Compositing Techniques You Must Know

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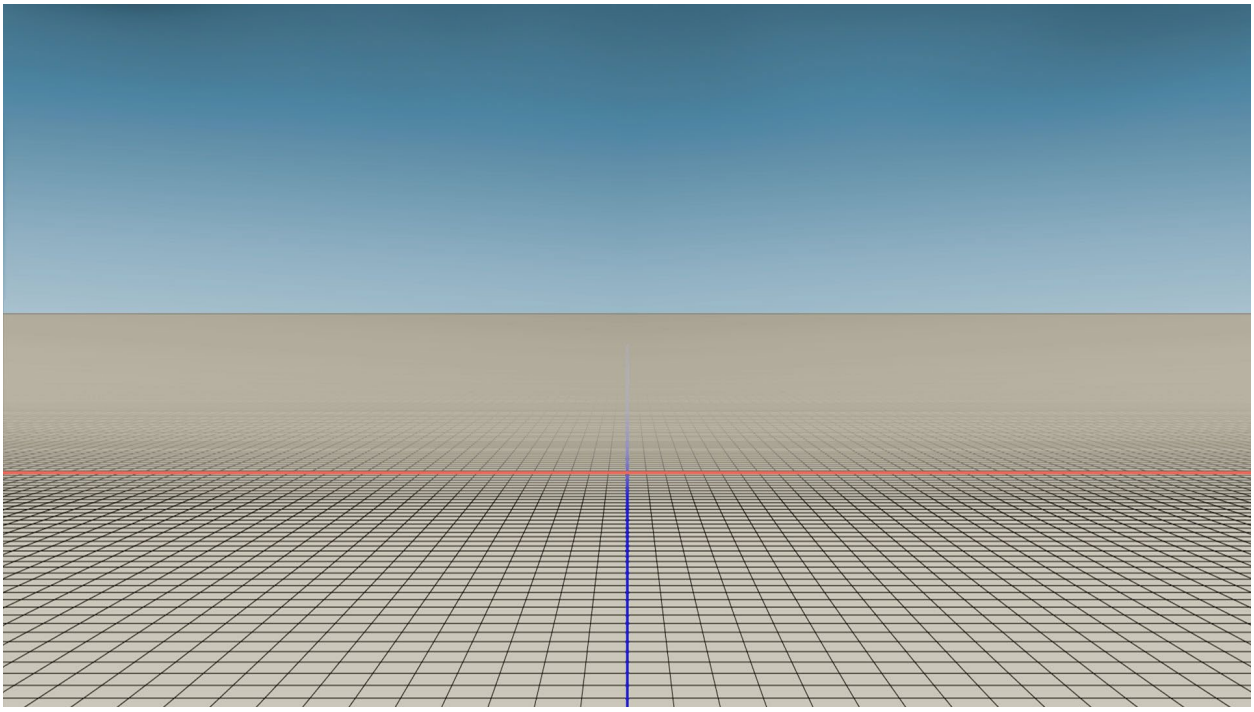
Perspective

In compositing, you can get everything right, lighting, color, shadows, and extractions, but if the perspective is off, your viewer will immediately know that something is off with your composite. They may not know what it is, but they will have the feeling that something is not quite right.

Perspective is perhaps the most critical principle that you must learn and implement when creating composites in Photoshop.

