

PHOTOSHOP AND DIGITAL

MEDIA BASICS

BETA Fall 2022

Credit: These slides have been created by Adjunct Professor Helen Miller to accompany tutorials by Studio Foundation (SF) Cage Instructor Jackson Boener and SF Cage Manager Gene Preble.

THIS SLIDE DECK GOES WITH:

Video Tutorial 1:
Photoshop and Digital Media
Basics (10:08)

<https://vimeo.com/596118580>

In this slide deck *we will go over how to get started in Photoshop, a few toolbar tools, and what a digital image consists of.*

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THIS SLIDE DECK GOES WITH:

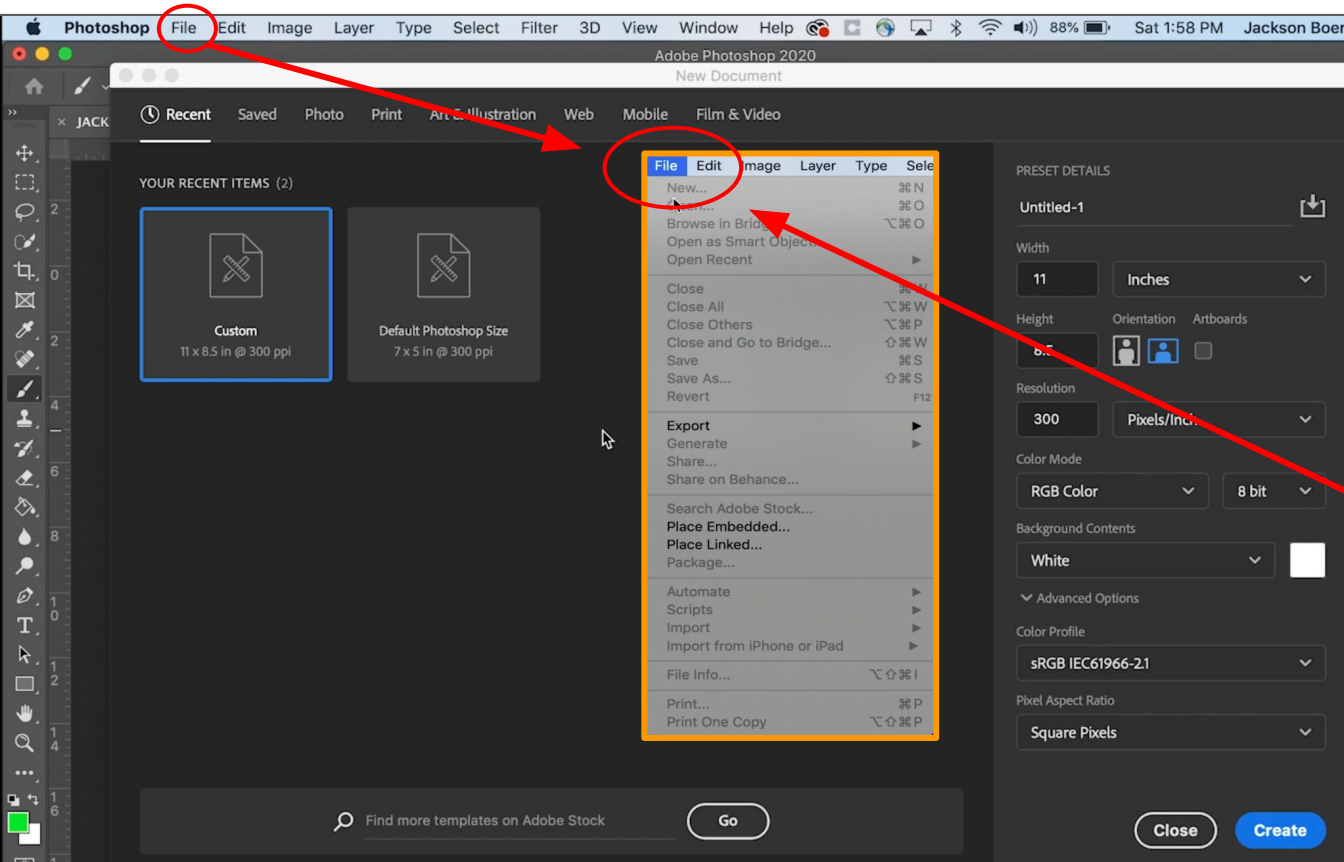
Video Tutorial 1:
Photoshop and Digital Media
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Password: SFCage2021

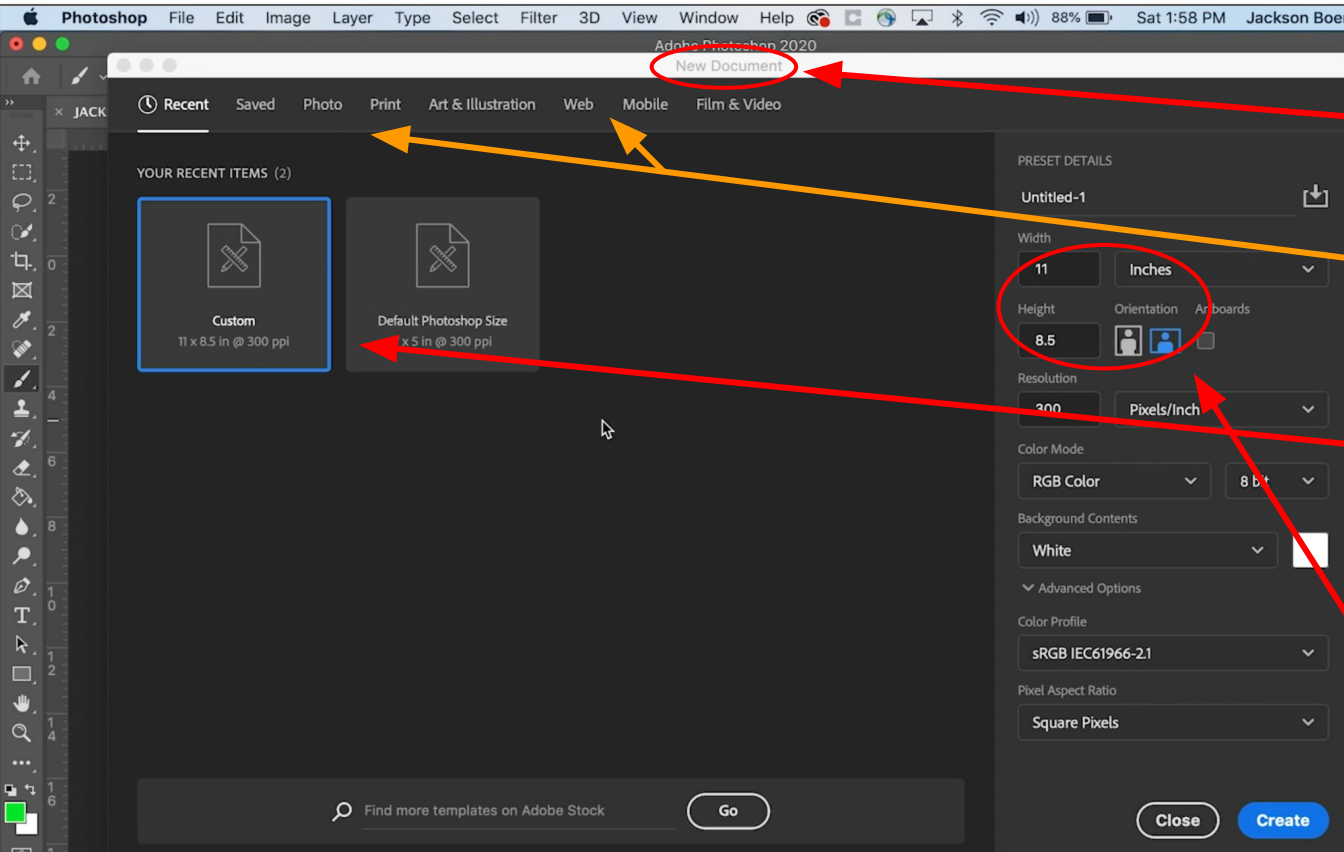
A NEW DOCUMENT



After opening Photoshop the first thing we are going to do is make a new document to work in. You can either click on the button **Create New** or you can go to **File > New**.

A NEW DOCUMENT

SETTING CANVAS SIZE

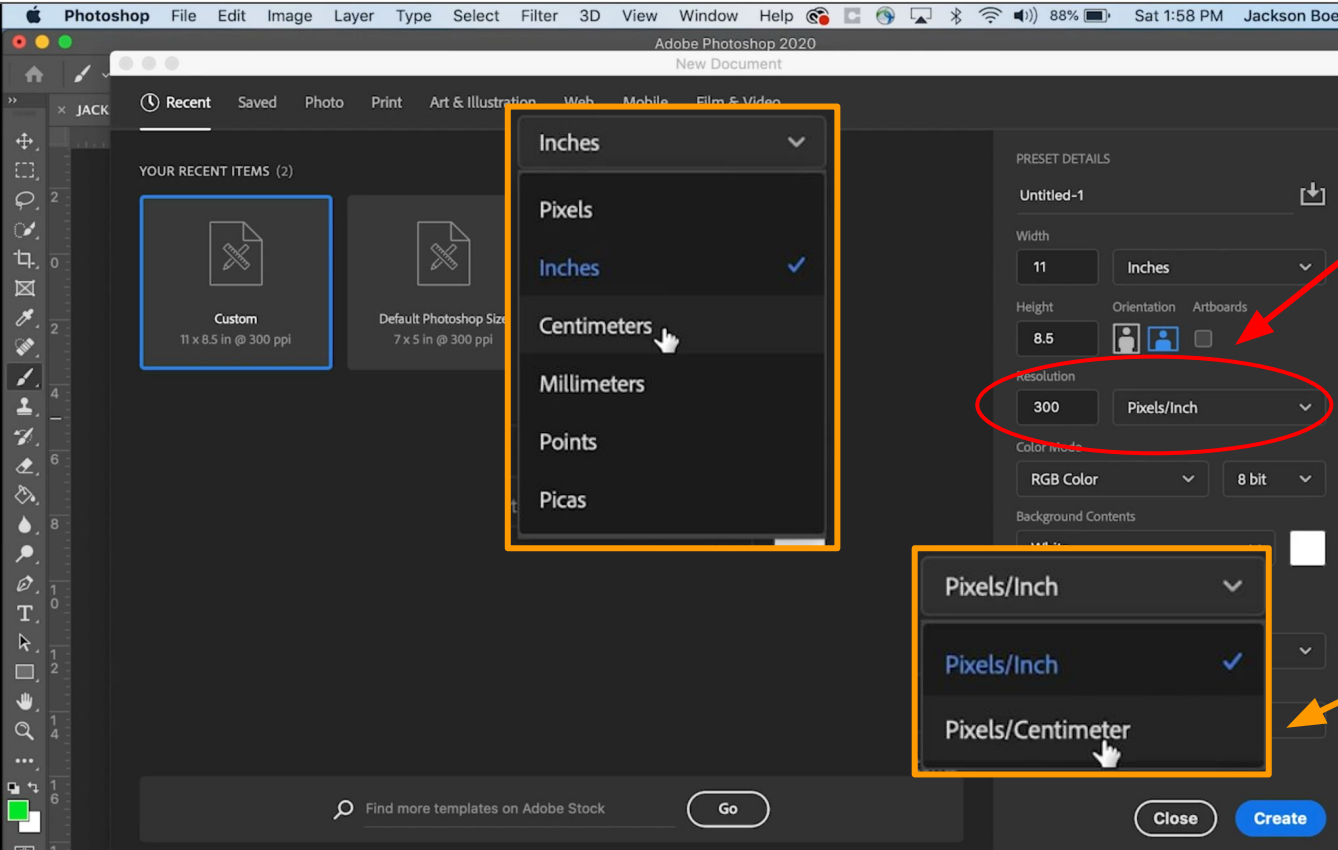


Once you do this, the New Document Dialogue will open. Here you could select from a few different pre-set document types under Photo, Print, or Web, but we're going to make a **Custom** size.

