



Bryce 3D Overview



What is Bryce 3D?

Bryce 3D is a stand-alone application that allows you to create and animate virtual environments.

With Bryce you can create any type of environment you can dream up, from the ivory beaches of Tahiti to the silvery rings of Saturn. Bryce's user interface contains all the tools you'll need to create your environments.

Bryce 3D includes controls for managing infinite skies. The sky controls let you set everything from time of day to the color and frequency of clouds. The sky controls also let you set light direction, sun/moonlight, atmospheric depth haze (with

intensity and color), height fog (with height, intensity and color), and multiple sky color components.

Bryce also includes controls for creating a wide variety of objects to populate your environment. The Terrain editor lets you create an infinite number of custom terrains that you can use to create landscapes.

The realism of a Bryce environment is largely dependent on the Materials applied to the objects in the scene. Materials are complex combinations of textures and values. The Materials Lab lets you combine textures and channel values to create textures that can simulate any material found in the real world and a few that aren't!

When your environment is set up just the way you want it, you can add a fourth dimension—time. Bryce 3D's animation tools let you set up landscapes that move and materials that change over time.

Application Overview

The Bryce Window

Bryce's default environment consists of the Working window, the Control palette and the Tool palettes. By default, the Bryce environment replaces your screen whenever you launch the application. However, your operating system's standard menus and windows are still available from within Bryce.

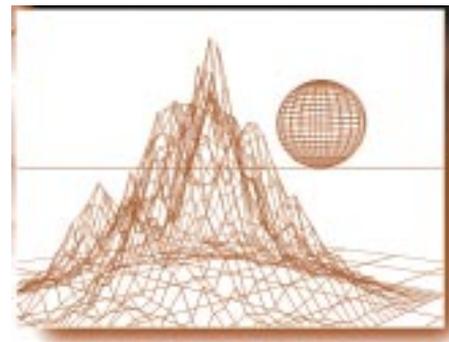


When you launch the application, the Bryce window replaces your desktop.

The Working Window

The Working window displays all the objects in your Bryce scene. It's the work area where you'll arrange the objects and lights to create your environment.

The view of your scene shown in the Working Window is taken from a camera. You can move this camera to get different views of your scene.

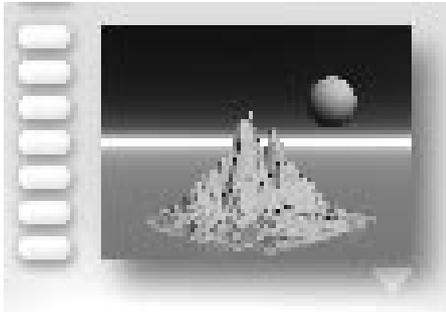


The Working window displays all the objects that make up your scene.

The Working window also has several display modes that let you view your objects as wireframes, rendered objects or a combination of both. Refer to “[Display Modes](#)” on page 23 for more on these display modes.

Nano-Preview

The Nano-Preview displays a rendered preview of your scene. As you update your scene, the Nano-Preview can update to show your changes. The Nano-Preview is a preview tool that lets you see how your adjustments to object position or other properties affect the final look of the scene.



The Nano-Preview window shows a small rendered version of your scene. As you change the scene, the display updates to show your changes.

This preview window has several display options that let you control how your scene appears in the Nano-Preview. These three modes can be very helpful when you're working on a complex scene.

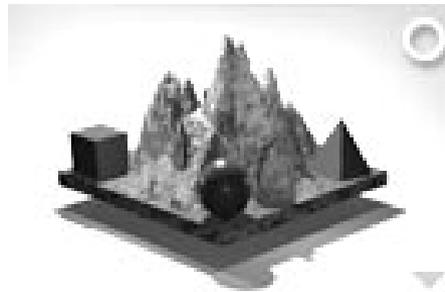
You can also use the Nano-Preview's preset viewing positions to see your scene from different angles. These options can help you quickly see the effects of your changes in 3D space.

The Memory Dots along the side of the Nano-Preview let you store your favorite camera positions.

Refer to [“Using the Nano-Preview” on page 30](#) for more on working with the Nano-Preview.

View Control

The View Control lets you adjust the view of your scene. When you use this control, the view of your scene changes, but the camera doesn't move.



The View Control lets you control how you see your scene.

Using this control you can see your scene from the top, bottom, left, right, front or back. You can also set your scene to continuously rotate so you can see it from any angle. Refer to [“View Control” on page 15](#) for more on using the View Control.