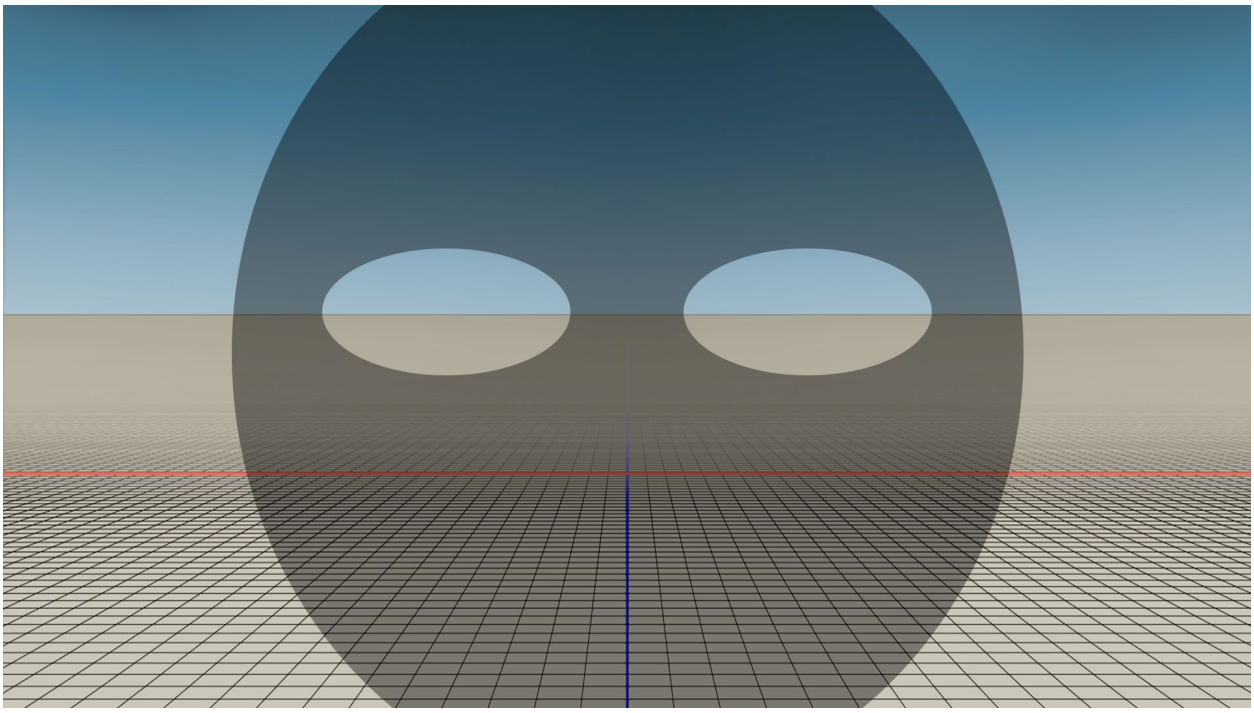
Let's start discussing how perspective works with composites by simplifying everything. This image plane contains a ground plane, represented by the grid, and a sky which is above the grid.



Every composite that you work on in Photoshop will consist of these two elements. A ground plane and a sky. The most important thing to note is where these elements meet.

The meeting point is known as the Horizon Line, and it becomes extremely important in compositing as it will be your point of reference for all the images and objects that you bring in.

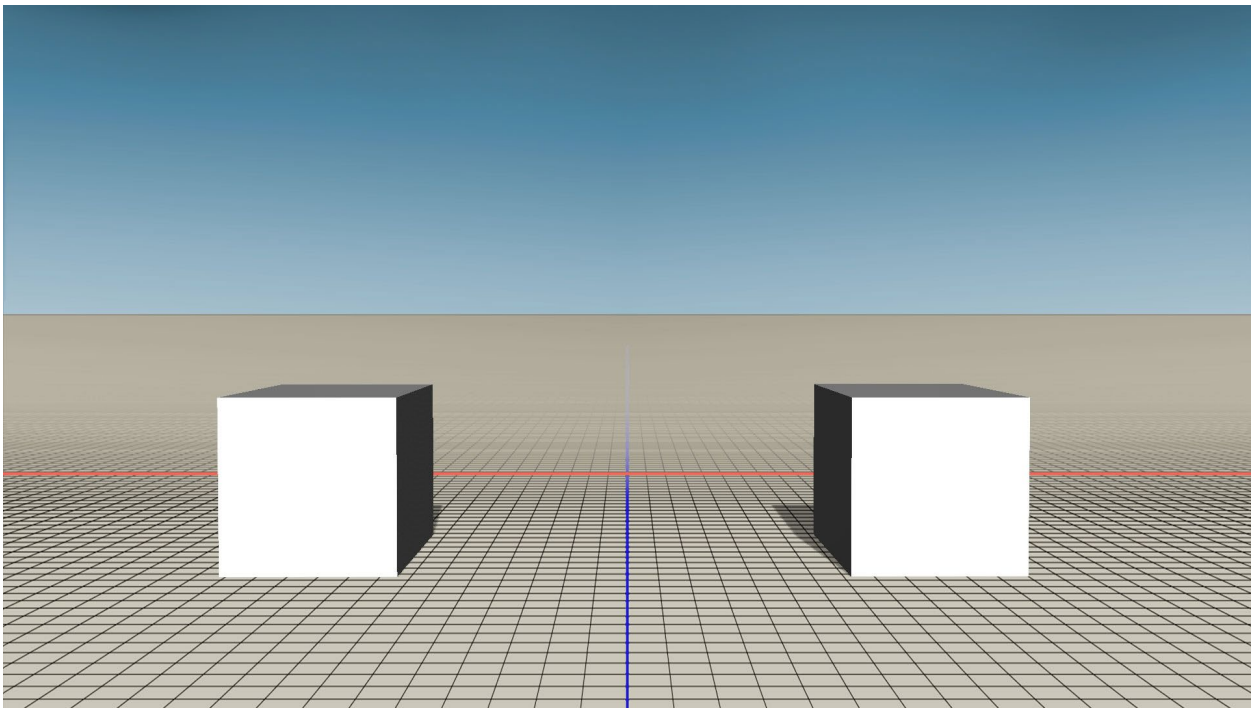
You may have heard that the horizon line is the eye level, and that is true. If you were standing on this ground plane and you were looking off into the distance, the horizon line would be at your eye-level.