On the right side of the dialogue box we can *set the width and height* in inches to whatever we want. We're going to make our document 11 inches wide and 8.5 inches tall.

A NEW DOCUMENT

RESOLUTION

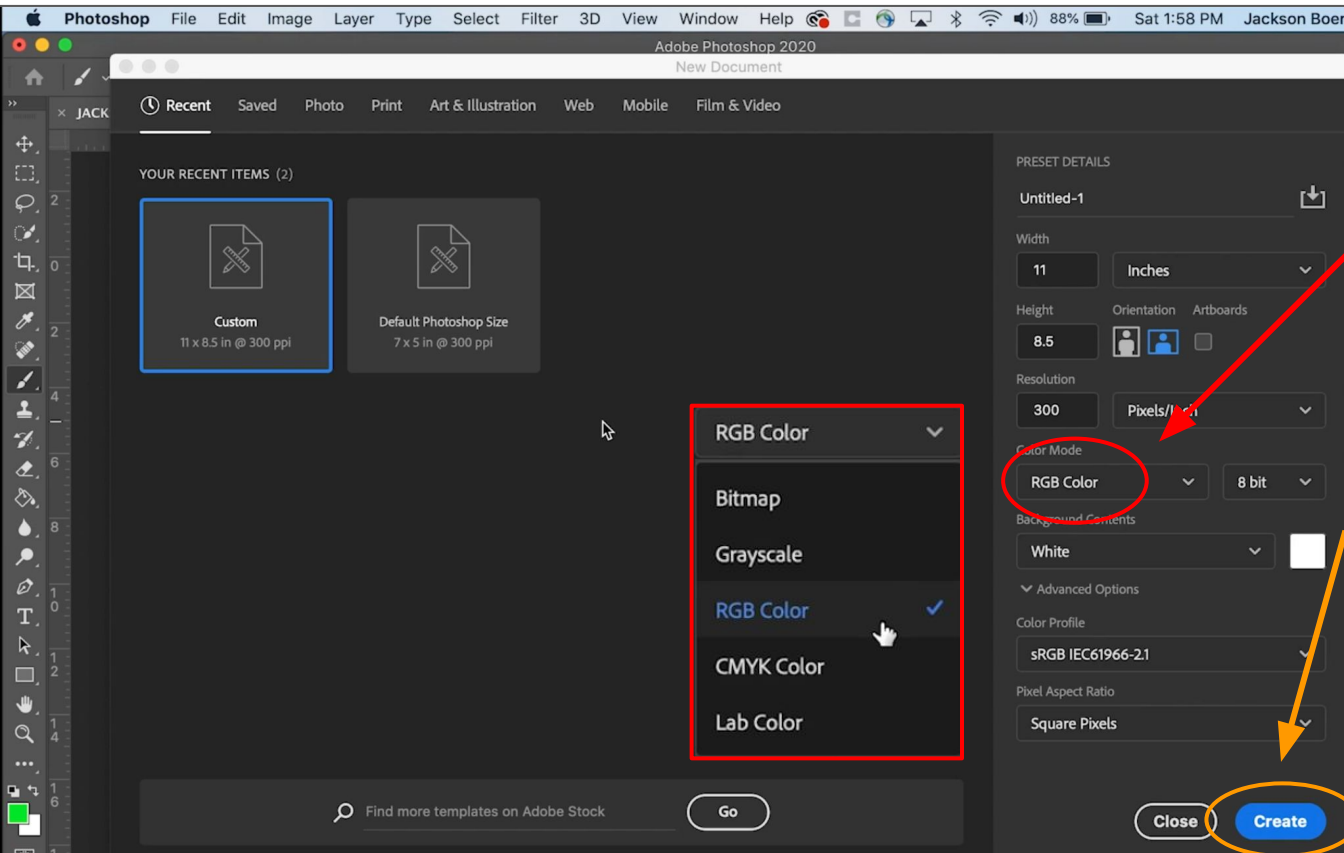


Next under **Resolution** we are going to type in 300 and make sure **Pixels/Inch** is selected.

If you're more comfortable with centimeters you can change the unit type and the resolution type to **Centimeters** and **Pixels /Centimeter** here as well.

A NEW DOCUMENT

COLOR MODE

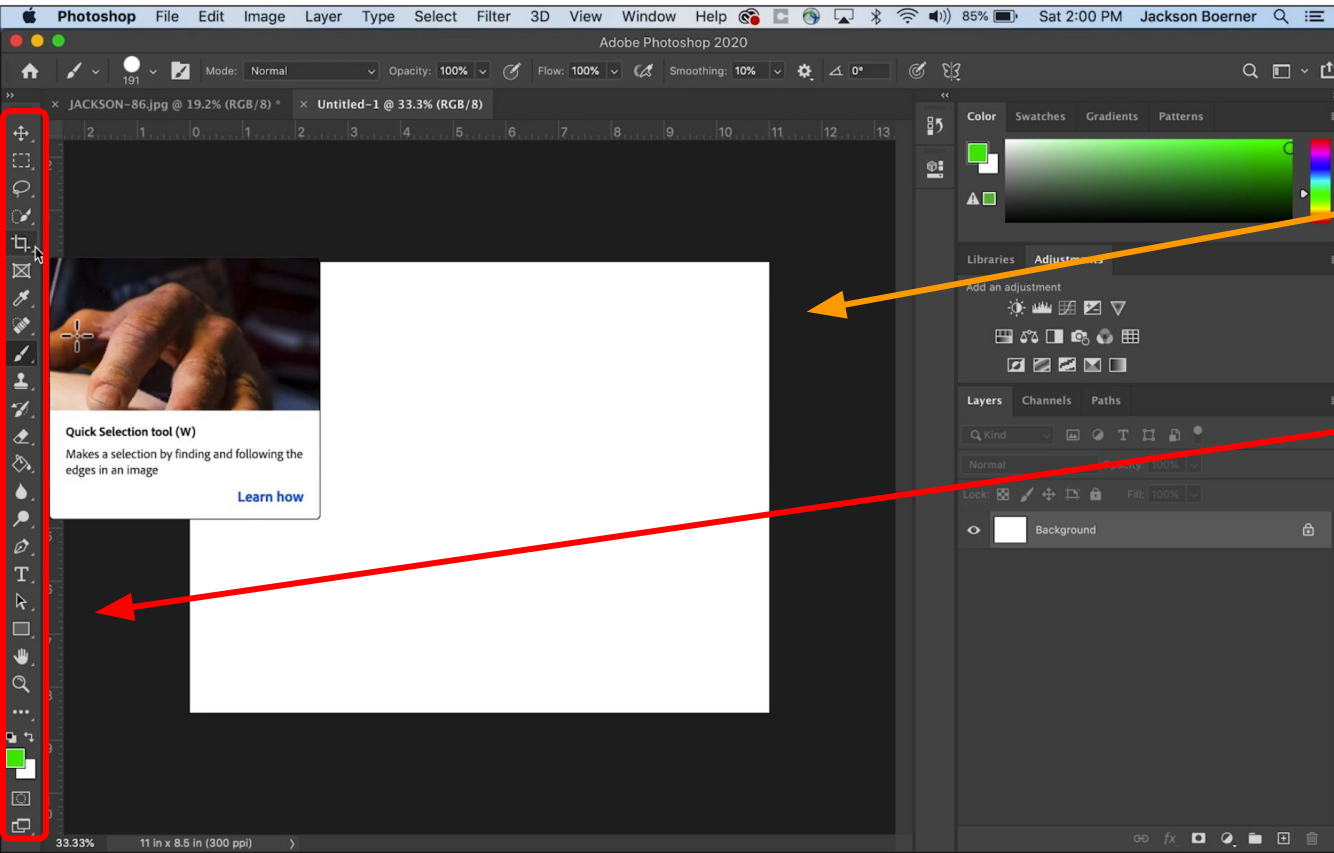


Lastly we're going to make sure our **Color Mode** is set to **RGB Color**.

Then you can click **Create**.

A NEW DOCUMENT

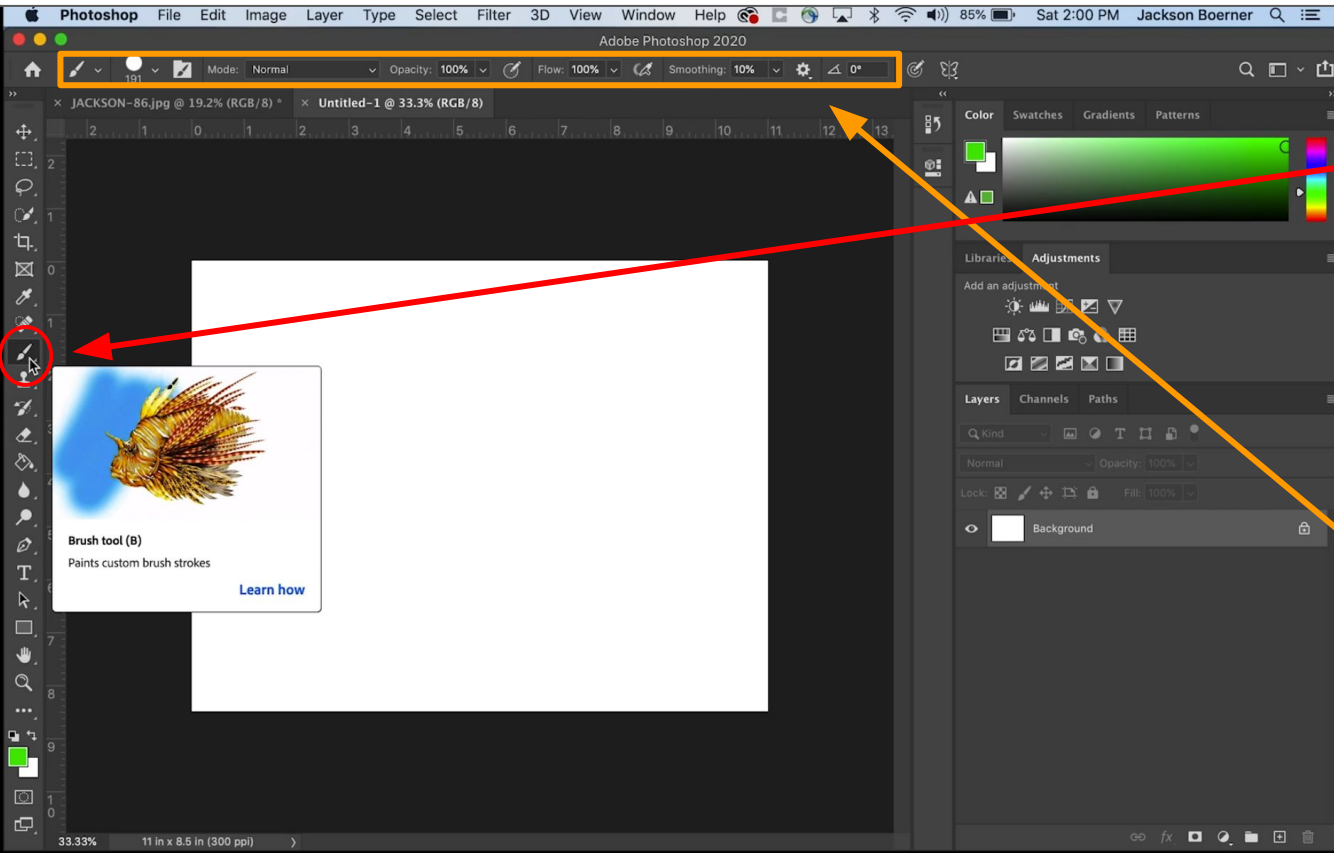
THE CANVAS



The workspace will open showing a large white rectangle; this is the page you have just created. I'm going to refer to it as a *canvas*. I call this window a *workspace* because Photoshop is not just one tool and doesn't do just one thing.

