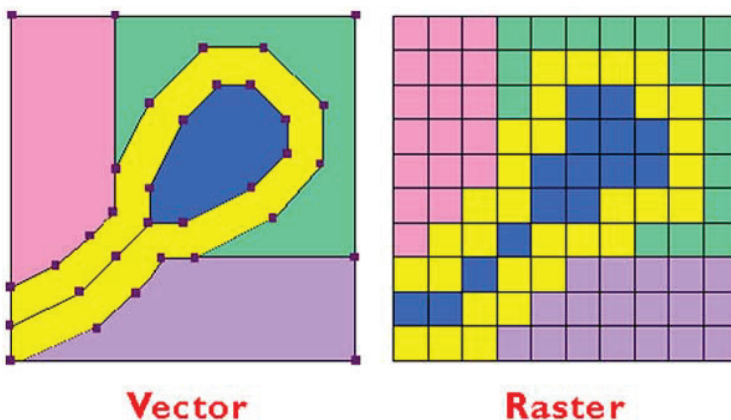
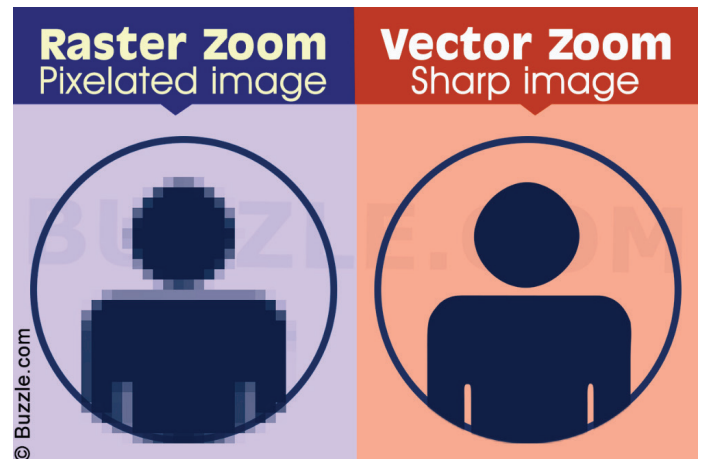
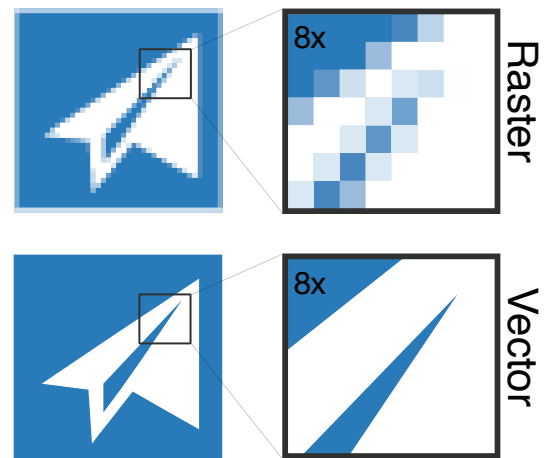
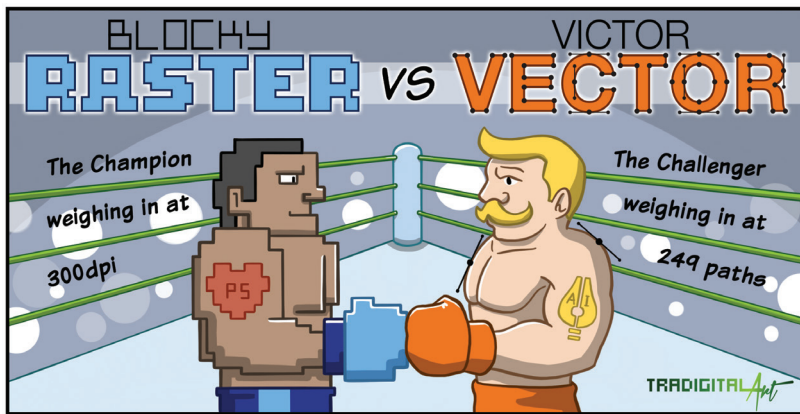
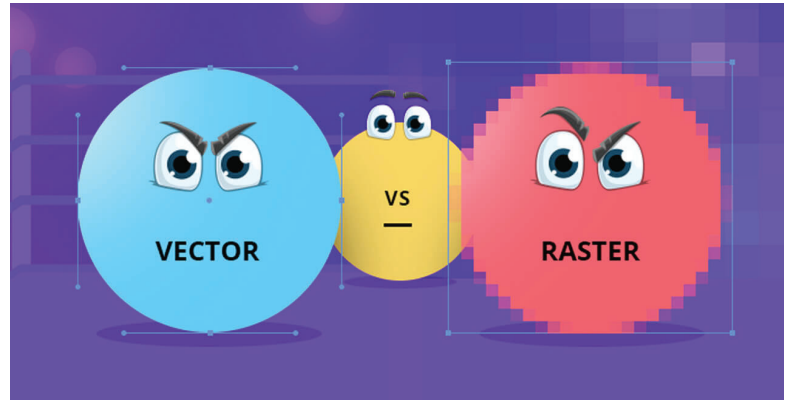
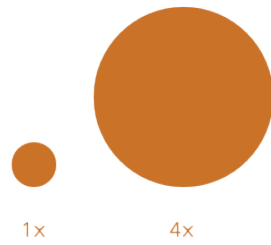
Vector **VS** Raster

VECTOR vs. RASTER IMAGES

Raster



Vector



Raster
VS
Vector

How do you know if you have a Vector Graphic or Raster Image?

Despite knowing the difference between raster images and vector graphics, you may still be wondering how to tell what type of file you have for your logo. Well, hopefully, we can clear that up for you...

File formats that are **Vector Images** (these letters will be at the end of your files)

- **.ai**
- **.eps**
- **.svg**
- **.pdf** (some pdf formats will work, but only the ones that have been saved from vector programs)

File formats that are **Raster Images** (these letters will be at the end of your files)

- **.tiff**
- **.psd**
- **.jpg**
- **.png**
- **.gif**
- **.bmp**
- **.pdf** (If saved from a bitmap-based program)

Sources

<https://www.adobe.com/creativecloud/illustration/discover/vector-art.html>

<https://www.shutterstock.com/blog/raster-vs-vector-file-formats>