However, in a photograph, the horizon line is in line with the camera's lens when the photo was shot. The eye level of the camera.

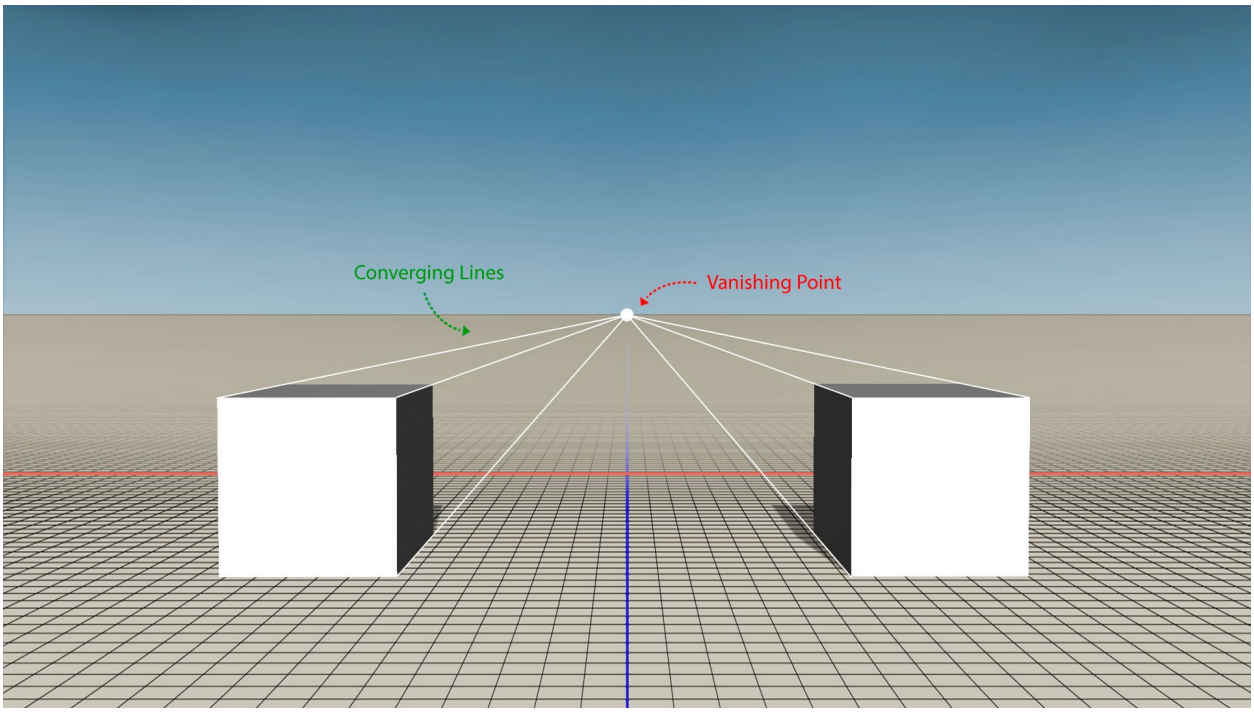
This is extremely important because for your composites to look real the perspective of all your elements need to match, they need to have the same eye-level. In other words, the horizon lines of the different elements need to match, or at the very least be near each other.

The graphic below shows a ground plane with two cubes. The cubes in the scene really do look as if they are sitting on the ground because the perspective matches.