Each icon on the left hand side is a unique and useful tool with more options inside each one. There are many ways to learn how to do roughly the same thing in Photoshop with different tools. I might be teaching you one way while someone else teaches or has learned another. I'm learning new tools all the time.

THE BRUSH TOOL AND THE OPTIONS BAR

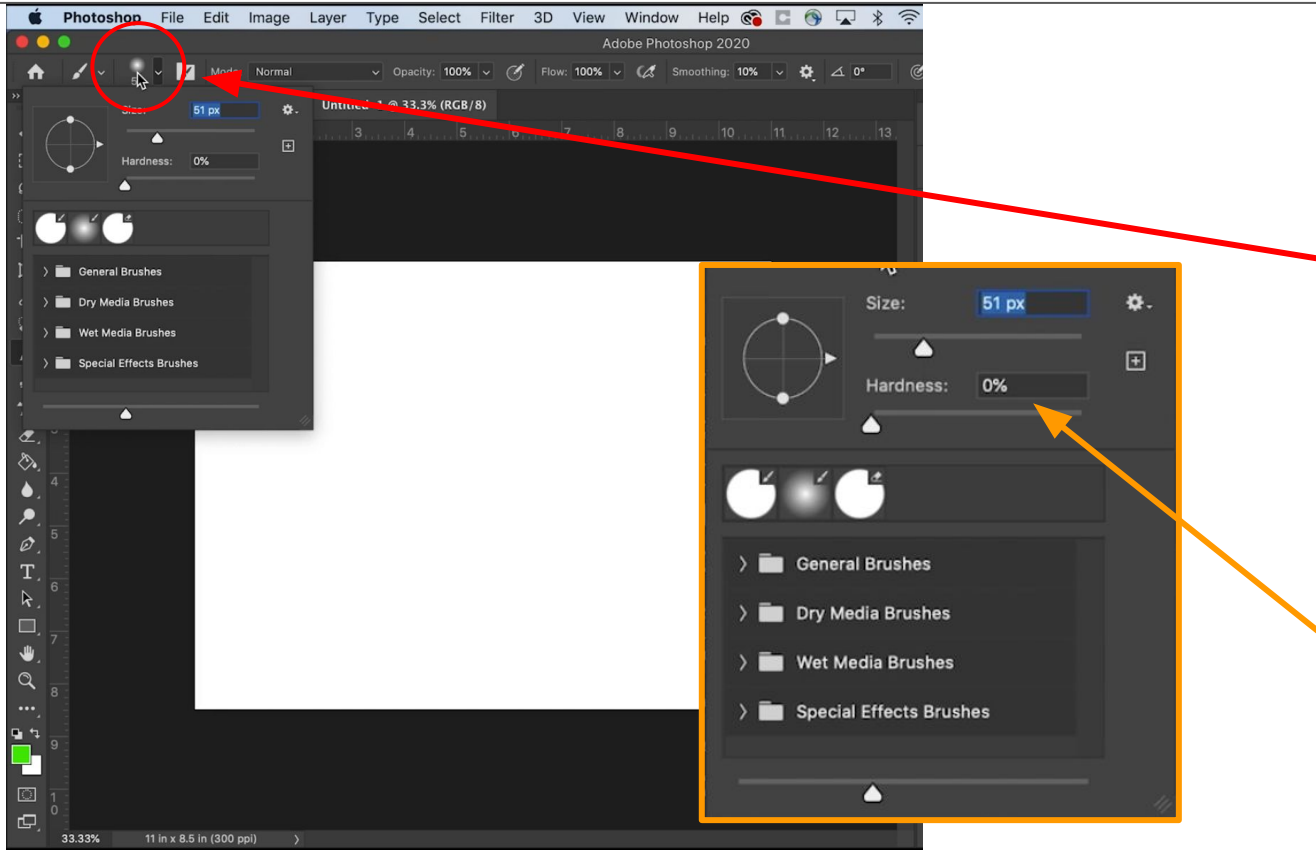


The first tool I'm going to have you use is the **Brush** tool. It is the 9th tool down on the **Toolbar**. Click on it to select it.

When you clicked on it you might have noticed the bar at the top of the workspace change. This is the **Options** bar and changes depending on what tool you have selected so that you can edit the behavior of that tool.

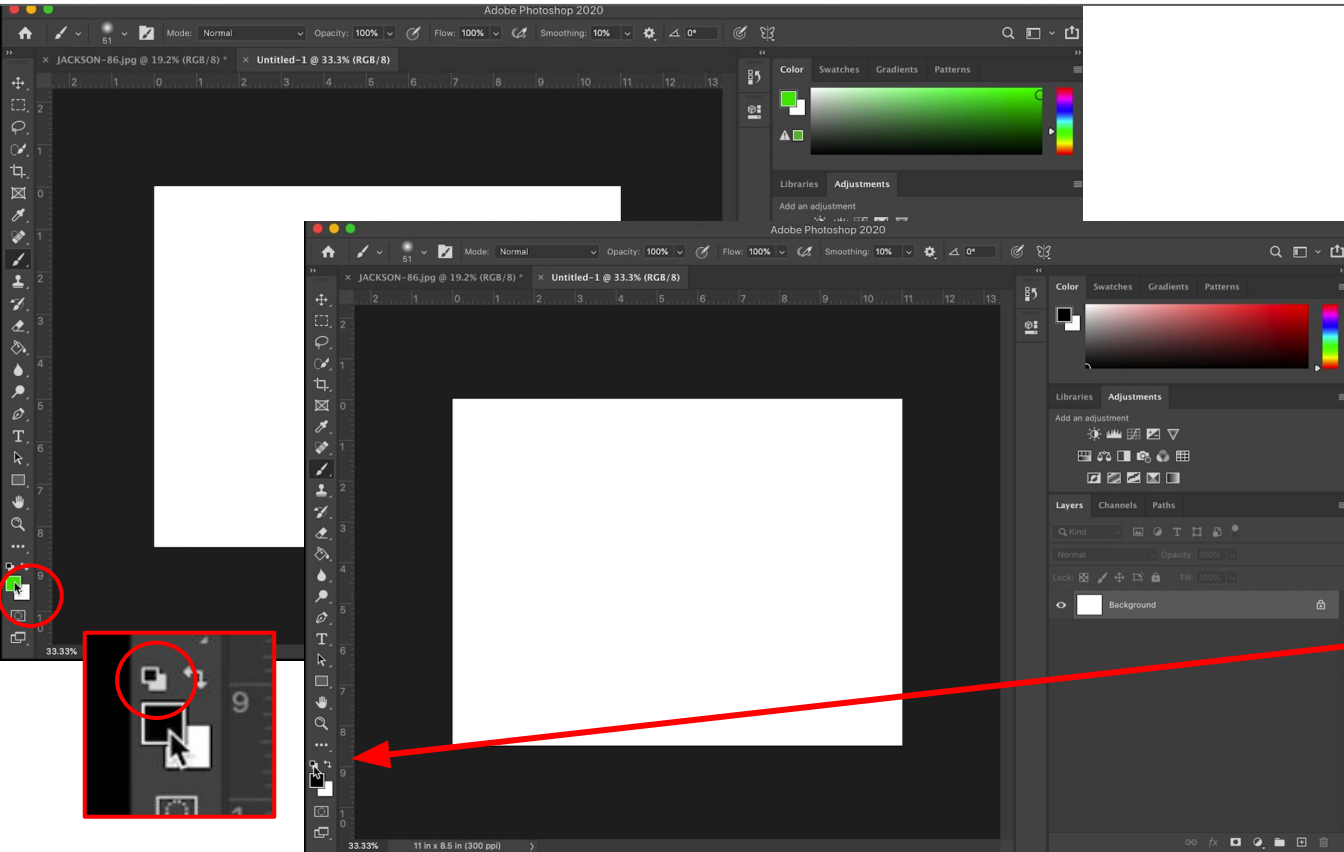
THE BRUSH AND TOOL OPTIONS BAR

CHANGE BRUSH SIZE



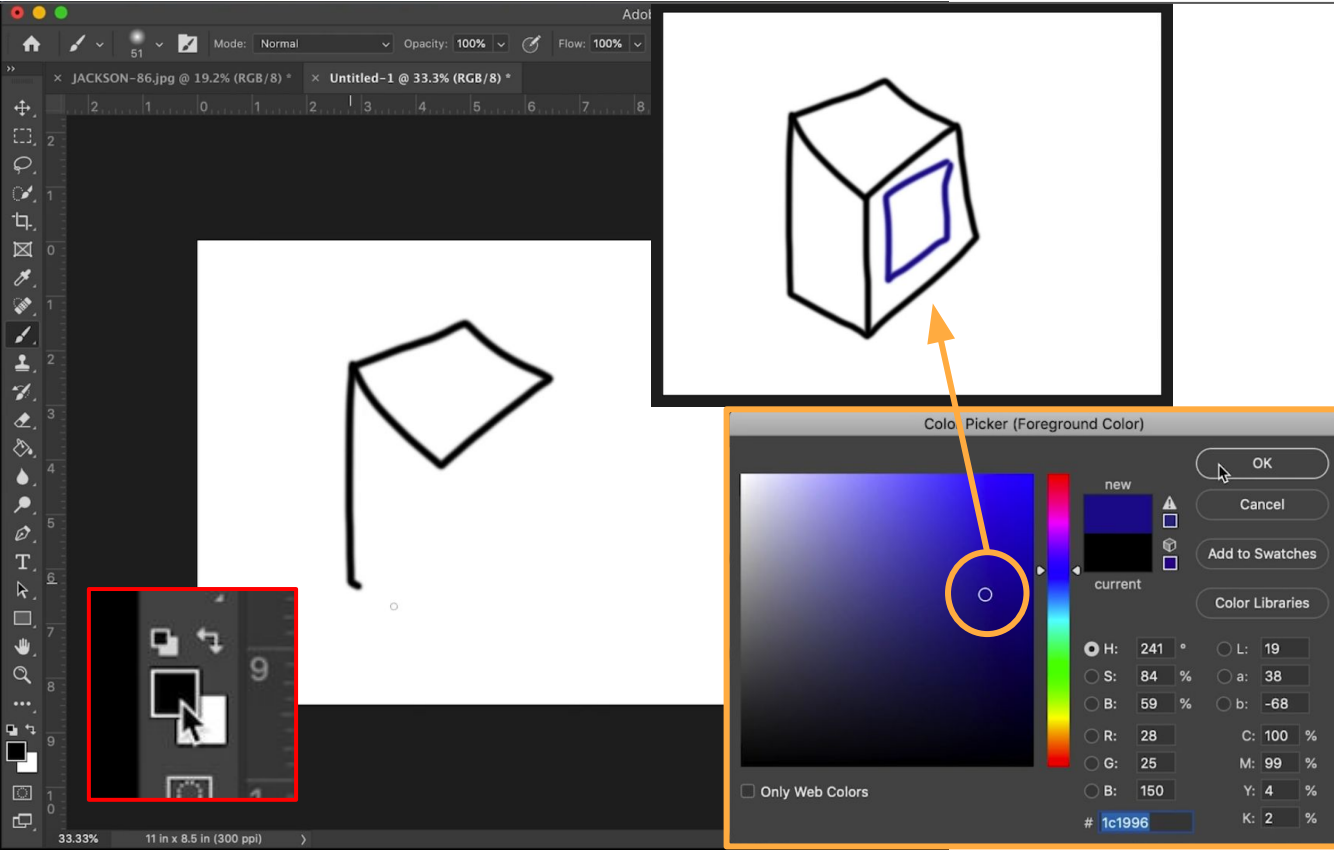
We're going to change the size of our brush to make sure it shows up well on the canvas. Next to the brush icon you will most likely see a hazy circle. Click on this circle or the arrow to the right of it. A drop-down menu will open. Here you can change your brush size as well as your brush hardness or how hazy it will appear. I'm changing my size to 50 and leaving my hardness at 0%. Click back on the hazy circle in the options bar to close this menu.

