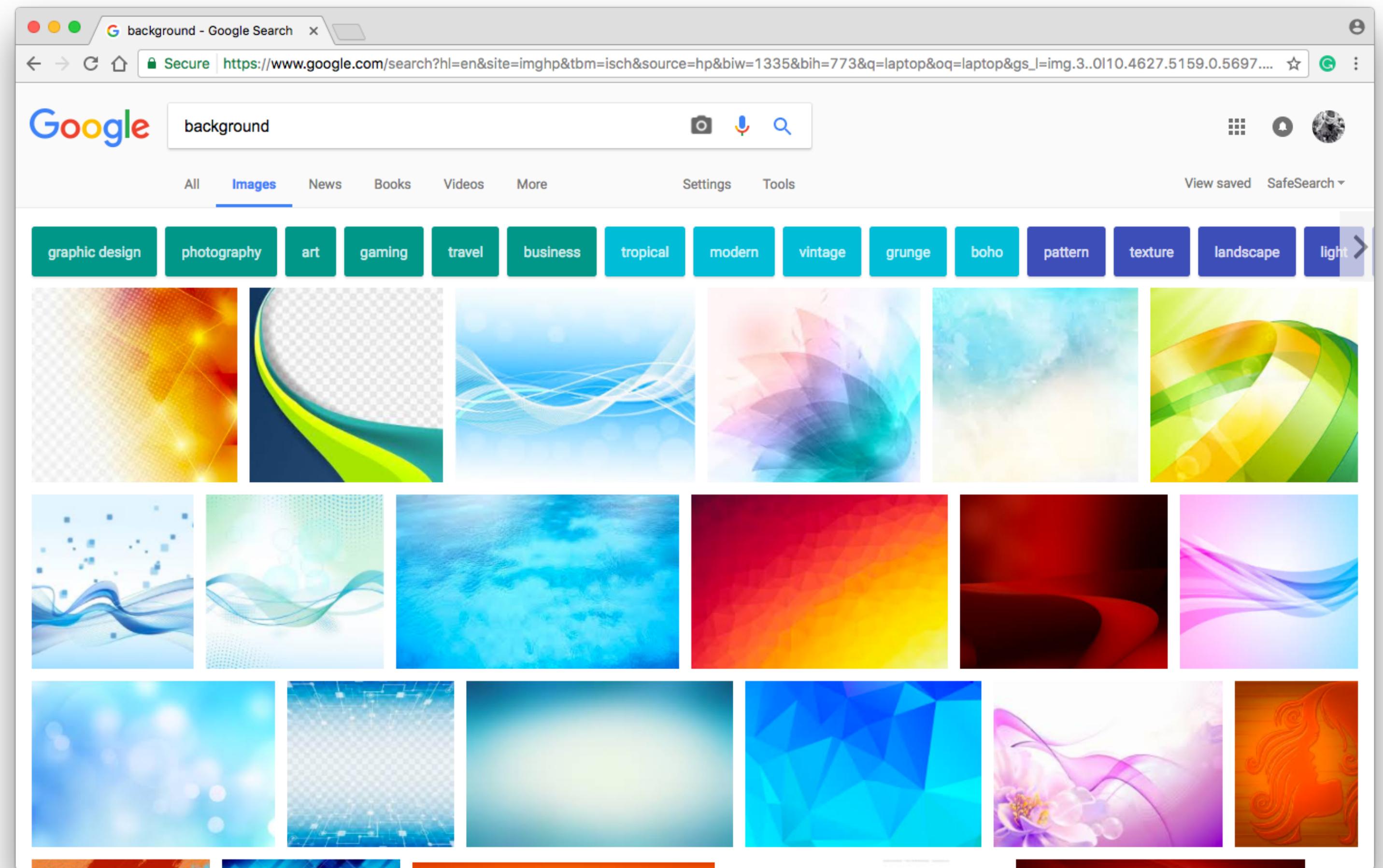


Optimizing Images for the Web

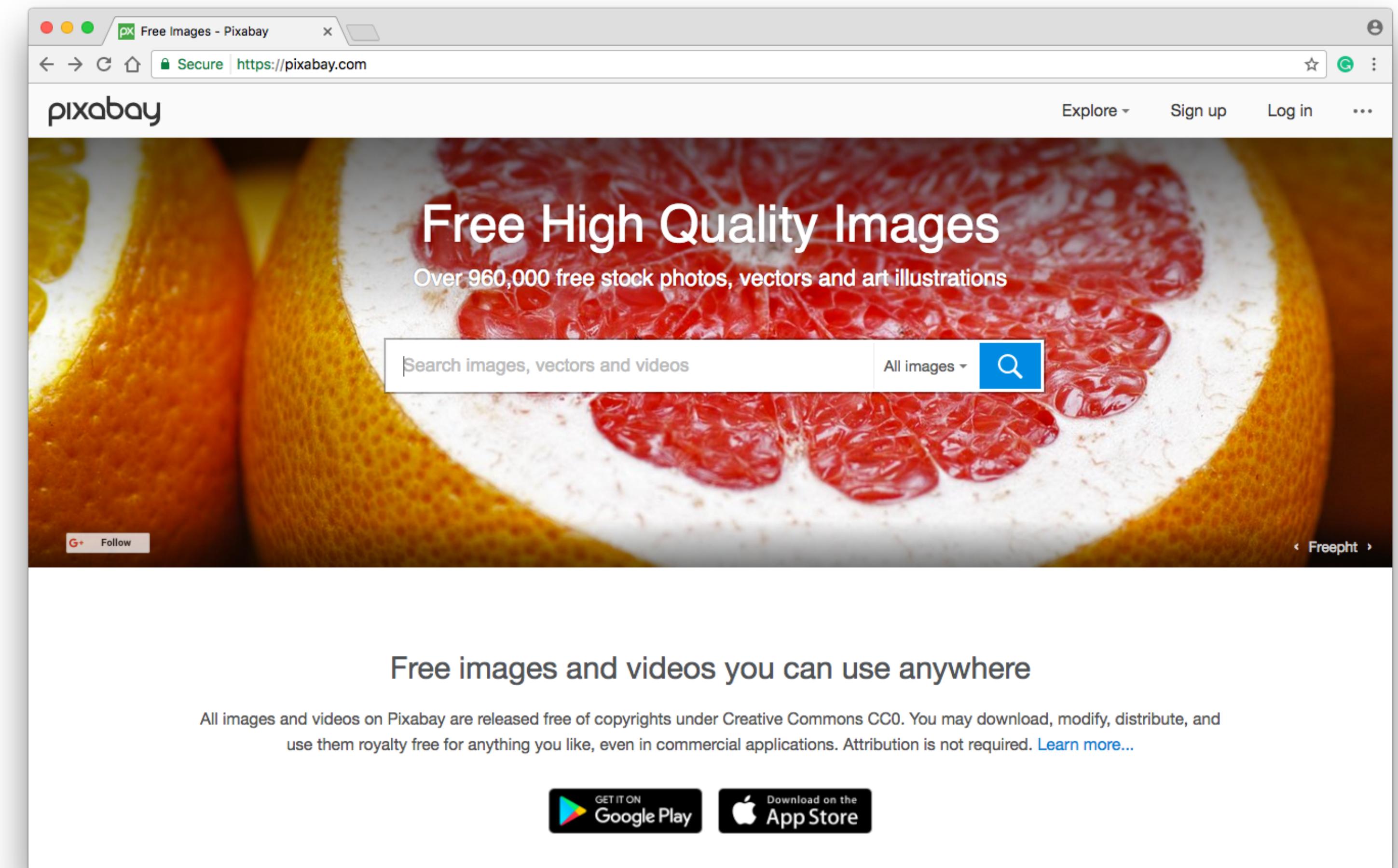
Image Sources

Although it is super easy to find images on the internet, that does not mean that you are allowed to **legally use these images**, especially on a for-profit website. Using a standard Google image search, or simply downloading and using images from any random source on the web, can easily land you in **legal and financial trouble**.