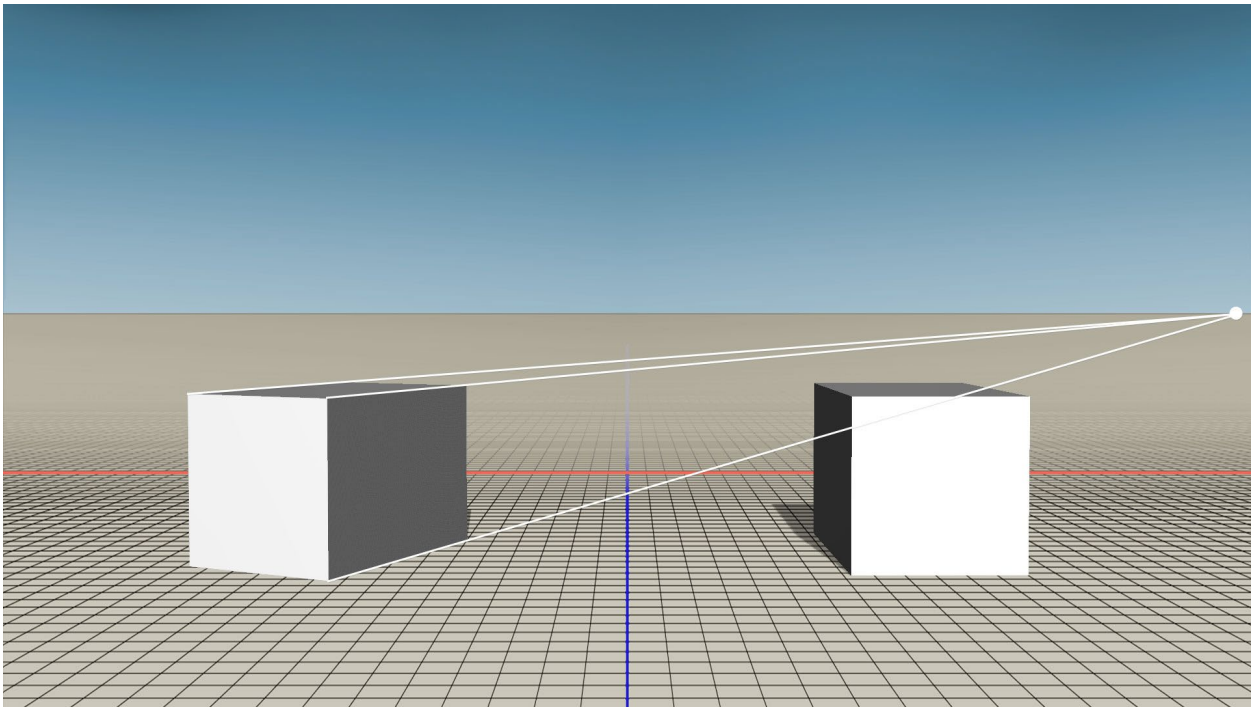


One way of finding the perspective of an image is to follow the receding converging parallel lines until they meet in the background.

In this graphic, the edges of the cubes create parallel lines that recede into the background. When you follow the converging edges of the cubes until they meet, you will see that they meet at a single point. This point of convergence is known as the Vanishing Point, and it lays on the horizon line. Where the ground plane meets the sky. That is the critical piece of information that you need when you are compositing.