THE FOREGROUND & BACKGROUND COLOR CHOICE SQUARES



There is one last thing I would like you to check before we draw on our canvas. At the bottom of the toolbar you'll see two squares that should be black and white. The top square is the foreground color choice and should be black, the other should be white. If these squares are reversed or appear as any other color, click on the small black and white square above them to reset them to black and white.

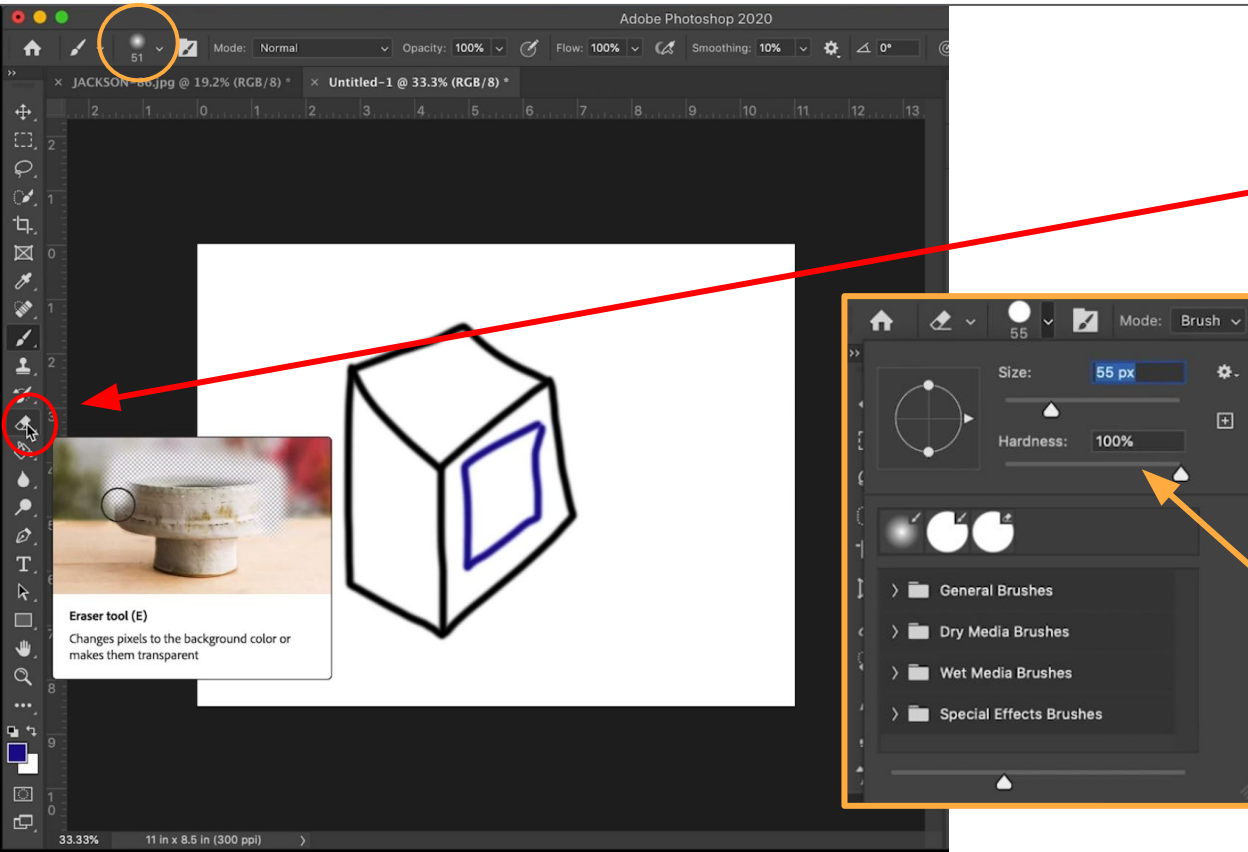
THE COLOR PICKER DIALOGUE



Okay now we can draw anything we want on our canvas. I'm going to draw a simple cube.

If you want to draw in a different color you can click on the black square and a **Color Picker** dialogue box will appear. Select any color you want.

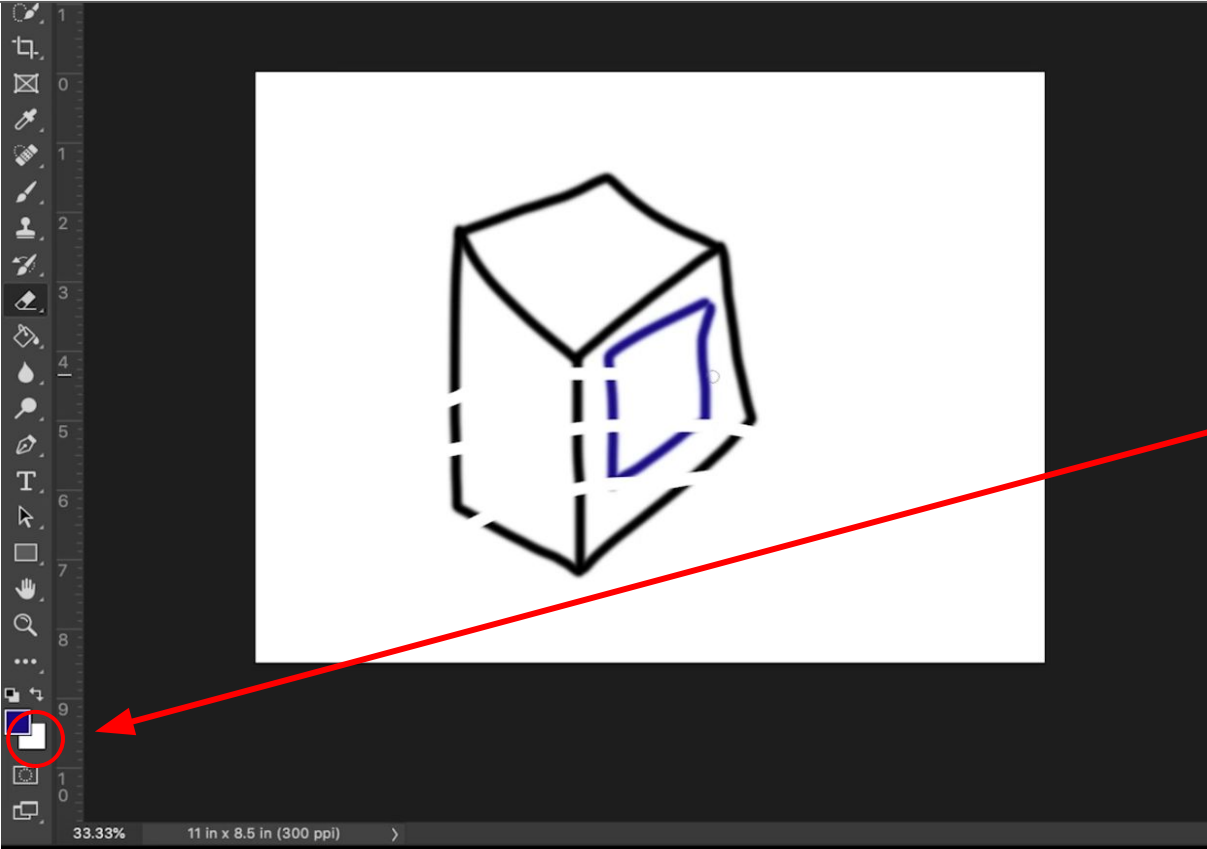
THE ERASER TOOL



The next tool I'm going to show you is the **Eraser** tool. It is the 12th tool down on the toolbar and looks like a black and white rectangle at an angle. You can select it and change its size the same way we changed the Brush tool's size. 50 will be good. It's hardness should be at 100% by default.

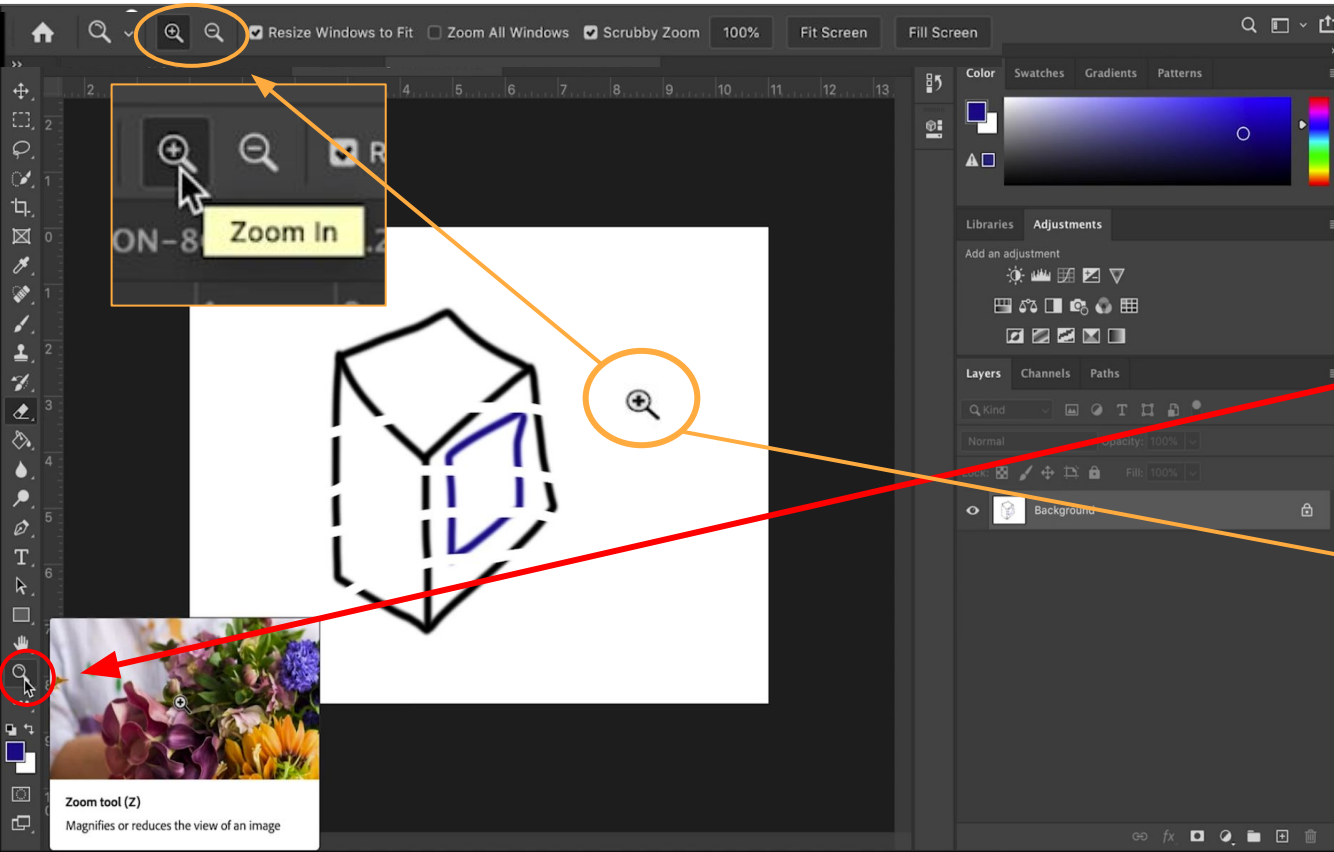
THE ERASER TOOL

(CONT...)



