Vectors

Vectors, in the concept of graphic design, are first-rate and easy-to-scale images where every line, point, curve, or geometric figure creates art rather than using pixels in the making process. To achieve 2D or 3D shape illustrations, a set of arithmetic formulas consisting of connected points are at play in the field of vector graphics.

Vectors Definition & Meaning

Vectors are digital images consisting of geometric statements and paths to make a diagram, drawing, or any art design.

A vector is a type of computer drawing presented by forming pathways and connecting the dots, a big contrast to digital drawings consisting of a pixel-based checkered background.

What Is a Vector?

A vector uses points and pathways to form any shape for your digital drawings may it be a simple, round figure down to a complex, modern diagram. Vector art is basically a digital artwork consisting of mathematical equations or vector graphics. These vector images are

eventually used to design and scale all sorts of templates such as business cards, banners, posters, invitations, bookmarks, and lots of other purposes.

10 Types Of Vectors

Wedding Vectors

Celebrate an upcoming wedding or greet couples during their wedding anniversaries with special designs from curated wedding vectors. There are so many ways to incorporate wedding elements into your vector artwork such as presenting romantic word art for the wedded couple's names, designing flower wreaths or wedding cakes, and drawing cartoon versions of the married couple. It is recommended to use wedding vectors to promote a wedding on social media or send wedding invitations.
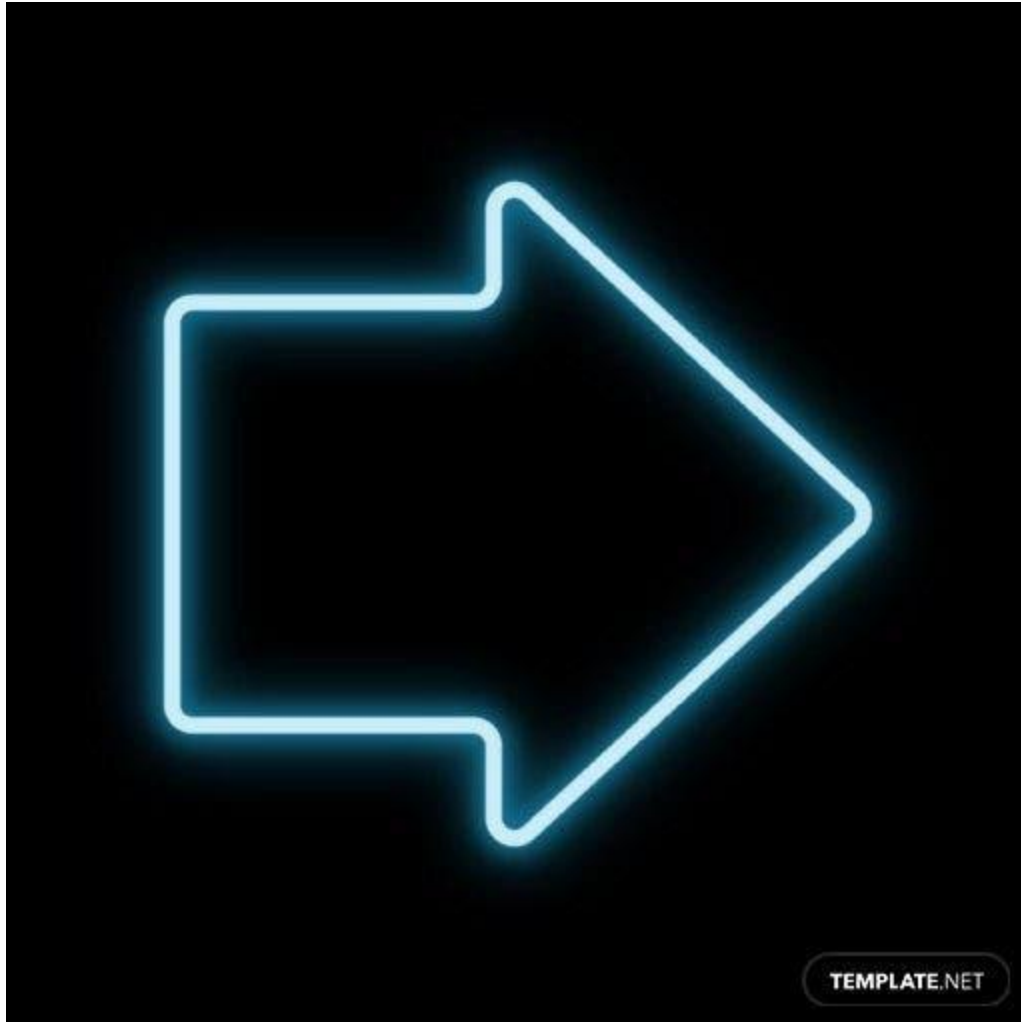
Floral Vectors