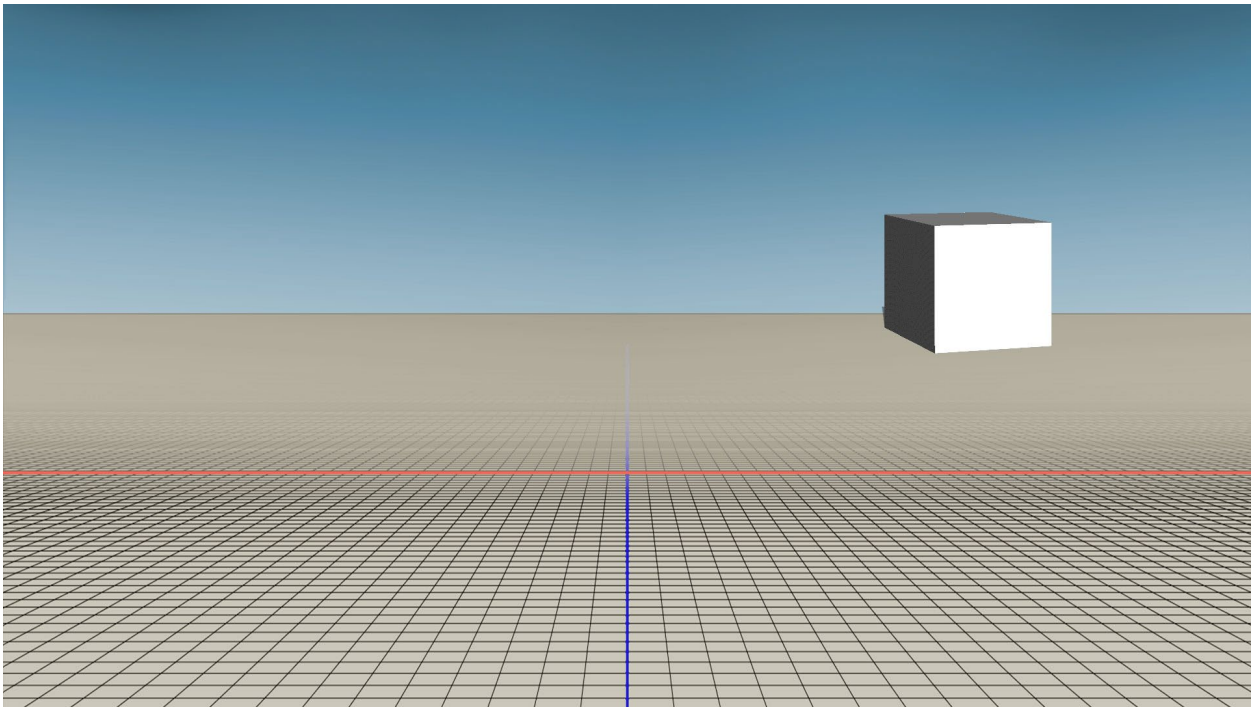
If you rotate either of these cubes, you would, of course, get a different vanishing point, but that vanishing point will always end up on the horizon line, and it will be in perspective.



When you are compositing, you will bring in elements, and you need to make sure that the parallel converging lines end up on the horizon line, or close to it. Sometimes, the perspective of your elements will be so different that they will not work in your composite.

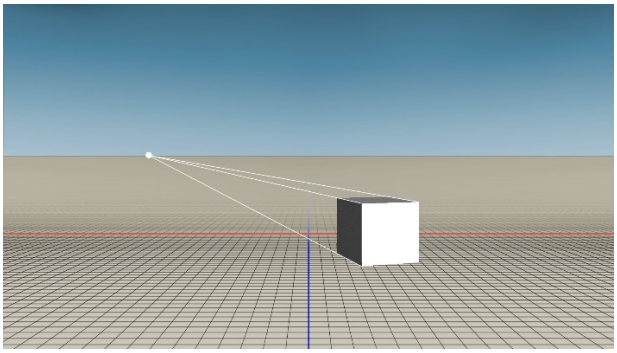
In this example, we will use this cube to represent a different element from a different photo that you want to incorporate into the scene.

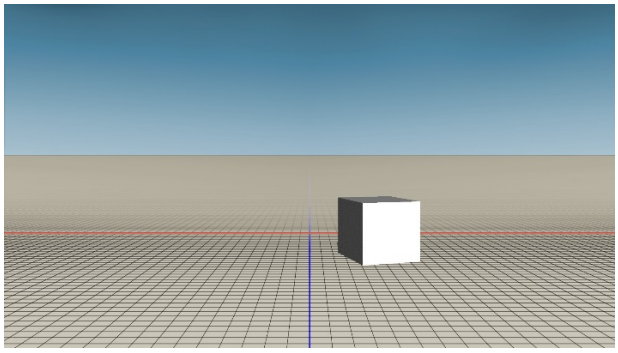
Where can you place this cube within this scene? If you randomly select a spot, you will notice that it doesn't match the scene. The cube will seem out of place because the perspective is off.



To make this cube match this scene, you must follow the converging lines to find the horizon line and match its horizon line to the background image's horizon line.

To make the horizon lines match, move the cubes down so that its vanishing point sits on the horizon line.





Once the horizon lines match, you can move the cube from left to right without affecting the perspective.

In most cases you will not need a perfect match, if you are in a close enough range, you will be able to fool the eye. But the wider the mismatch of the horizon lines is, the less realistic the composite will look.

There is also2-point and 3-point perspective but to keep thing simple and easy to understand we will not go through those in this class.