In certain situations the **Eraser** tool does not just erase, but instead draws with the secondary color or background color choice of the two colors in the black and white squares, in this case white. You can change the color in the same way with the **Color Picker** by clicking on the lower square.

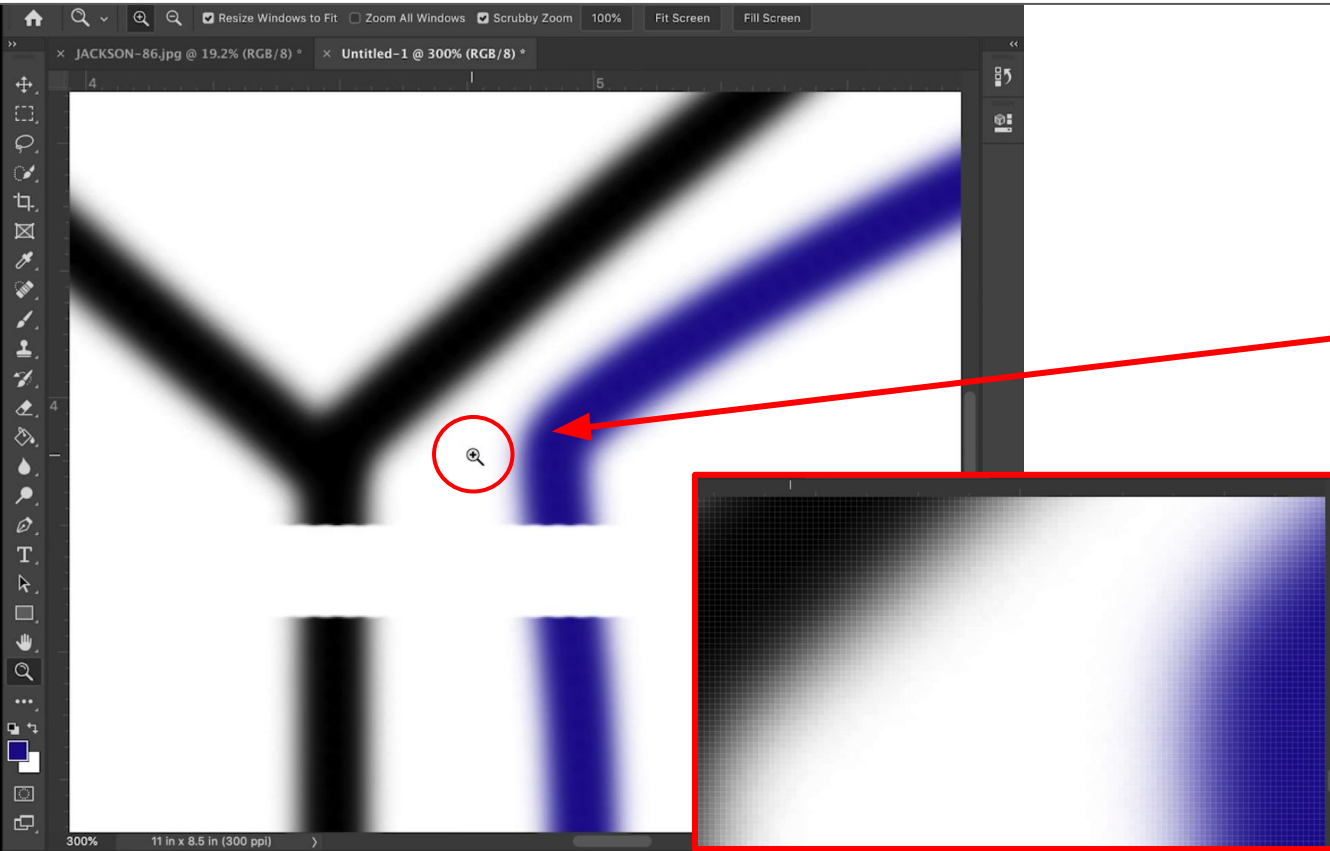
THE ZOOM TOOL



I had you use these two tools to create something we can look at to talk about pixels, image size, and resolution. I'm going to have you select one last tool called the **Zoom** tool. It is the last tool on the toolbar above the color squares. This tool lets you magnify or reduce the view of the canvas. The tool should appear with a plus symbol on your cursor. If it does not, go up to the options bar and select the plus icon.

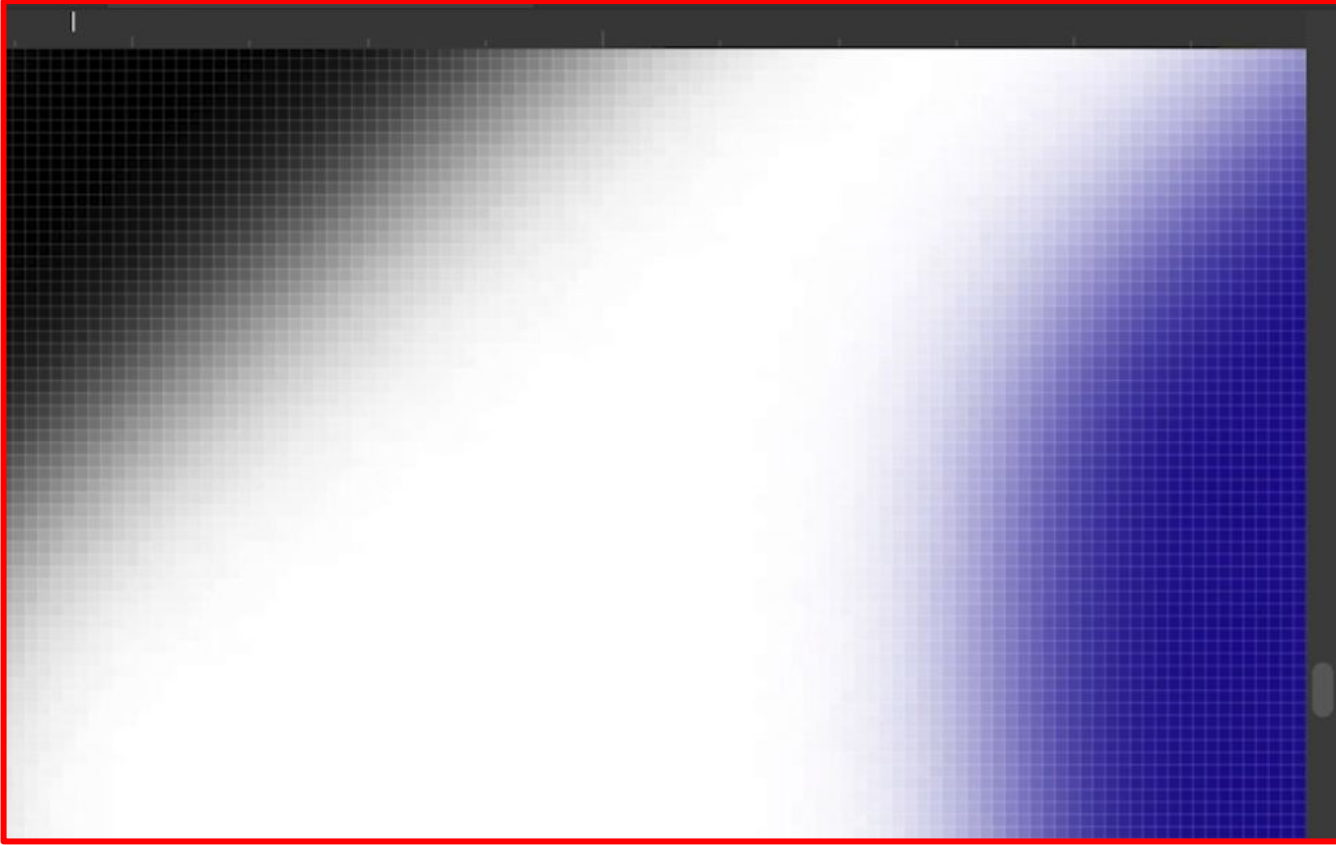
THE ZOOM TOOL

(CONT...)



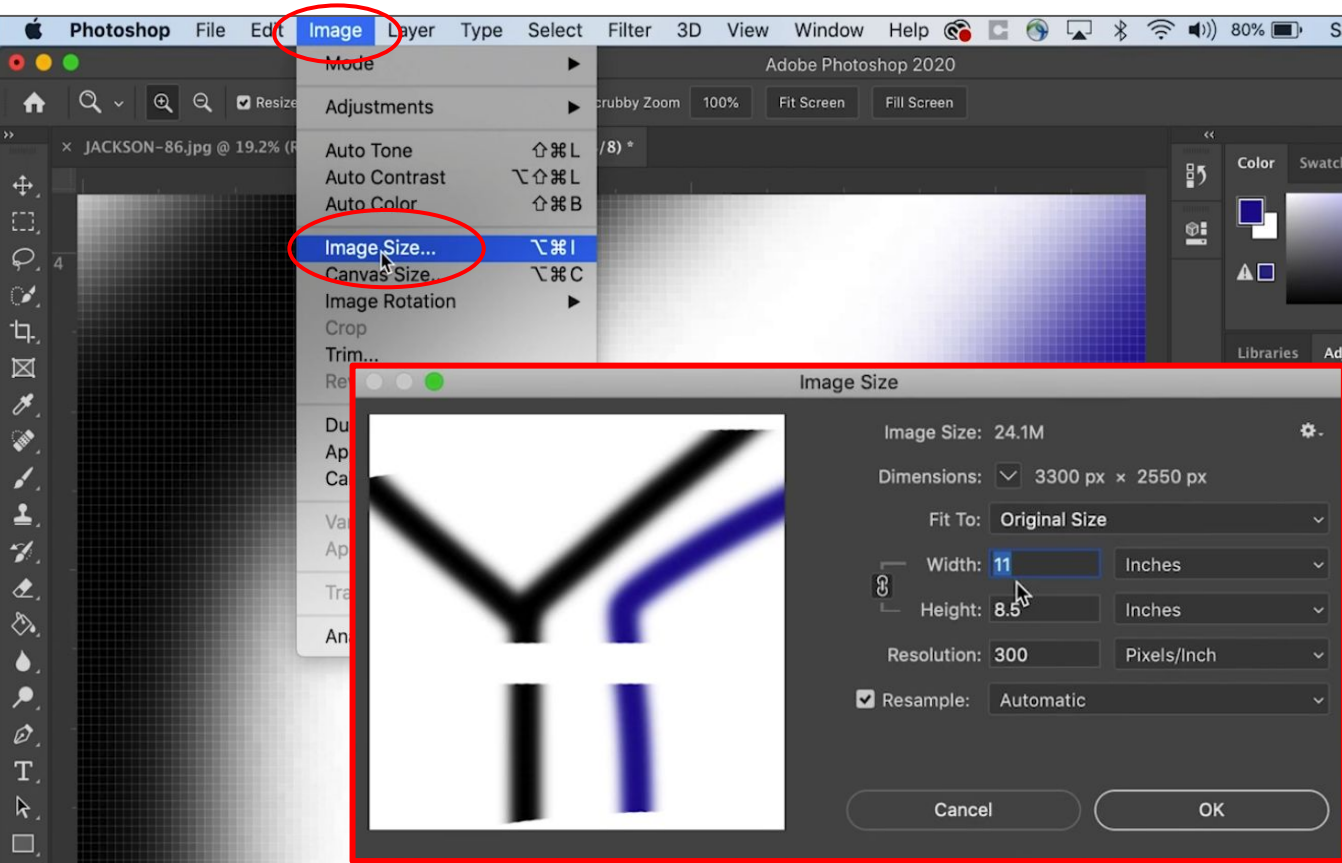
We're going to magnify the image to see its smallest components, **pixels**. Hover over a part of the image you drew on your canvas. Click or use the scroll wheel to zoom in. Your canvas will get larger. If you keep zooming in eventually you will see small squares, these are pixels and make up all digital images. If you zoom in on the edge of the brush mark you'll see a variety of grays and blacks.