Whether you use Adobe Photoshop, Illustrator, or any drawing platform to design vectors, you will eventually come across floral vectors as floral designs are quite popular. Besides simply sketching your own digital image of flowers, floral vectors are often used for document borders. That way, one document doesn't simply look blank but is actually adorned with colorful floral patterns that are very pleasing to the eyes.

Arrow Vectors

Leverage arrow vectors to suggest where your audience should go next such as putting an arrow vector beside a button on your website; that way, visitors know where to continue. Besides using arrows to suggest a direction, arrow vectors are also used for infographics like in presenting how sales have gone up or down recently. You can design arrow vectors using blue neon lights, transparent wallpapers, arrow swirls, and other ways to creatively present arrows.
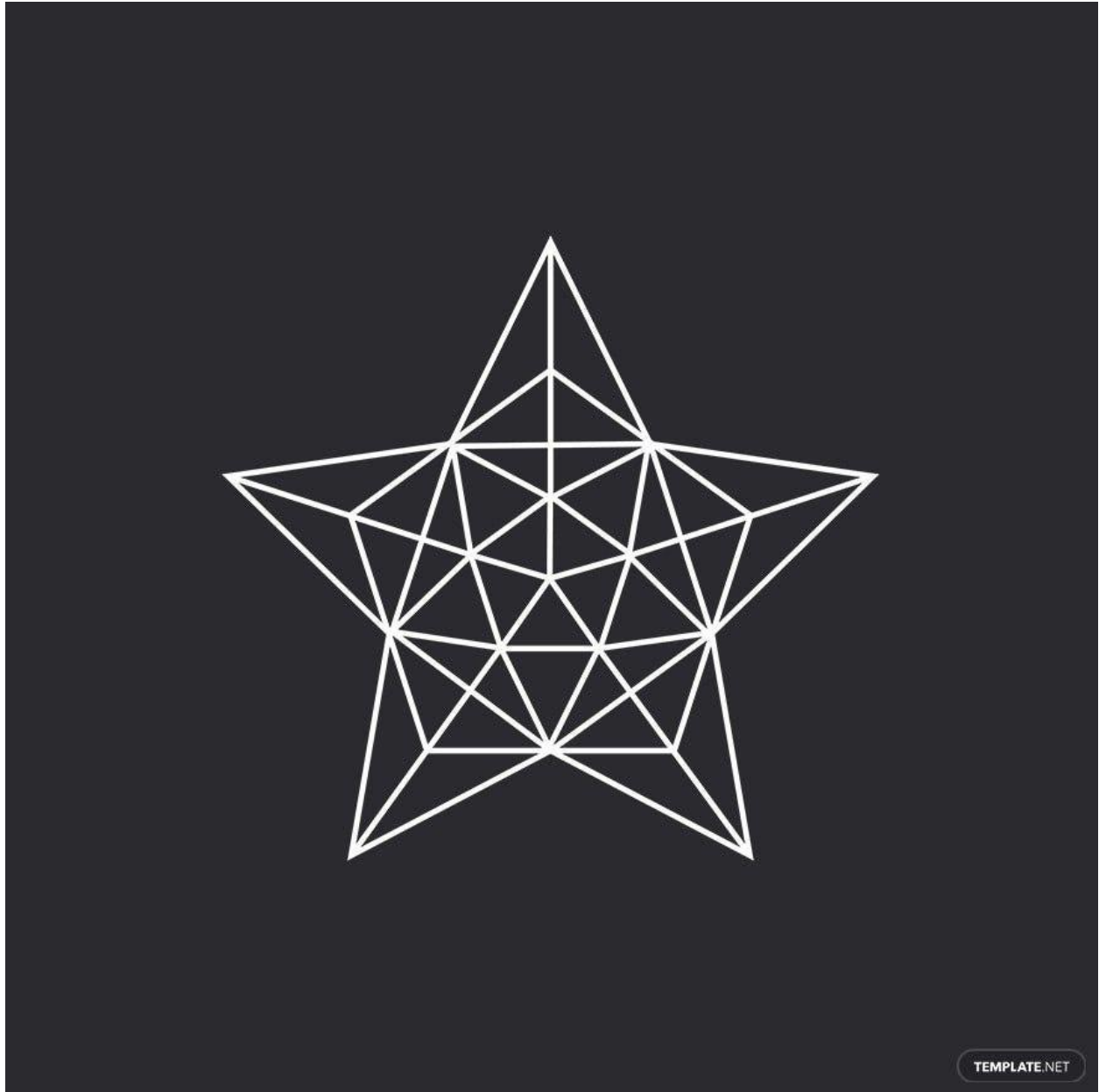
Food Vectors