Free Image Sources

- Pixabay
- Unsplash
- Gratisography
- PicJumbo
- Little Visuals
- Every Stock Photo
- Photo Pin
- New Old Stock
- Creative Commons Search
- Google Advanced Search
(use the "usage rights" filter)



“47% of users expect a webpage to load in under 2 seconds and 40% will abandon a page that takes longer than 3 seconds to load.”

– Kissmetrics

Why optimize images for web?

Users are more likely to abandon a site that takes too long to load. Page weight is the size of your webpage in megabytes or gigabytes (including all the combined files on the page).

It's a relevant measure to how long your page will take to load in a browser.

Are my images optimized?

Likely, you won't know if your images are too big just by looking with the naked eye. You'll have to do a little investigation into the file size and image settings.

What do you need to know?

- **Software:** There are lots of paid and free options for optimizing your images
- **Editing:** Adjusting the crop, size, file type and color mode of images effect the size of the file (which, in turn, effects your page weight)
- **Saving for Web:** You can optimize images for the web using automatic presets or manual adjustments
- **The Goal:** The name of the game is to make your image files as small as possible without sacrificing quality.

Photoshop

Color Model

The RGB color model is a technology for mixing (R)ed, (G)reen and (B)lue light in order to produce any imaginable color. This technology and color mixing process is used by all screens on electronic devices.

To ensure you are working in RGB, you can:

- Create a new document using RGB
- Convert a document to RGB

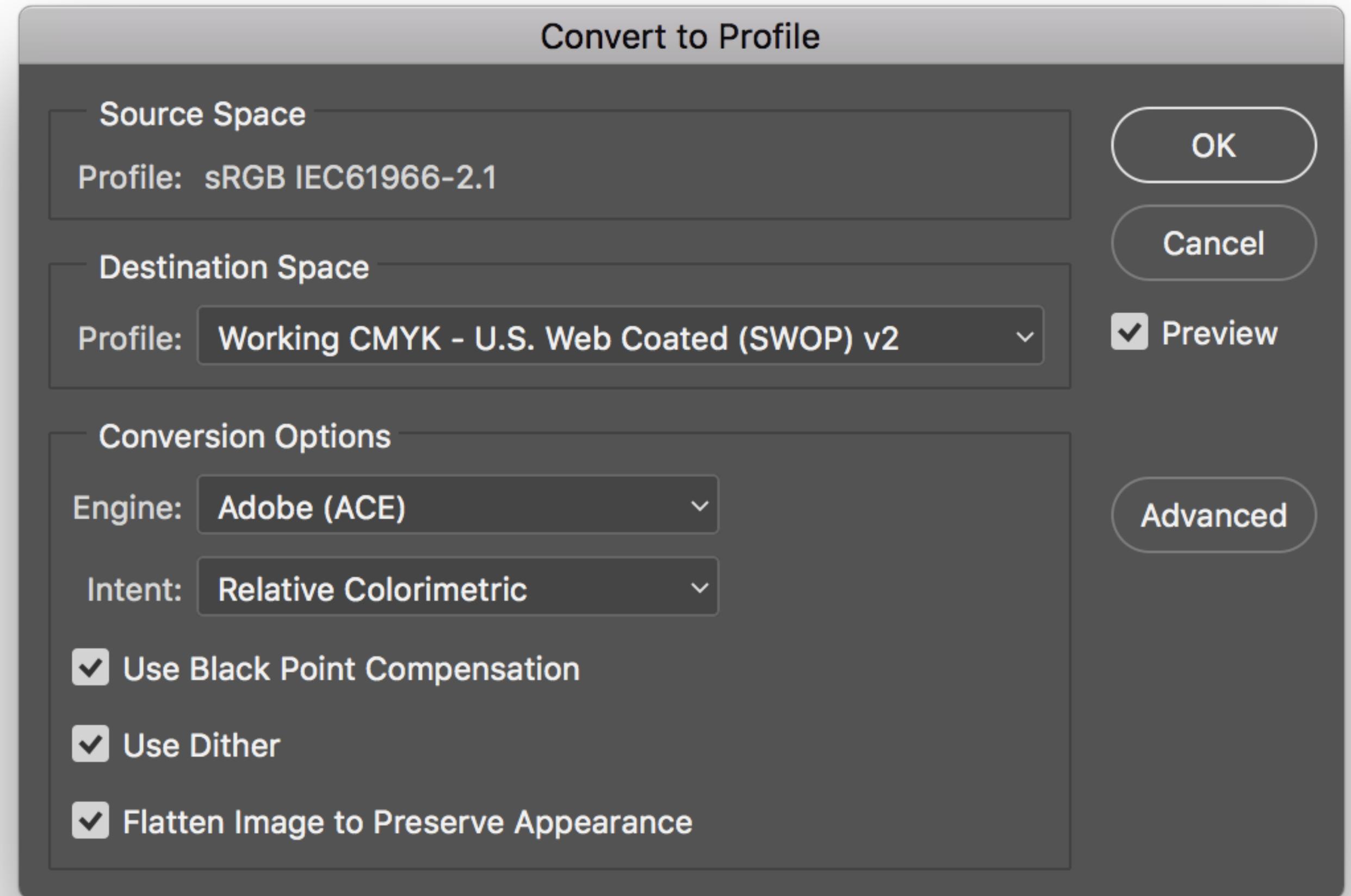
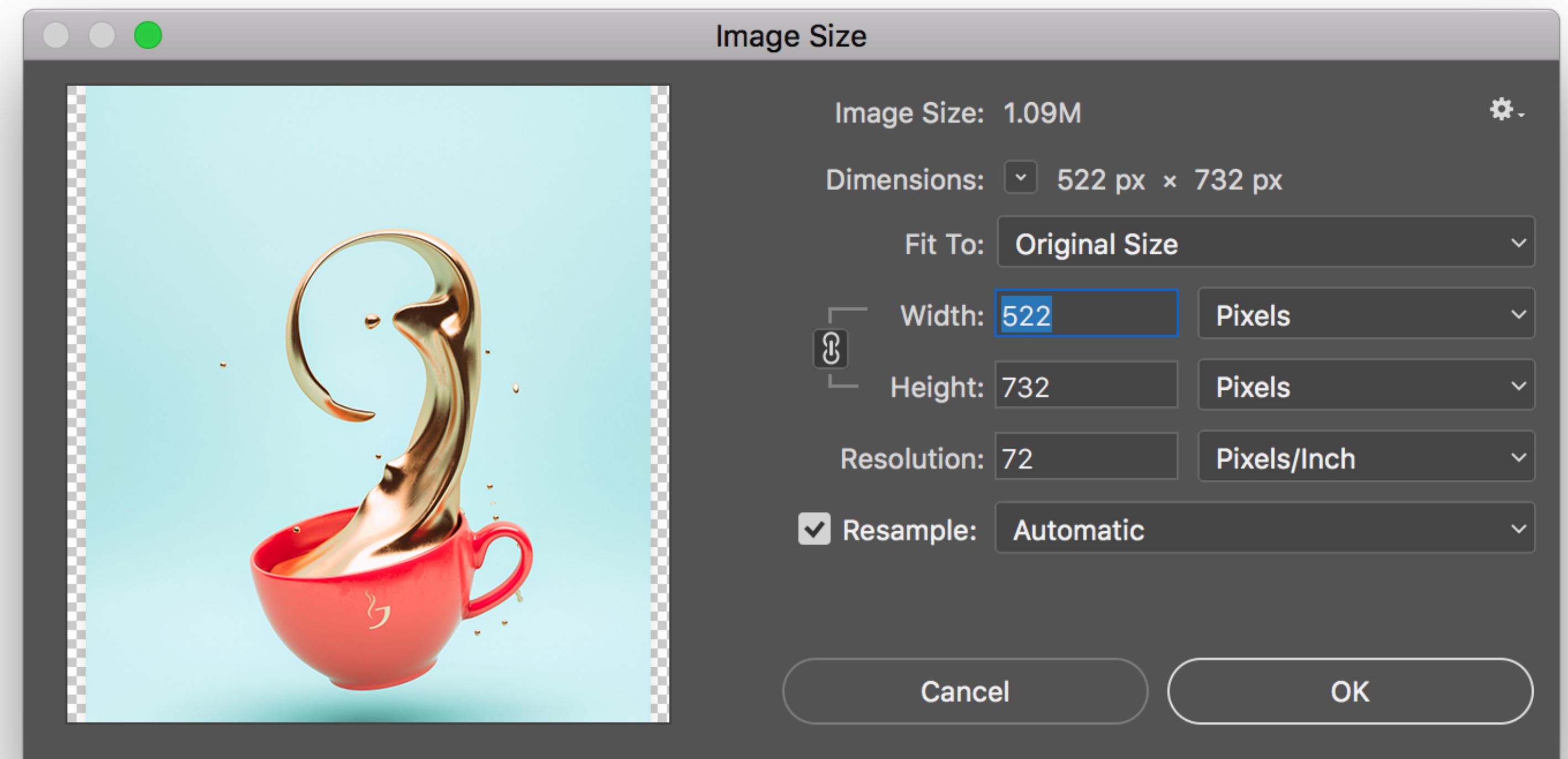