Compositing Using Perspective

In the composite below, there is a problem with perspective. Even though the mask, shadows, color, and almost everything else works, you still get the feeling that something is off because of the perspective.

You can see the background's horizon line on the top part of the image. Where the ground plane (water) meets the sky.

This is what the model's original photo looks like.

Notice that the horizon line, where the ground plane meets the sky, is much lower. The horizon line is right above his knees. The discrepancy of perspective is what makes the composite not work.

To fix this issue, you either need to move the background down or move the model up so that both horizon lines match or are at least near to each other.

Brightness and Atmospheric Perspective

Matching brightness and atmospheric perspective are also an important but often overlooked compositing principles. Let's look at matching brightness first.

Matching Brightness

When compositing you can create a "check layer" to help you better analyze your image. I like to create a Black/White Adjustment layer to desaturate the composite and see the brightness of each layer without color distracting me.

Notice how the foreground element looks much brighter than the background. To fix this issue you can use a clipped Curves or Level adjustment to match the brightness of the foreground to the background.

After you apply the brightness correction notice how the black and white image looks more realistic.

You can then disable the black and white adjustment layer to see the result in your composite.

Atmospheric Perspective

To create a believable composite, you must learn to create depth by receding objects into the background. The best way to create depth is by using atmospheric perspective.

Much like perspective, and horizon lines, Atmospheric perspective is something that beginners often disregard and makes their composites look flat and have a cut-and-paste feel.

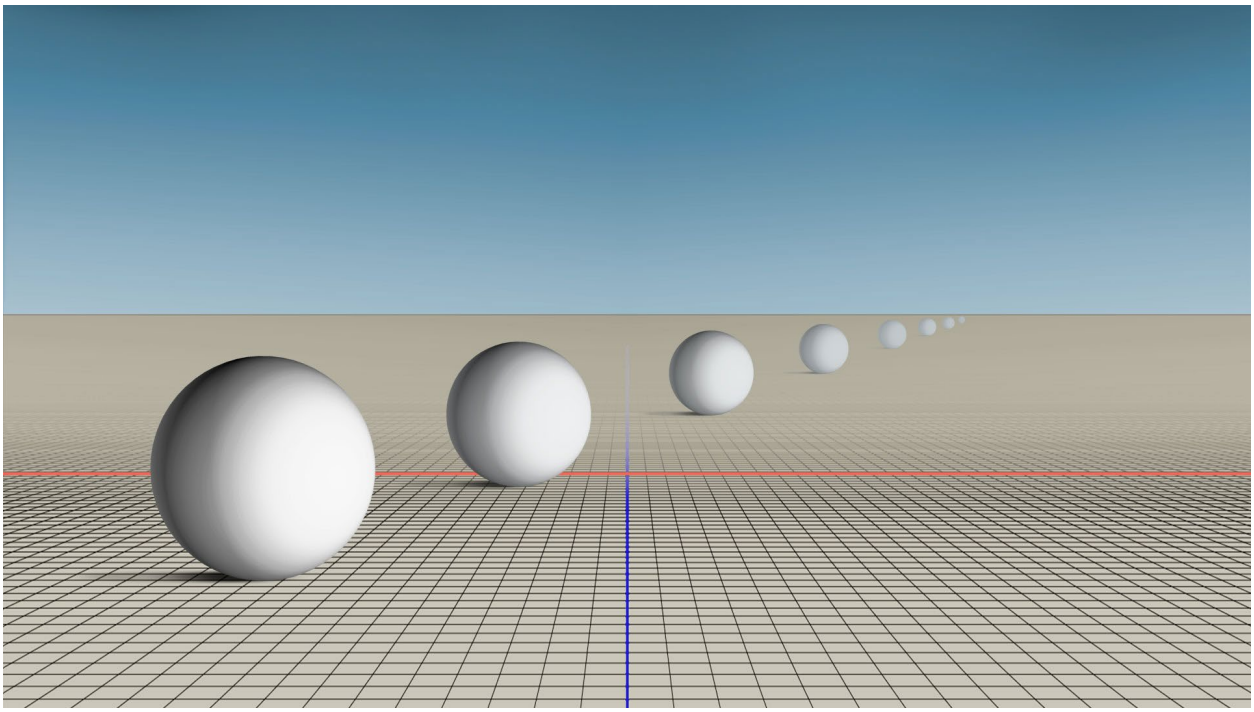
How does atmospheric perspective work?