DEFINING A PIXEL RESOLUTION



All transitions in an image are made up of different colors, hues, and shades built up next to each other as pixels. An image is only "clear" based on the density of these pixels. If you have an image of only four pixels you wouldn't be able to tell what it is. Resolution is the density of the pixels in a given amount of space. We originally set this file up at 300 pixels per inch. That means for each linear inch there are 300 pixels and for each square inch there are 90,000 pixels. Which can make a much better image than 4 pixels, because there is much more space for colors, shades, and hues to build up.

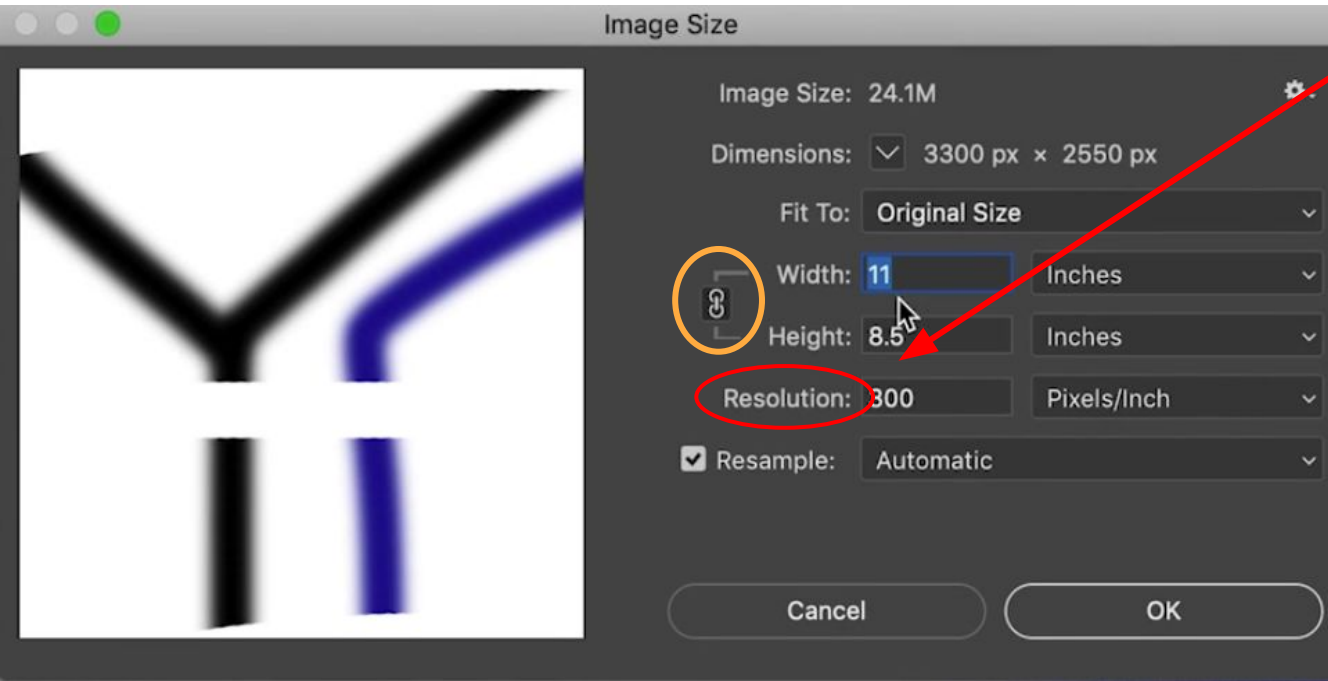
CHANGING THE IMAGE SIZE



I'm going to have us change the size and resolution of our image. Go to **Image > Image Size** and a new dialogue box will open. This dialogue will let you change the size or resolution of any image you have brought into or made in Photoshop, but it is limited.

CHANGING THE IMAGE SIZE

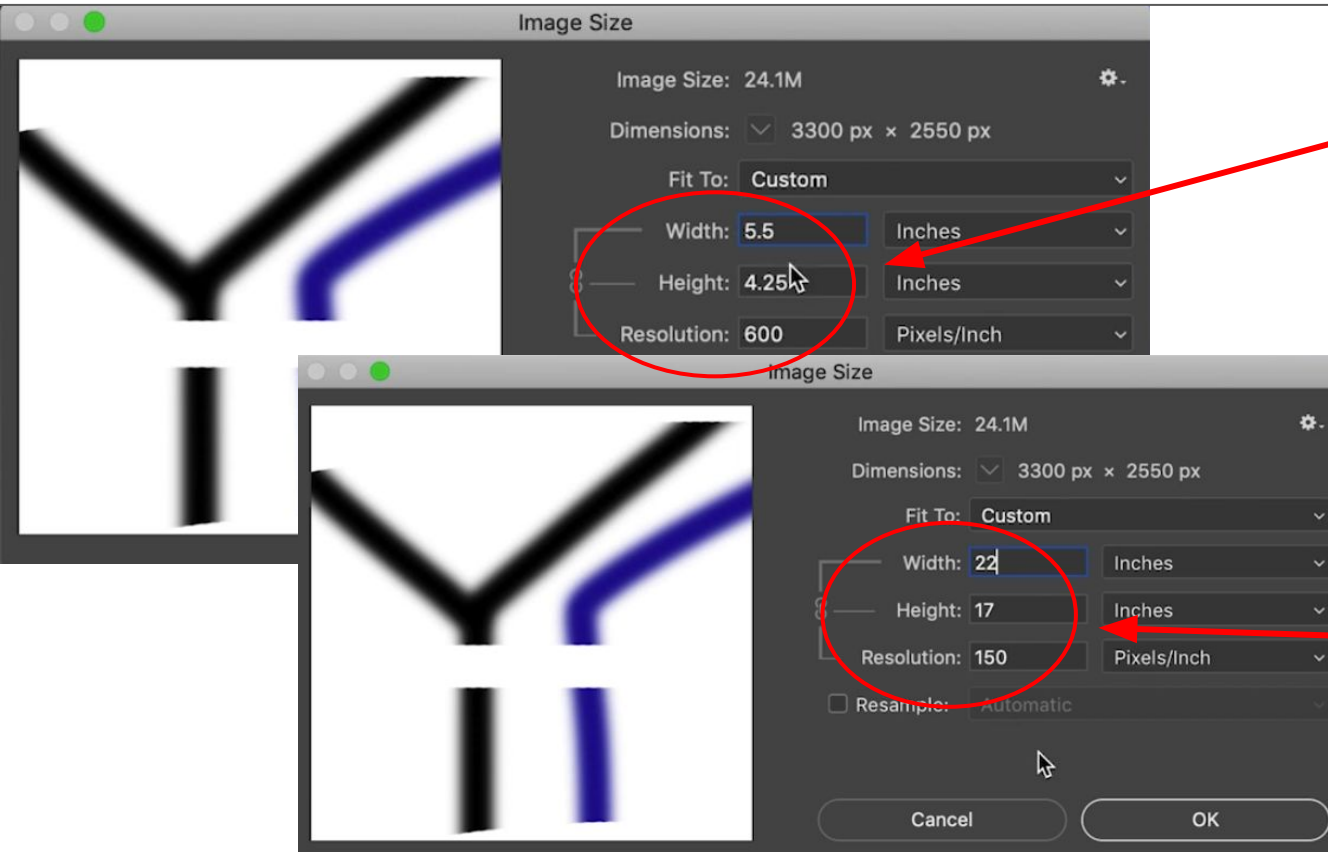
(CONT...)



First we're going to deselect the **Resample** check box. You'll see a **chain icon** with three lines pointing to the width, height and resolution boxes. This icon is used many times in photoshop indicating that the elements it is pointing to are linked together, if you change one you will change the other keeping the original ratio.

CHANGING THE IMAGE SIZE

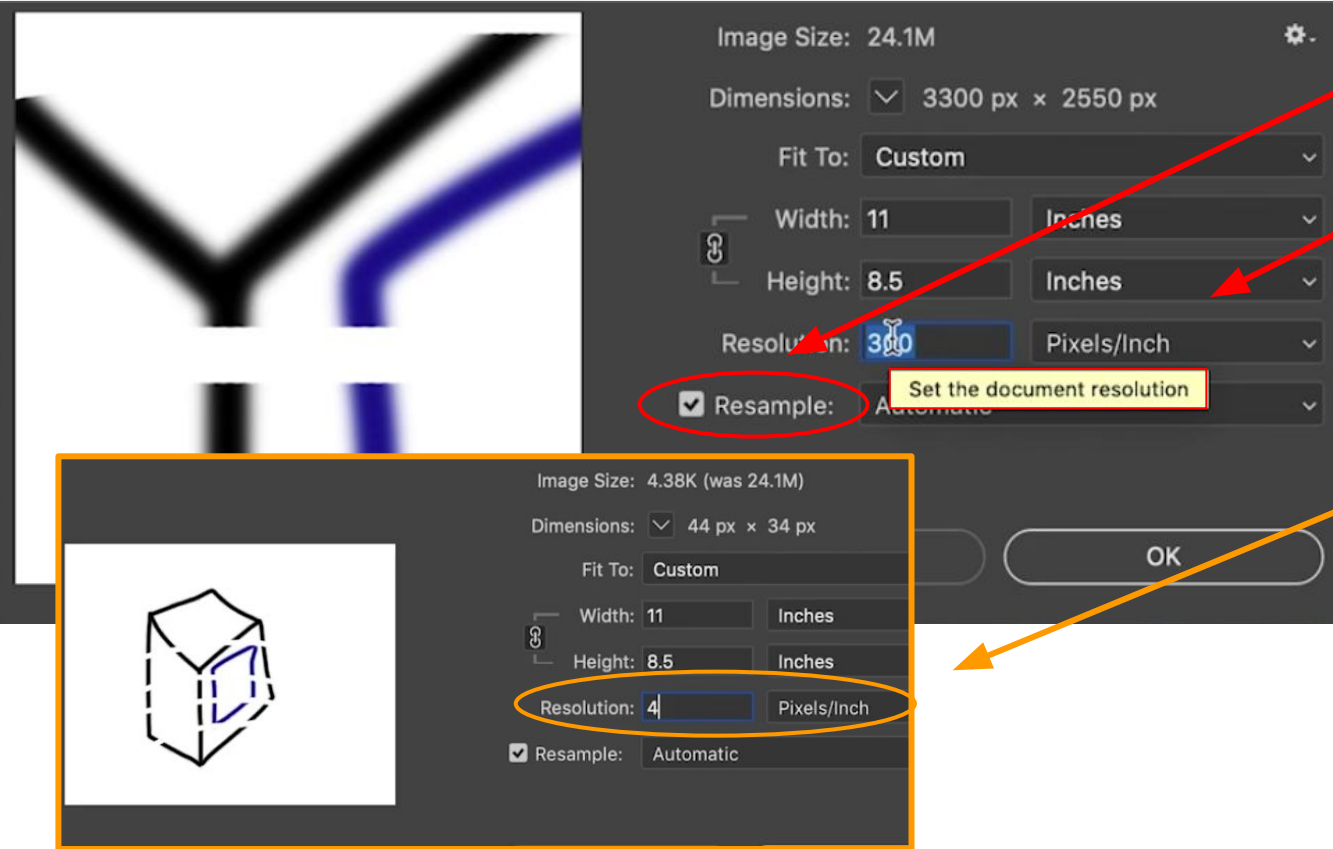
(CONT...)