Image Resolution

Resolution is the measure of pixels in the display, usually expressed in measurements of width x height (i.e. 1920 x 1080).

Higher resolution means more detail, but also a bigger file size.

Your computer monitor shows images at a web resolution of 72 dpi (dots per inch). Common print resolution is 300 dpi.

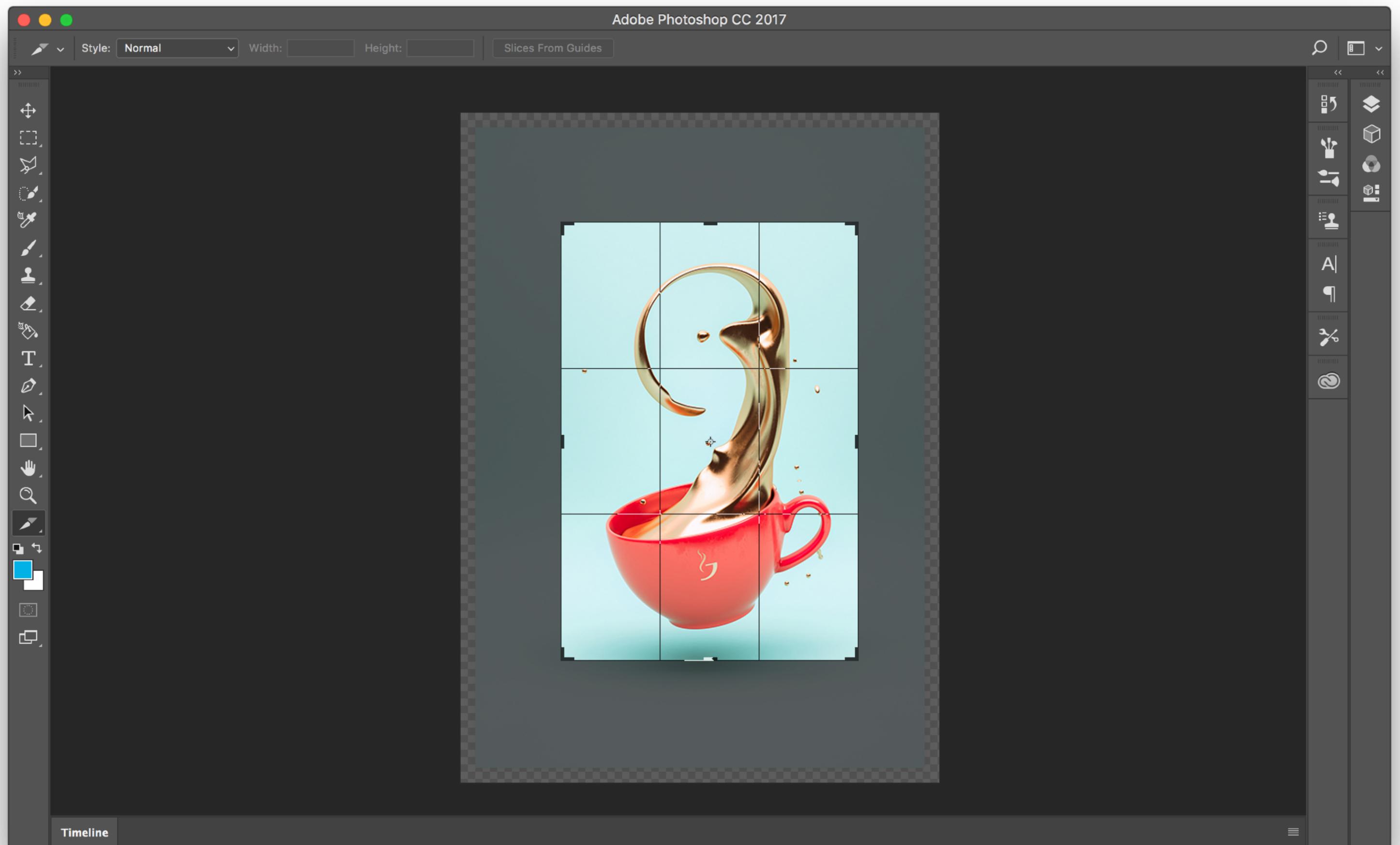


Cropping & Resizing