Delight people with vector graphics involving food by serving food vectors. You can use this type of vector art for a food advertisement design, a cookbook or recipe list, or an educational chart presenting the food pyramid, perhaps. The key is to make sure what type of dish you designed on the food vector is recognizable for audiences because maybe you hinted that a dish is meant to be fried chicken but ends up looking like a sweet lollipop instead.

Star Vectors

Illuminate your documents, social media pages, and other digital platforms with artistic star vectors. Optimize a star vector for any purpose such as for a post involving outer space, as a starstruck reaction or comment, or maybe you just love starry aesthetics. Starry designs are just as popular as floral aesthetics and star vectors won't let you down when it comes to adding some shine to graphic design.

People Vectors

From different races, genders, ages, and appearances, people are so diverse that you can expect diverse examples of people vectors out there too. Use people vectors when you need to present something related to people or the human population such as in making community statistical charts, family tree designs, and the human circle of life. Crafting a people vector could have people appear cartoonish, black and white, faceless, realistic, and more.

Book Vectors

From celebrating World Book Day, and designing a library, to encouraging people to read more books online, utilize the book vectors for any book-related activity in need of stellar book vector art. Book vectors also have plentiful functions such as making a huge blank book page for digital users to type on or inserting a small book vector on a post that talks about books. These designs bestow knowledge or information so use book vectors when that is your goal.

Business Vectors

Professional motifs and formal styles are how you describe business vectors since these graphics are generally used for business or professional use. However, it doesn't mean there is no sense of creativity or fun for business vectors because you can still form a black and gold business logo, an abstract frame with green corners for your brand, a wave of hearts to add some flair to a company website, or even cute orange ribbons to commemorate Halloween on a business post. Balance the sense of fun and professionalism out of your business vector designs.

Emoji Vectors

Creative freedom is highly evident among emoji vectors as these digital icons help you express thoughts or feelings without having to write them into words. Just make sure the emoji vector designs you use are very expressive and would not easily be misinterpreted such as a crying emoji vector where you aren't sure if the emoticon crying is crying out of sadness or crying for laughing too much. Don't forget to use vibrant colors here as emojis look cartoonish in the first place.

Lightning Vectors

Strike some spark to your graphic designs using impressive lightning vectors in the design process. Lightning vectors are helpful when the aesthetics you are going for in a digital design invokes fear or maybe you are writing a weather report where the light vector represents the possible lightning storms coming. Other graphic designers also use lightning bolt motifs to spark a brilliant idea.

Vectors Uses, Purpose, Importance

Why should you use vectors in the first place? There are lots of key features to vector graphics that prove why vectors are still relevant today, and the main functions and important reasons to use vectors are the following:

Top-Notch Scalability Features

Probably the most important characteristic of a vector is its versatile scalability feature. Scaling vector images means you can decide whatever size your file is without having to worry about the resolution and quality. Most people prefer vector graphics when it comes to creating outputs with impressive quality or resolution for any size because most pixel-based images already look pixelated or blurry when you zoom in or change their size.

Unique Set of Vector Files

Vector graphics files don't follow the popular JPG, BMP, or GIF image formats because vectors use arithmetic formulas in lieu of pixels. Hence, vector files have their own set of formats such as Adobe Illustrator (AI), Portable Document Format (PDF), Scalable Vector Graphics (SVG), CorelDRAW (CDR), and Encapsulated PostScript (EPS). Always know your purpose behind making any graphic design to know the appropriate file format to apply.