Let's make the width 5.5 inches, half its original size. We can see the height also get smaller but we also see the resolution go up not down. We are asking Photoshop to put the same amount of total pixels into a smaller space so the resolution goes up. We have not added any new pixels, we have just made them smaller and more densely packed. If we do the opposite and change the width to 22 inches the resolution goes down because we are asking the finite amount of pixels to cover more space.

CHANGING THE IMAGE SIZE

DOWNSAMPLING



The image shows a Photoshop dialog box for 'Image Size'. The top section shows the original image size: 24.1M, 3300 px x 2550 px, with a resolution of 300 Pixels/Inch. The 'Resample' checkbox is checked. A yellow callout box points to the 'Resolution' field, which is set to 300. A red arrow points from the 'Resample' checkbox to the 'Resolution' field. The bottom section shows the image after downsampling: 4.38K (was 24.1M), 44 px x 34 px, with a resolution of 4 Pixels/Inch. The 'Resample' checkbox is still checked. A yellow callout box points to the 'Resolution' field, which is now set to 4. A red arrow points from the 'Resolution' field in the top section to the 'Resolution' field in the bottom section. A yellow callout box also points to the 'Resolution' field in the bottom section.

Image Size: 24.1M

Dimensions: 3300 px x 2550 px

Fit To: Custom

Width: 11 Inches

Height: 8.5 Inches

Resolution: 300 Pixels/Inch

Resample: Automatic

Set the document resolution

Image Size: 4.38K (was 24.1M)

Dimensions: 44 px x 34 px

Fit To: Custom

Width: 11 Inches

Height: 8.5 Inches

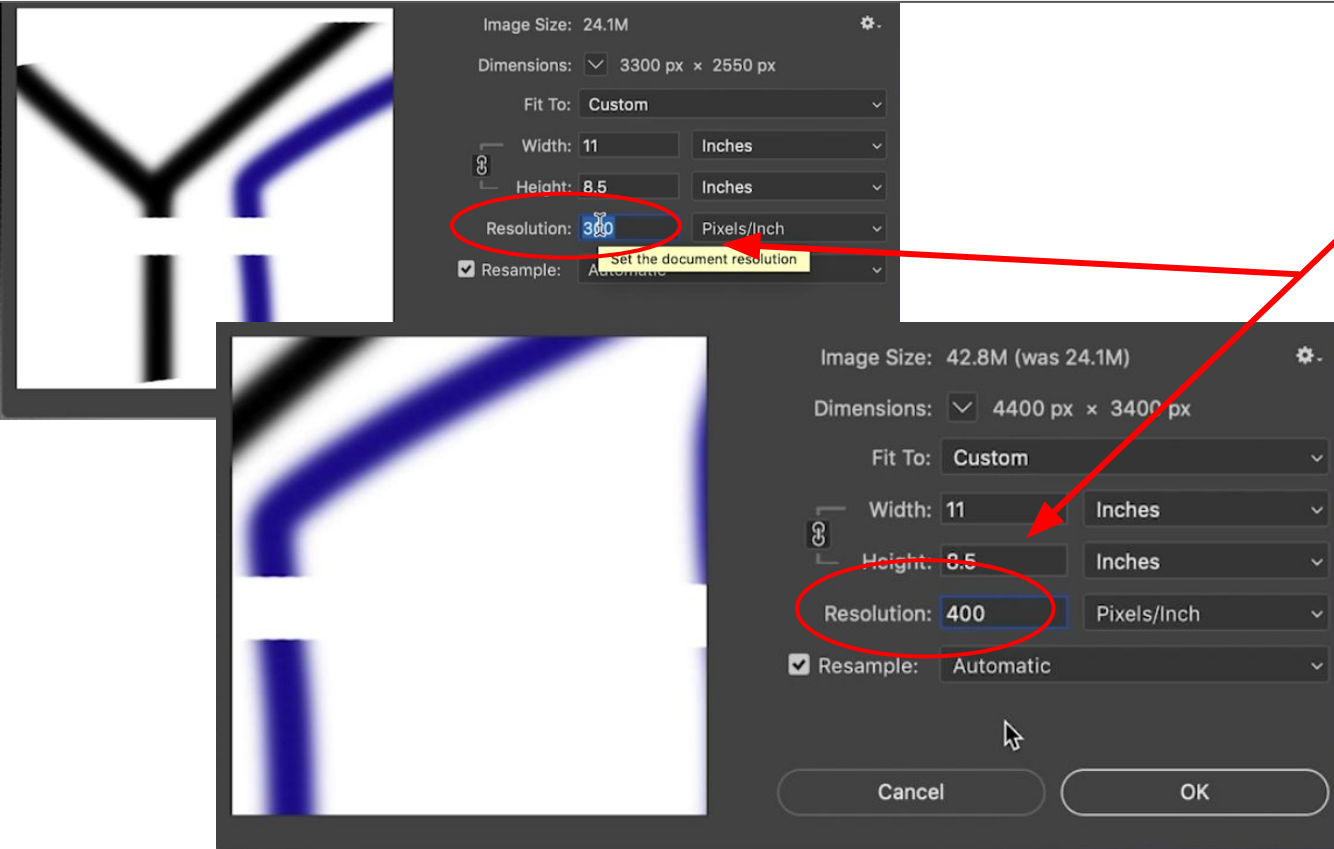
Resolution: 4 Pixels/Inch

Resample: Automatic

OK

If we reselect the resample check box we can unlink our resolution from our image size. Here we can change the pixels per inch amount without changing our image size, but I do not recommend doing this. If we decide we want our image to have a lower resolution, called downsampling, we are just getting rid of good data. All the hard work of taking a photo or making the piece is being destroyed. Unless the image has an immense ppi and we need to make it a smaller file to share or show I do not think it is ever a good idea.

CHANGING THE IMAGE SIZE



UPSAMPLING

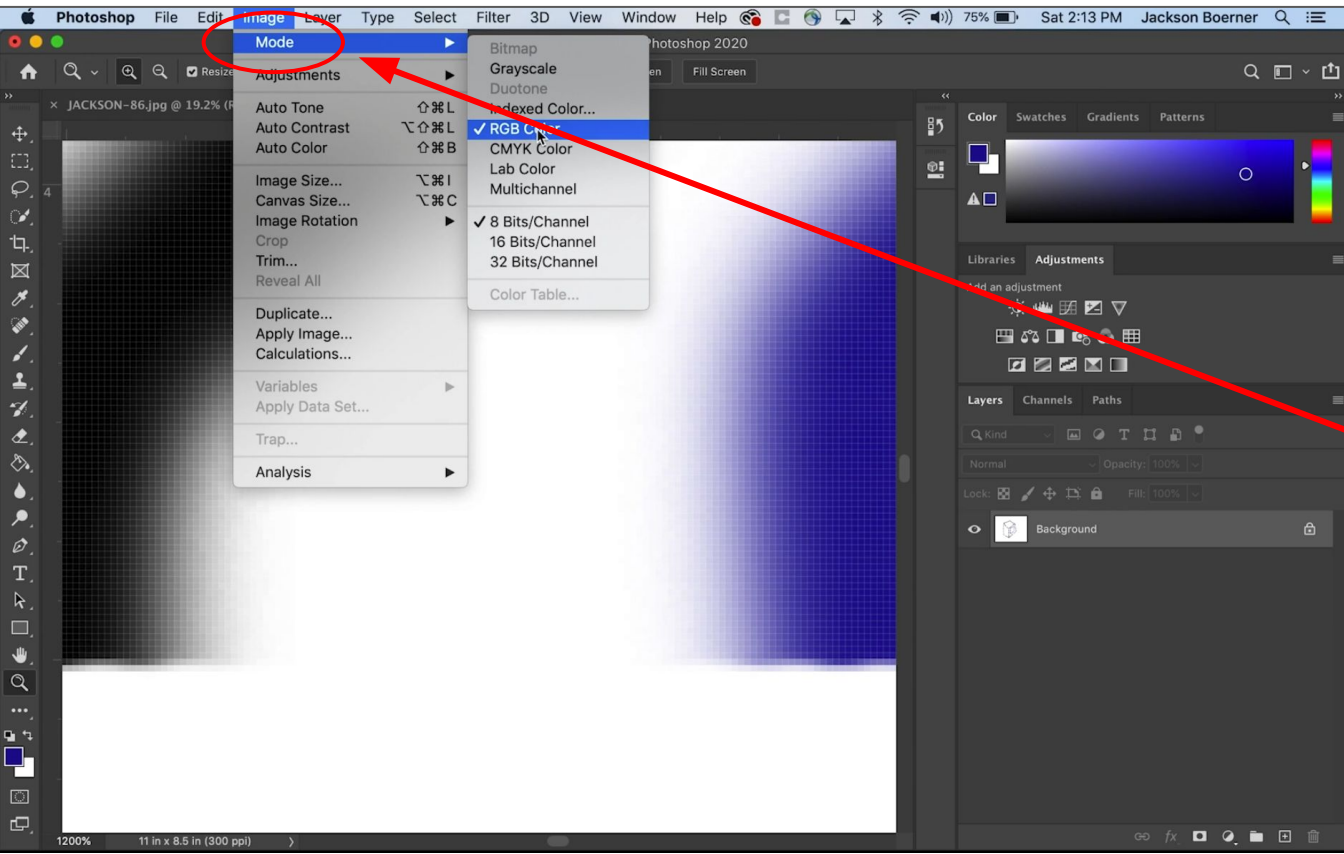
We could also want our image to have a larger ppi and upsample it. When you choose to upsample with the resample checkbox you are telling photoshop to make up data and fill in the blanks between the true pixels of the image. Photoshop is a great tool and can do this well if a photo only needs to be a few inches larger for printing, but after a certain point you are just adding data that never existed to the image and again are taking away the hard work of taking the photo or making the piece.

CHANGING THE IMAGE SIZE

RESOLUTION

Resolution is important to understand when storing, sending, or printing your work. Two images of the same size with different resolutions will take up different amounts of data storage, because there are more pixels. This becomes more of an issue with animation or video when many photos are being stored at once. The data size also matters when you are sending a sample image over an email or even on a flash-drive. Smaller images will load faster and be easier to store than large ones. Lastly, printers print by putting many dots of ink onto a page which is measured as dots per inch or dpi, the physical capability of the printer. It's not entirely accurate to say that ppi and dpi are the same, but for our purposes now they can be interchangeable. If your resolution is too low those dots can start to be seen and your print will be fuzzy or pixelated. Most photo quality printers need a minimum of 300 pixels per inch to print clear and clean, but many can go up to 2000 dpi or more.