Image size can be further altered by cropping, resizing or resampling.

Cropping is when you cut off part of an image to achieve a new size or shape. **Resizing** maintains the entire image and simply changes the size.

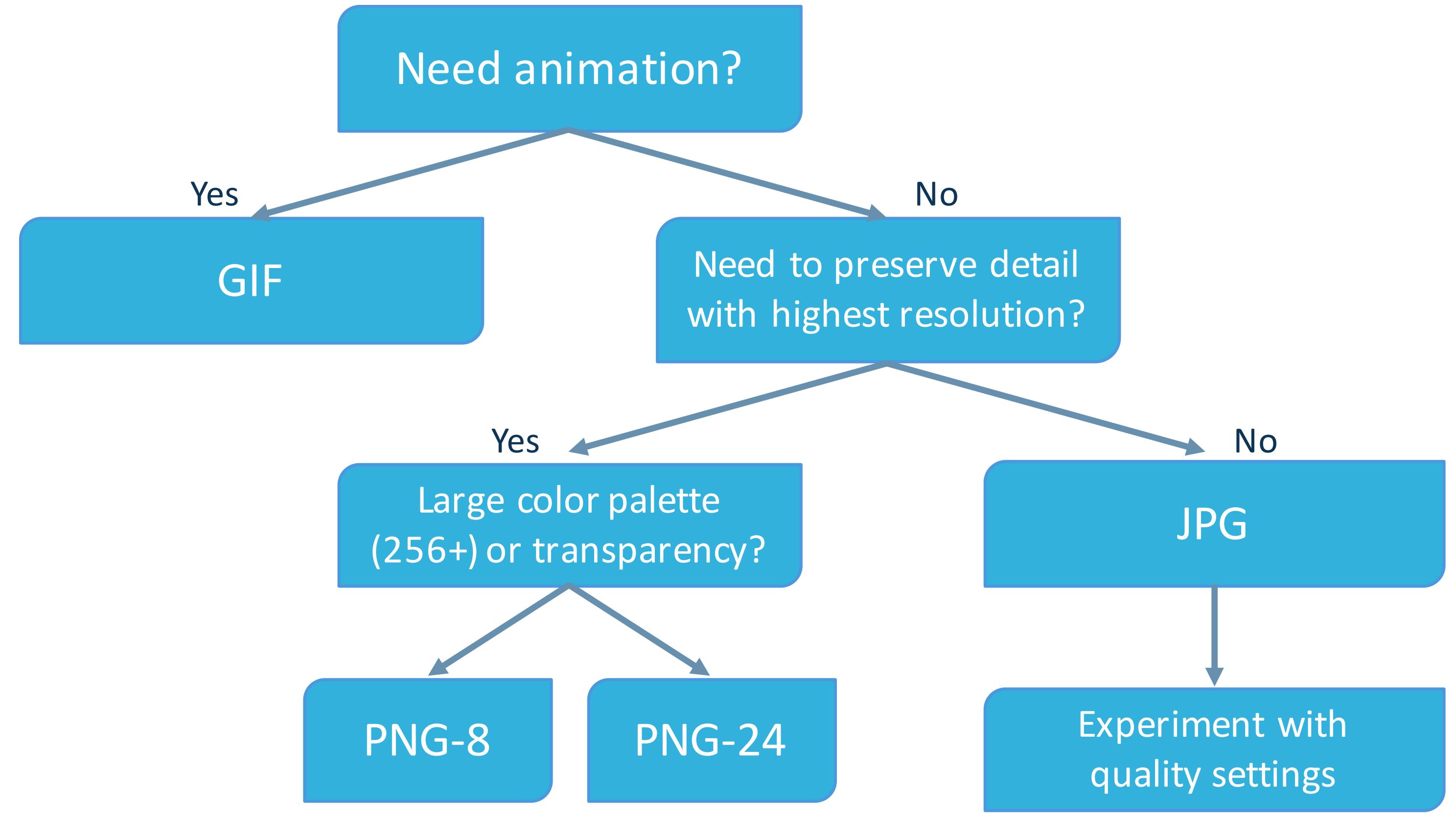
Resampling changes the pixel dimensions of an image (by either adding or removing the total number of pixels).



