

Adobe Illustrator and Adobe Photoshop

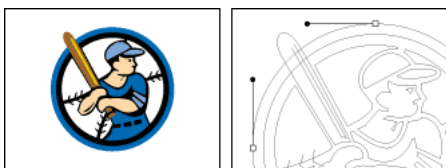
Vector graphics and bitmap images

Computer graphics fall into two main types: vector graphics and bitmap images. We'll make a quick comparison of the two to help you understand which is more appropriate for your artwork. It boils down to the kind of artwork you're preparing and what you intend to do with it.

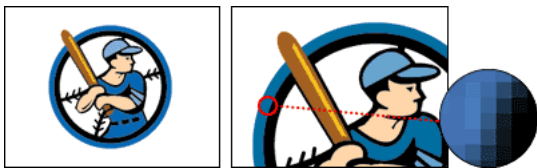
Vector vs. Bitmap

Vector graphics are made up of shapes defined by mathematical expressions. A vector graphic has crisp, smooth lines and is resolution-independent—that is, it can be rescaled to any size or displayed onscreen at any resolution without losing the clarity of its lines.

Bitmap images (also called raster images) are based on a grid of small squares known as pixels. Each pixel has a specific location and color value assigned to it. Bitmap graphics can represent subtle gradations of shade and color. A disadvantage of bitmaps is that they represent a fixed number of pixels, so they can appear jagged and lose detail if they are rescaled or displayed onscreen at a higher resolution.



Vector art consists of scalable shapes.



Bitmap art contains individual pixels.

Which graphic type should you use?

So which type do you need? It depends on what you're trying to do:

- Vector graphics are crisp at any size or resolution, so they're well suited for line art, type (especially small type), and graphics that may need to be scaled, such as logos and maps. Vectors also produce more compact files than bitmaps, so they're quicker to open or download on systems with limited memory or low-bandwidth connections.

- Bitmap images can represent rich and subtle gradations of shade and color, so they're appropriate for artwork created in painting programs and for continuous-tone images such as photographs. You might also want to convert vectors to bitmaps to apply distortion filters or other special effects to them.

Drawing programs such as Adobe® Illustrator® are ideal for creating vector graphics. Bitmap images are generally created using graphics programs such as Adobe Photoshop®. Both Illustrator and Photoshop can rasterize your vectors into bitmaps.

What's next for graphics on the Web?

Most graphics on the Web today are in bitmap formats, such as GIF, JPEG, and PNG. Up until now, the only vector formats practical for the Web have been proprietary standards, such as Flash (SWF)—but a new open-standard format called Scalable Vector Graphics (SVG) is emerging.

SVG will let Web developers use high-quality vector fonts and graphics that look great at any size or resolution and that incorporate sophisticated elements such as gradients and animation. Imagine being able to zoom into a map on the Web! And SVG vector descriptions are embedded in the HTML code, so developers can put interactivity, such as rollover highlighting, right in the artwork.

Illustrator 9.0 exports to both SVG and SWF vector formats. You can even define SVG interactivity for your artwork within Illustrator.



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