Atmospheric perspective or aerial perspective, as it's sometimes called, is the decrease in tonal range of an object as it recedes into the background.

In other words, the further away that something is from the viewer, the less contrast it will have between its darkest and lightest point. The Density in the air causes atmospheric perspective. Air contains water particles, mist, smog, and many other things.

As the distance between you – the viewer - and the object increases, the density of the layer of air also increases and the object starts losing detail, saturation, and contrast.

Look at the sphere closest to us. Notice the contrast between the darkest and brightest point and the wide range of tonal values. As the spheres recede into the background, the contrast and tonal range decreases.



Another way to think about it is by thinking of values. Objects near each other in the Z axis have similar tonal values or similar contrast.

When you are compositing, you should try to match the values of surrounding objects to display your object's depth within the image.

One way of doing so is by using Solid Color Fill Layer and setting the color to the color of the sky. Then reducing the Opacity until it matches the other objects in the scene.

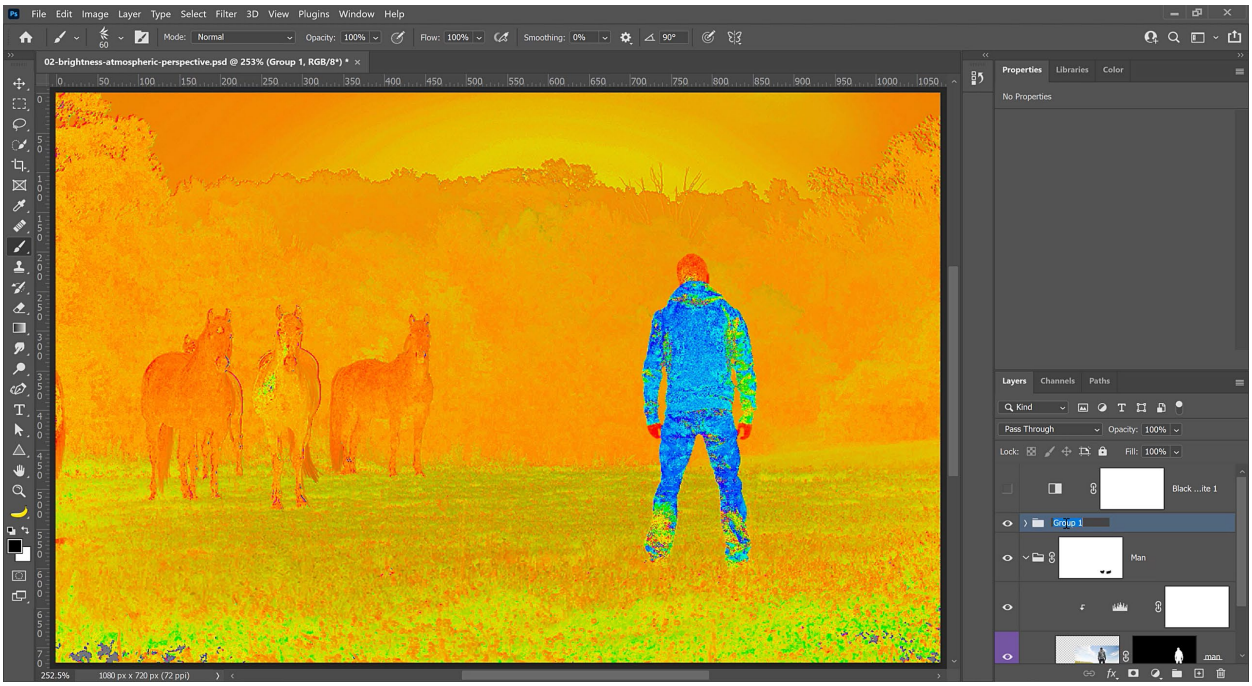
Matching Ambient Color

Matching the ambient color can help wrap up your composite together. But knowing what the ambient color is can be difficult know. To better help you “see” these colors you can create a check layer.

Start by creating a Solid Color Fill layer with the color set to 50% gray.

Then, change the Blending Mode to Luminosity can help you see the luminance values and the difference in hues.

If you’re having difficulty seeing the hues, create a Hue/Saturation adjustment layer and increase the saturation. With these layers, it will show you the overall background and subject’s ambient color.



Notice that the foreground element is blue while everything else in the scene is primarily yellow/orange. You can now create a Selective Color adjustment to change the color tone.