File Types

it's important to know the difference between image formats and how to use them in each situation.

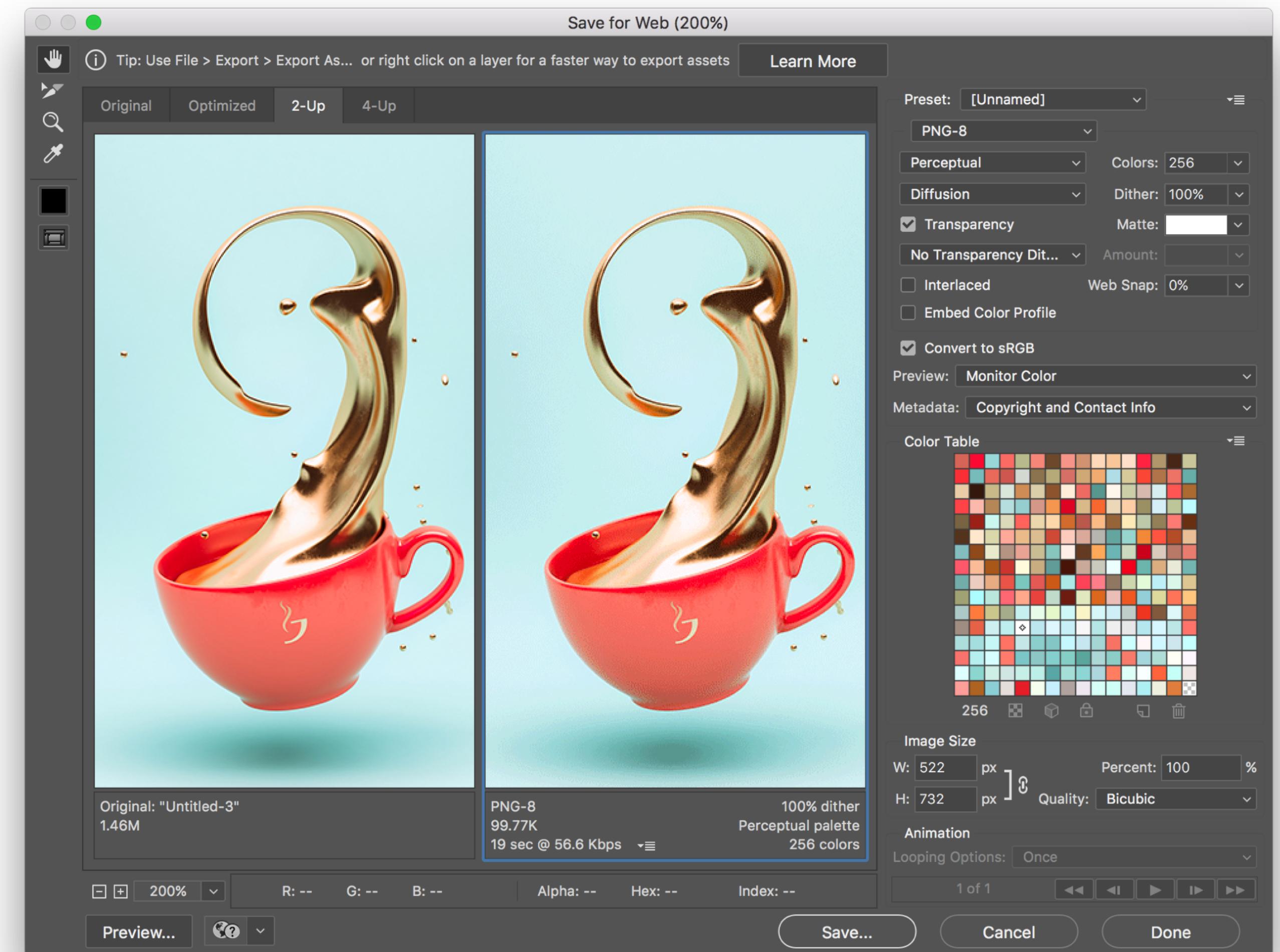
- **JPEGs** work well for images that contain gradients and varying tones and colors (lossy)
- **GIFs** are ideal for animations, line art, logos or other simple images without gradients or varying color
- **PNGs** allow for alpha transparency, ideal for highly detailed images that have blended transparency (lossless)



Saving for Web

You can use the optimization features in the **Save For Web** dialog box to preview optimized images in different file formats with different file attributes.

The annotation area below each image provides optimization information. The annotation for the original image shows the file name and file size. The annotation for the optimized image shows the current optimization options, the size of the optimized file, and the estimated download time using the selected modem speed.



Recap

- Make sure you can **legally use an image** before putting it on your website
- Work in the correct **color mode** for web: RGB
- Use the right **file format** for your web graphics
- Pay attention to the **image file size** and **resolution**
- **Resize or crop** your images to maximize the impact

Image Editing Tools

Here are some image editing tools you can download or use in the browser:

Downloadable

- Photoshop (free 30-day trial)
- GIMP (free)
- RIOT (for Windows systems)
- ImageOptim (API also available)

Web-based

- TinyJPG/TinyPNG (free)
- kracken.io (free on the web)
- imageresize.net (free)
- compressor.io (free)
- smush.it (free + browser extension)

Image File Sizes

While your final saved image sizes will ultimately depend on the goals of your website, here are a few guidelines for best practices. If possible, try to keep images below 1MB.

Image Placement	Suggested Size Range
Hero	200-300 KB
Product	80-150 KB
Banners	50-90 KB
Background	Under 20 KB

Appendix

- <https://www.orbitmedia.com/blog/how-to-save-images-web/>
- <https://developers.google.com/web/fundamentals/performance/optimizing-content-efficiency/image-optimization>
- <https://blog.kissmetrics.com/loading-time/?wide=1>
- <https://thesiteslinger.com/blog/do-we-still-slice-psds>
- <https://webdesign.tutsplus.com/articles/image-types-and-usage-in-web-design--webdesign-1298>
- <https://www.jimdo.com/2014/07/22/web-graphics-for-beginners-a-best-practices-handbook/>