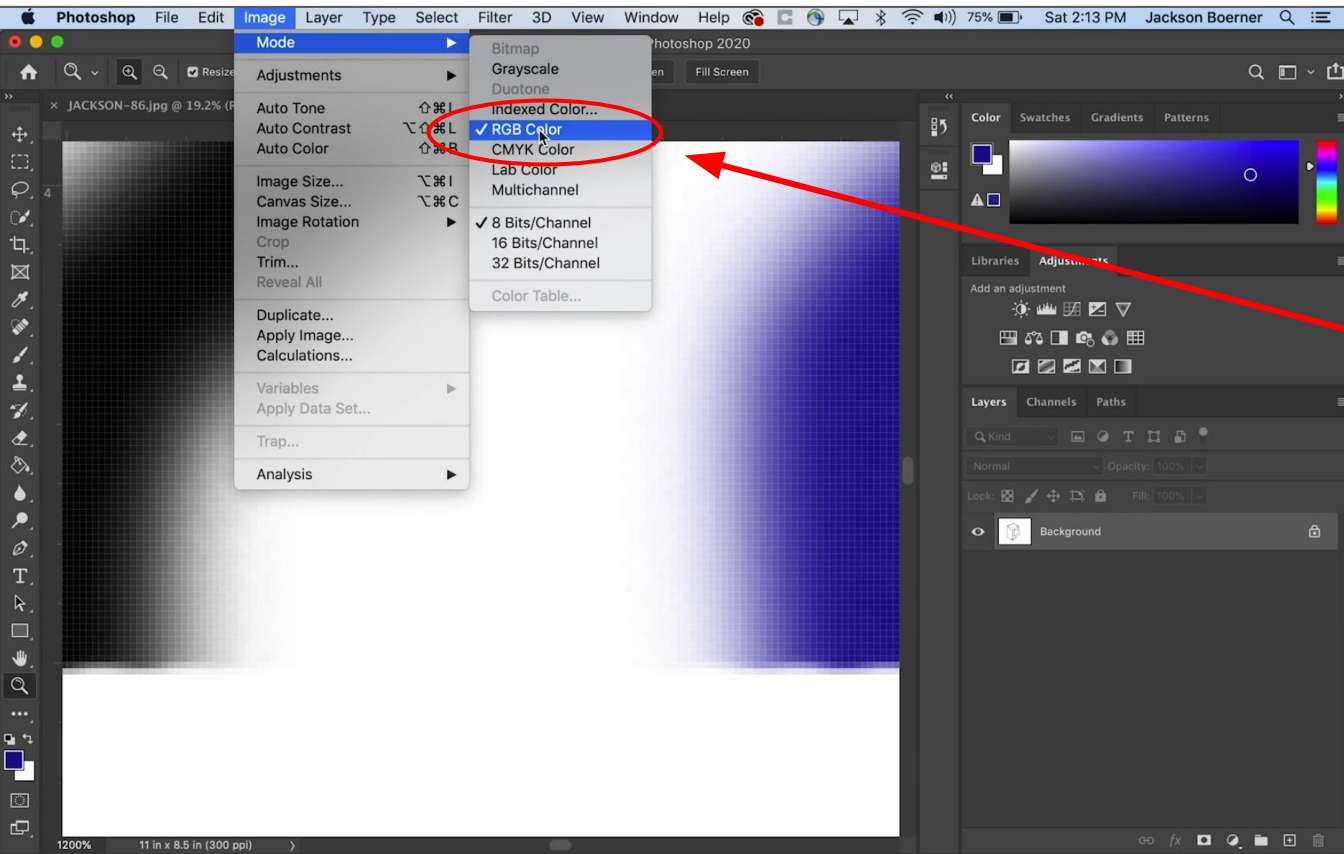
COLOR MODE OPTIONS



The last thing I'm going to talk about is color modes and what some of them mean and why you would use them. If we go up to **Image** > **Mode** we will see a dropdown list including grayscale, RGB, and CMYK. Here we can change the way Photoshop shows color.

COLOR MODE OPTIONS

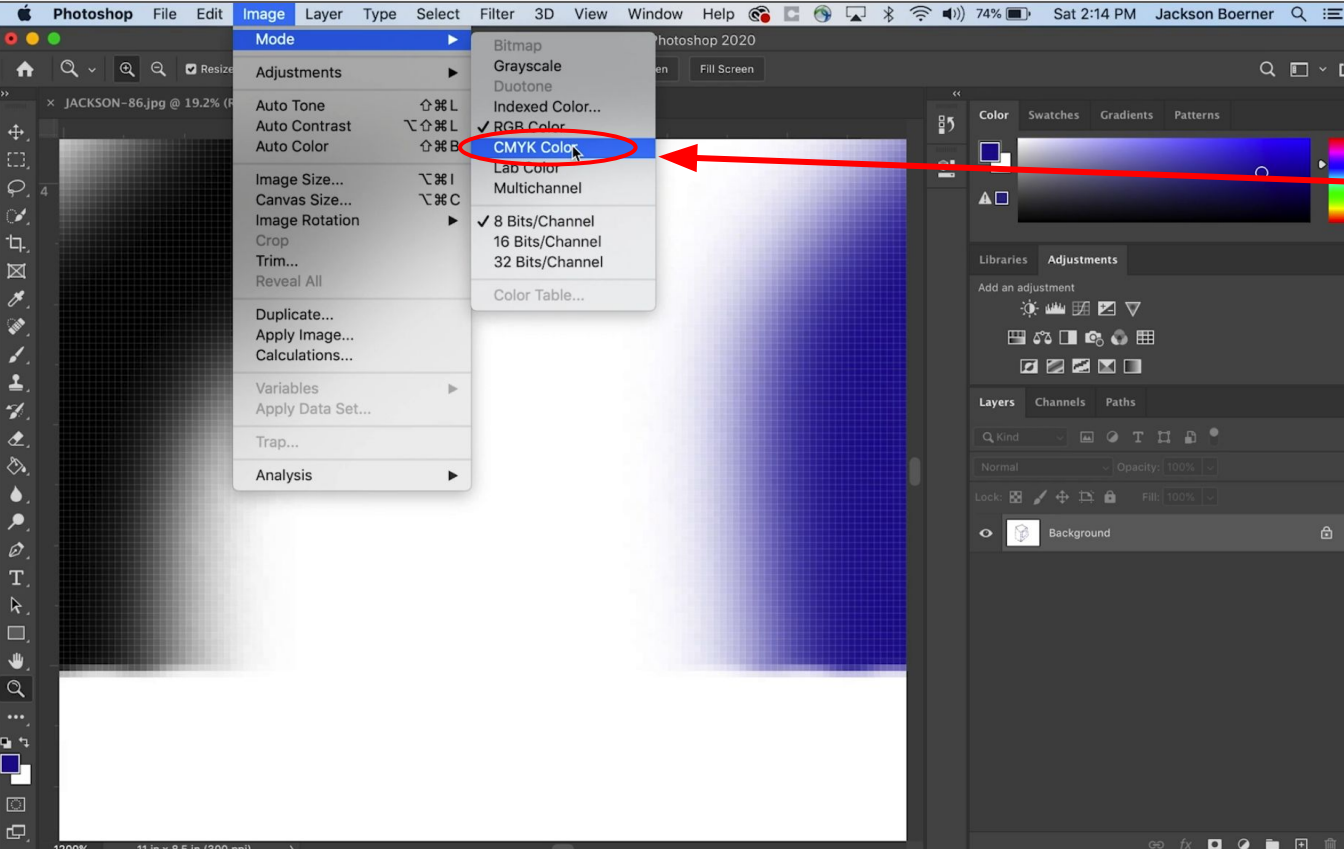
RGB



Generally while you are working on a digital image in Photoshop you will want to be in **RGB**. RGB stands for Red, Green, Blue, the three colors of light that all screens and sensors use to reproduce color. Camera images will generally default to RGB.

COLOR MODE OPTIONS

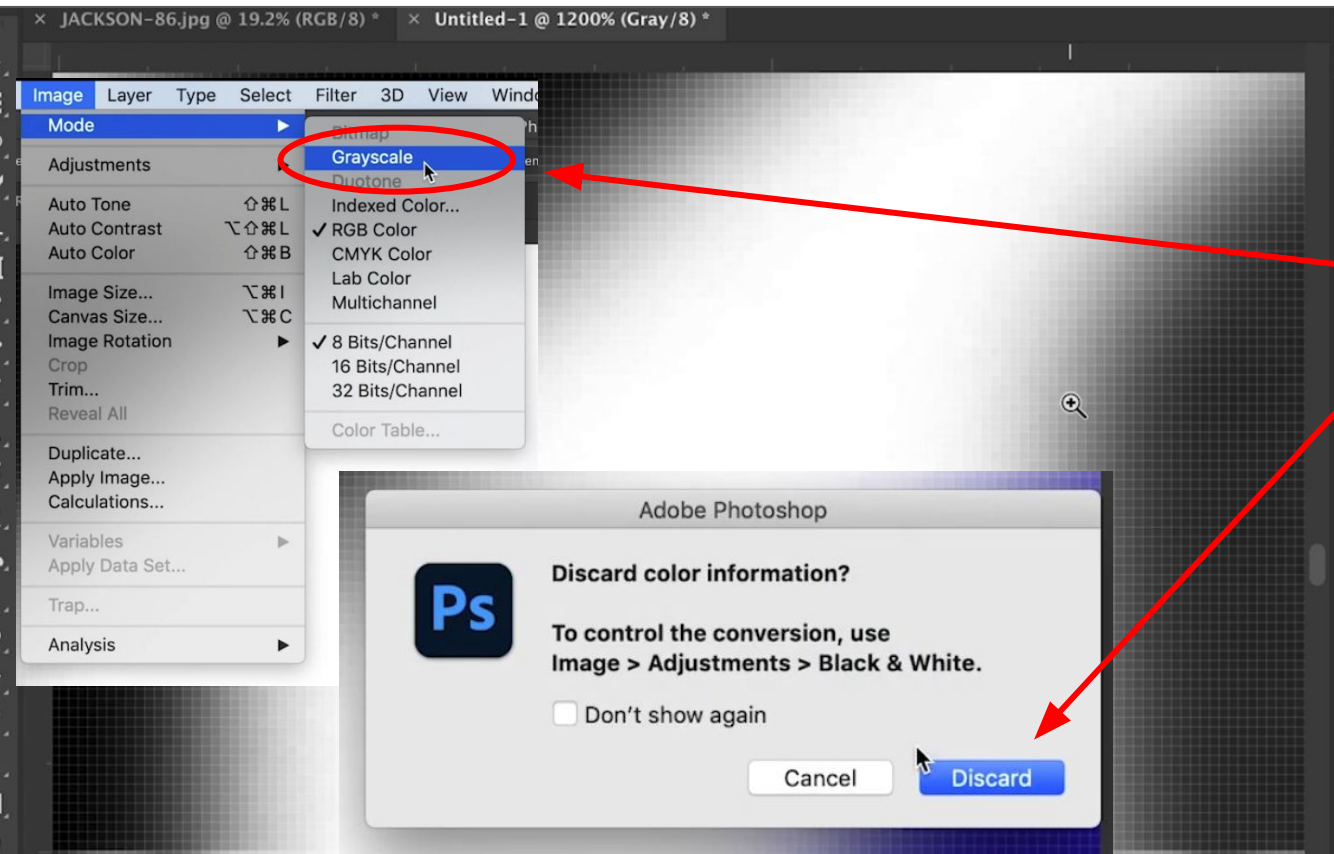
CMYK



Before you print an image it is best to convert the image to **CMYK** or Cyan, Magenta, Yellow Key (for Black). Printers generally use those four colors of ink in different amounts to reproduce all colors. When you convert the image to CMYK you will have more control over test prints and the total amounts of each color ink to get the end result you seek.

COLOR MODE OPTIONS

GRAYSCALE



Lastly, if you want to create or print a black and white image you can select **Grayscale**. All color data will be removed from your image. Your image will only print with K or Black ink.

THANKS FOR WATCHING!

Thank you for watching my intro to Photoshop. I have made three other videos: one about the tool bar tools, one about layers and non-destructive editing, and lastly one on image import, camera raw, and printing.