

3-D [Lessons 31-60](#) / [Most Recent Lessons](#)

Animation Workshop

Lessons 1-30



3D Animation Workshop is a place where you can learn about a beautiful new medium, with a special eye for its use on the Web. You'll learn how to create 3D graphics and animation step by step, and each biweekly tutorial will build on your knowledge and experience until you are quite far along and doing some exciting things. The tone will be visual and intuitive, bringing 3-D graphics and animation concepts to life--quite literally.

[Through the Looking Glass](#) (Lesson 1)

A tutorial on 3D Space that takes a visual approach. Learn how 3D graphic artists break out of their 2D existence and work, and think, in another dimension.

[Building an Object](#) (Lesson 2)

Using points, we create surfaces, and therefore our first simple object.

[Let There Be Light](#) (Lesson 3)

We add a simple light to create shading and shadows, and surprisingly enough, smooth curving surfaces as well.

[Get Primitive](#) (Lesson 4)

We start modeling using only the simple geometric objects that our applications give us, and good things happen right away.

[Lights, Camera, Render!](#) (Lesson 5)

3-D graphics means not only creating objects in space, but also coating them with exciting, realistic surfaces that interact with light.

[The Software Landscape](#) (Lesson 6)

Responding to numerous reader requests, we take a quick look over the world of 3-D animation packages.

[Bringing It To Life](#) (Lesson 7)

We learn about keyframing and make a simple object dance and play.

[Mind Candy](#) (Lesson 8)

Using deformation tools, we animate shapes and consider what it means to create an animation concept.

[Modeling, Modeling](#) (Lesson 9)

We explore the basics of modeling geometry from scratch, pulling flat objects out into the third dimension.

[GLOSSARY](#) of 3-D Terms

[Intersecting Spaces](#) (Lesson 10)

We learn how multiple "spaces" co-exist in a single scene, and about creating families of objects.

[Today's 3-D Workstation](#) (Lesson 11)

We visit with 3-D hardware experts to learn about the affordable workstations that are bringing 3-D to a wide audience.

[Getting Started With Surfacing](#) (Lesson 12)

We get oriented with the tools that bring color, realism and imagination to the surfaces of our 3-D objects.

[More About Surfacing](#) (Lesson 13)

We look at the ways to get surface texture and "touchable" realism in 3-D objects.

[Modeling Like The Pros](#) (Lesson 14)

We start a realistic modeling project, using professional methods.

[Onward and Upward](#) (Lesson 15)

We continue our modeling project, exploring perspective and orthogonal viewing.

[Bevels and Details](#) (Lesson 16)

We finish our chest with a look at bevels and multiple surfaces.

[Photorealism 101](#) (Lesson 17)

We begin an exploration of photorealism in 3D, using a still-life.

[Lights, Shadows and Feelings](#) (Lesson 18)

We explore the sense of environment to create persuasive 3-D scenes.

[Good Enough to Eat](#) (Lesson 19)

We create convincing surfaces for our photorealistic scene.

[Metal and Mirrors](#) (Lesson 20)

We play with reflection and ray tracing to create the feel of metal.

[The Art of Glass](#) (Lesson 21)

We finish our still-life with a clear glass beaker.

[Getting Started in 3-D](#) (Lesson 22)

Some advice and orientation for the serious 3-D beginner.

[Comparing Professional Packages](#) (Lesson 23)

We start a side-by-side look at two major 3-D packages.

[3D Studio MAX](#) (Lesson 24)

We jump right to the ambitious core of this major 3-D application.

[Lightwave Metanurbs](#) (Lesson 25)

It's Lightwave's turn to shine in our comparison of professional 3-D packages.

[Animation Tools--MAX vs. Lightwave](#) (Lesson 26)

Our two professional 3D heavyweights face off in animation tools.

[VRML 97--Now's The Time](#) (Lesson 27)

We start an in-depth look at this new version of interactive 3-D for the Web.

[VRML 97 Free Fall](#) (Lesson 28)

We leap into VRML space, learning the basics of the new specification.

[VRML 97--On the Move](#) (Lesson 29)

VRML worlds slip into motion.

[VRML 97--Touch and Go!](#) (Lesson 30)

VRML worlds go interactive.

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