Lightweight File Sizes

Worry no more about digital images that take too long to load on a site or too long to download because, without the building blocks of pixels, vectors are naturally lightweight. Go for vectors if you want to save data for your graphics storage and experience a short time loading vector images on websites. The fact that the file size is lightweight yet still in impressive quality or resolution is groundbreaking enough in graphic design.

HD Resolution from Small to Large Illustrations

From the smallest illustrations such as button pin designs to the largest illustrations such as ad banners, you can guarantee that either small or big illustrations can have HD resolution using vector graphics. If images were pixel-based or raster file formats, quality may change as you enlarge them and the resolution would suffer as well. Thankfully, vectors make a spectacle for being resolution-independent graphics.

Countless Design Functions

Don't limit the vector's uses for graphic design purposes because a graphic design itself even involves ubiquitous purposes. You can apply vector images for app designs, website

or software development, animation, computer-aided design (CAD), and lots of other design features. Take advantage of vectors to create numerous colors, shapes, filters, fonts, and illustrations that you can resize and customize whenever you like.

What's in a Vector? Parts?

Geometric Formulas

Vectors contain mathematic equations, specifically each line or point involved to form a digital object or image. A vector art's location is referred to as a node and every point is positioned according to the x- and y-axis.
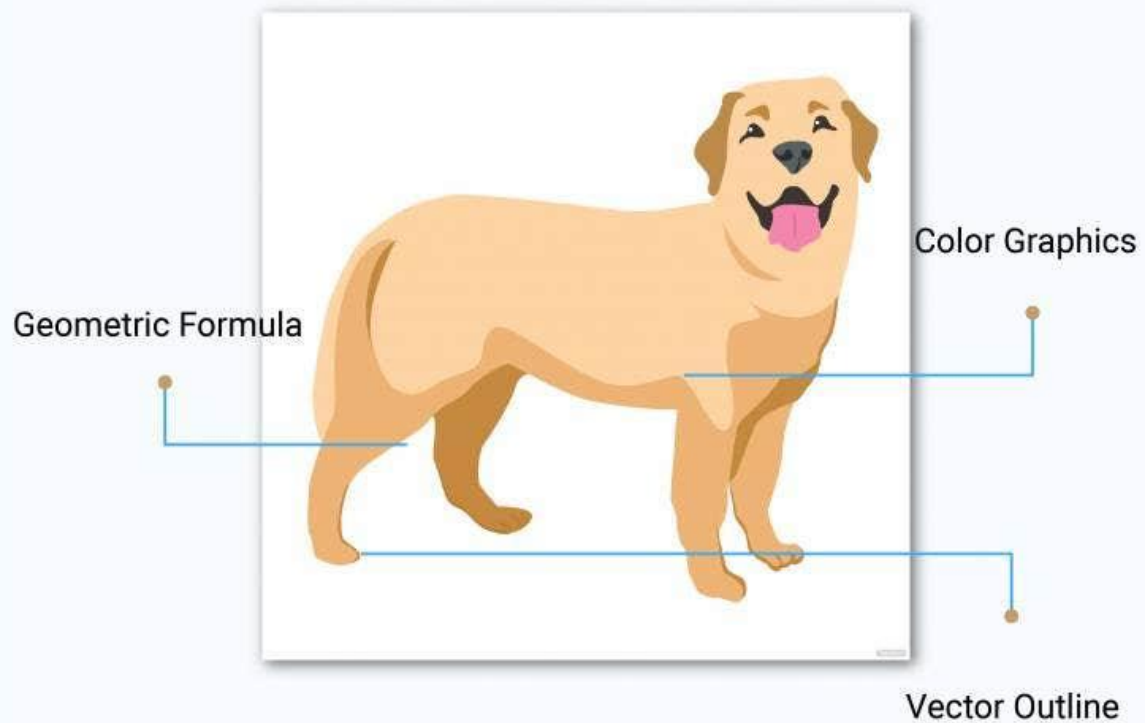
Color Graphics

Vectors are colored with a high resolution and you can go for multi-colored vector designs. For some graphic designers, multi-colored vectors are transformed into images with limited colors for creating logos, vinyl signs, embroidery patterns, and minimalistic merch.

