

# 6 Expert Tips for Better 3D Renders

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### In brief

Improve your 3D renders by using a render farm for faster testing, fixing scale issues through camera angle adjustments, and adding textures near the end of your workflow rather than the beginning.

Don't practice for the sake of practicing. If you are working, ensure it is towards a project that makes you money or pushes your project forward. One of the best ways to practice is to work on your project, finish it, and then come back a few days later to try to improve it. These small tweaks, along with continuing your 3D design education, are the sort of juicy experience your brain needs to master the subject.

## 1: Test and Re-Test Using a Render Farm

We all want to test our designs until it soaks up hours of our computer time or slows down our systems while we wait. You need to hone and refine your designs by checking them, testing them, and improving them. This means you need to render your designs pretty frequently. Doing so is time-consuming and a little demoralizing, so you should use a render farm to get it done quicker.

There are services like RebusFarm where you upload your designs, and within no time, you have the finished product ready to download. Doing this is always faster than rendering out the designs yourself.

## 2: When The Scale Looks Wrong

If your image or sequence makes some things look bigger or smaller than they should be, and you are sure about your measurements, then it is just the angle of the image or sequence. You must experiment with new angles and zoom levels to represent things realistically.

For example, consider an image of several wooden blocks, each with different sizes, widths, and heights. Consider how they may appear when viewed directly overhead, at an angle, and then from a horizontal position. Each may make different blocks appear to be different sizes. Again, it is all down to the angle of your shot/sequence.

This image looks "Odd" because the scale and perspective are all wrong.

The rocks behind the golden balance are too close and detailed. The devil statue is situated across a blood lake at the bottom of the image but almost touching the golden ratio to the right. The tree on the left appears far from the bottom and far too close to the golden scale nearer the top.

Plus, the characters in the balance themselves are much too small for their surroundings because the designer took larger images and shrunk them down to fit inside the picture (that is also why they look blurry). So the scale and perspective are all wrong, which is why the image seems so odd.

## 3: Add Textures Nearer The End

After you have tweaked your designs, you should start adding texture. It is difficult to image how the result will be if you don't add textures sooner, but the addition of textures makes it very easy to get your foundation design wrong. Things will look ugly as you design them, but when you finally add textures, the piece will come together far better and with fewer mistakes.

Adding textures at the end allows you to smooth out a few sharp edges. Despite the most common advice, it is okay to have sharp edges so long as they fit within our understanding of the world. For example, very sharp helicopter blades are understandable, but very sharp edges on a stone wall are not.

## 4: Leave Out Reflective Surfaces

Unless you are good at working with reflective surfaces, you should leave them out. They are tough to get correct. However, with that said, experiment with the options and tools given to you by the software. Some make it very easy to fake it until you make it. Nevertheless, there are certain elements of design that are part science and part creative art.

Take the example in this image. The hand holding the mask looks photo-shopped in place. However, in real life, the small white mask would have a slightly pink tinge where it intersects with the hand. This is because the color pink skin colors would be slightly reflected off the shiny white surface.

There is also an element of lighting and shadow that makes it difficult to create plausible reflective surfaces. We all know that shadows shouldn't be sharp unless under intense light, but have you tried creating light sources to reflect light that also includes shadows and dark spots? It is often more trouble than worth it unless your design relies on reflective surfaces to add character or atmosphere.

## 5: Getting The Light Right

Here is a tricky one because you mostly rely on the light sources provided by the software you use. However, sadly, even expertly placing lights in their logical positions will not help your renders look better. The problem is that light bends and bounces in real life and computer programs often have a linear approach to lighting. In many cases, you must place light sources further away and in several positions if you wish to recreate the natural light. This takes an artistic hand and lots of design experience.

## 6: Add a Little Dirt

If you are going for photo-realistic, then adding a little dirt helps. The problem is that you need a level of subtlety that is so nuanced that it could almost be an art. For example, when Jim Henson was helping to create Farscape, the puppets and ships he designed always looked better if they had slight imperfections.

He even remarked upon how his earlier designs for the show looked unreal or computer generated because they were too perfect. Adding dirt as a layer made the ships look grubby but adding dirt and grime in strategic areas made it look more realistic.

If you are adding dirt, do add it as a layer. Do not try to create a dirty texture. If you recall older Playstation 2 games like Resident Evil 4, they made great use of dirty textures. However, the downside was that they always had to frame their environments with a dark and grubby light or a warmer orange/brown hue. Luckily, it was a horror game, so it mostly worked, But during the few occasions where the enemy models were put under extreme light, the dirt and even the wounds didn't look as good.

## References

1. rebusfarm.net - <https://rebusfarm.net/>