Vector Outline

The vector outline, aka wireframe, allows you to view a vector image according to how you conventionally see the design. If the image was a raster file, then you would have seen a checkered background outside the outline instead.

Vectors Anatomy

Geometric Formula

Color Graphics

Vector Outline

How to Design a Vector

1. Decide the appropriate Vector Size

2. Consider your purpose in creating a vector

3. Customize a Vector Template

4. Insert the standard elements of a vector

5. Finalize the design and content

6. Save and publish your work

How to Design a Vector

DATA
01
Decide the appropriate Vector Size

Consider your purpose in creating a vector
STEP
02

DATA
03
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Insert the standard elements of a vector
STEP
04

DATA
05
Finalize the design and content

Save and publish your work
STEP
06

Vectors vs. Illustrations

Vectors are digital graphics consisting of arithmetic equations to form shapes, figures, and artworks.

Illustrations refer to artworks or graphics of an amalgamation of shapes, lines, points, colors, and more.

What's the Difference between Vectors, Memes, and ClipArt?

Vectors are images consisting of a series of individual objects such as lines, curves, shapes, etc.

Memes refer to any medium, not only an image, that represents a particular thought understood by niche audiences.

Cliparts are graphic designs stored in a word processor to adorn documents, pictures, and more.

Vectors Sizes

The vector sizes have no fixed resolution because they will be rendered depending on the resolution allowed of what device you're using; thus, you can always decide on the size of vectors because no matter how small or large the vector image is, the resolution won't be affected. If you need help determining the best vector sizes as a start, try these standard vector sizes:

Format	Minimum Size	Maximum Size
Standard Design Elements	1000 x 1000 pixels	4800 x 4800 pixels
Scenes and Illustrations	1200 x 1200 pixels	4800 x 4800 pixels
Small Print and Digital Designs	1000 x 1000 pixels	3600 x 3600 pixels

| Large Print Designs | 2400 x 2400 pixels | 4800 x 4800 pixels |
| Large Digital Designs | 1200 x 1200 pixels | 7200 x 7200 pixels |

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Large Digital Designs	1200 x 1200 px	7200 x 7200 px

Vectors Ideas & Examples

Vectors grant you a number of opportunities where you can design visual elements for a document, picture, banner, and promotional tools. You won't even run out of graphic designs for vectors by considering these excellent vector ideas and examples:

- Vectors Ideas and Examples
- Location Vectors Ideas and Examples
- Fire Vectors Ideas and Examples
- Hand Vectors Ideas and Examples
- Music Vectors Ideas and Examples
- Butterfly Vectors Ideas and Examples
- Good Luck Ideas and Examples
- Sports Vectors Ideas and Examples
- Geometric Vectors Ideas and Examples
- Doodle Vectors Ideas and Examples
- Heart Vectors Ideas and Examples

FAQs

Why are vector images important?

Vectors are essential for making merch, promotional materials, and other products where scaling is necessary; hence, scaling and resizing the vector won't affect the image's quality or resolution.

What is a vector in math?

In mathematics, a vector refers to a physical object that contains a direction and magnitude.

What are the types of vectors in mathematics?

In math, the most notable types of vectors are the unit vector, zero vector, co-initial vector, position vector, like/unlike vector, co-planar vector, collinear vector, negative vector, displacement vector, and equal vector.

Are PNG files considered vector graphics?

No, PNG is a pixel-based raster file, meaning resizing the PNG file could end up looking grainy, blurry, or pixelated.

Is PDF considered a vector file?

Although most PDFs are vector file formats, it varies on the type of program used since PDFs are also capable of saving raster files.

Is JPEG a raster or vector file?

JPEG is a raster file.

What is the easiest way to design a vector object in Adobe Photoshop?

Access Adobe Photoshop and use the Shape tools.

What are the disadvantages of vectors?

Vectors only have a few browser options as most browsers support raster files, vectors take longer to create than pixel-based formats, vectors can't accommodate complex images due to limited colors, and vectors are inconsistent in size while rendering from one program to another due to its scalability features.

What file formats support vectors?

These are .ai, .cdr, .dxf, .svg, .eps, and .wmf.

What is another name for a raster image?

A raster image is also referred to as a bitmap.