Camera Controls

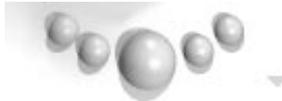
The Camera Controls change the position of the camera. The Camera Crosses let you move the camera specifically along the X, Y and Z axis. The Camera Trackball lets you move the camera in any direction and along any axis. Refer to [“Camera Controls” on page 15](#) for more on moving the camera.



Use the Camera controls to adjust the position of the camera.

Render Controls

The Render Controls let you render your scene. When you render your scene you can see all the materials and lighting effects you added.



The Render controls let you render your scene as a 2D image.

The center button starts the rendering process while the other buttons control rendering options. Refer to “[Rendering a Scene](#)” on page 406 for more on rendering.

Text Display Area

The area just below the Render Controls is reserved for momentary display of text information. This area identifies the names of interface elements as you pass your cursor over them as well as displaying information about total number of polygons in a scene, current control settings and free memory information.



The Text Display Area displays the name of items in the user interface as you pass your cursor over them. This area also displays information about tool settings.

The Tool Palettes

Bryce uses a series of palettes to manage tools and controls—the Create palette, Edit palette, Sky & Fog palette, Advanced Display palette, Selection palette and Animation controls. These palettes let you create objects, edit objects, create skies and fog, control the display of your scene, select objects and animate objects.

Beside the title of each of the three palettes along the top of the interface is a small triangle which opens the different Preset Libraries available in Bryce.

The Create Palette

The Create palette contains tools for creating infinite planes, terrains, stones, primitive shapes, derivative primitives, 2D picture objects and lights.



The Create palette contains tools for creating all the types of objects you can use in a Bryce scene.

The Triangle icon for this palette opens the Preset Objects Library. Refer to “[The Create Palette](#)” on page 106 for more on the Create palette.

The Edit Palette

The Edit palette contains tools for editing object materials, resizing, rotating, repositioning, aligning and randomizing objects. The Edit Terrain Object tool accesses the Terrain Editor which lets you design and adjust terrain objects.

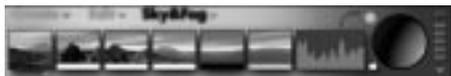


The Edit palette contains tools for transforming objects and accessing the Editors.

The Triangle icon for this palette opens the Preset Materials Library. Refer to “[Transforming Objects](#)” on page 285 for more on the Edit palette.

The Sky & Fog Palette

The controls available on this palette let you add shadows, fog and haze, and set the altitude, frequency, and amplitude of clouds. The palette also lets you control the color of clouds in your sky and the position of the sun and moon.



The Sky & Fog palette contains tools for creating the environment of your Bryce scene.

The memory dots along the side of the palette let you store your favorite sky and fog settings.

The Triangle icon for this palette opens the Preset Sky & Fog Library. Refer to [“The Sky & Fog Palette” on page 131](#) for more on the Sky & Fog palette.

Advanced Display Palette

The Advanced Display is not visible in the main interface. It only appears when you pass the mouse over the right side of the Working window. After you’re finished working with the palette it gradually fades away so as to not clutter the screen.

The Advanced Display palette contains tools for controlling the display of the interface and enabling/disabling the

Nano-Editor and Plop Render features. You can also control the resolution of the Wireframes preview, zoom in and out, enable/disable wireframe shadows, and set underground and depth cues. Refer to [“Viewing Your Scene” on page 31](#) for more on using the Advanced Display palette tools.



The Advanced Display palette contains tools for changing the Working Window display.

The Animation Controls

The Animation controls lets you set up key frames and edit the time line of your animation.



The Animation controls displays the time line of your animation.

It also contains controls for previewing your animation, adding and deleting key frames and accessing the Advanced Motion Lab. Refer to [“Setting Up an Animation” on page 355](#) for more on using the Animation controls.

Selection Palette

The Selection palette contains tools for selecting specific types of objects in your scene. The palette is not visualize in the default Working window. To view it, you must swap the Animation controls for the Selection palette using the Swap button.

Using the palette tools, you can select objects by type, by group or family. Refer to [“Selecting Objects” on page 36](#) for more on selecting objects.



The Selection palette contains tools that let you set objects by type or family.

The VCR controls available in this palette let you cycle through the selections and enables Solo mode. Refer to [“The VCR Controls” on page 38](#) for more on using the VCR controls.



Use the VCR Controls to cycle through all the object s in your scene and activate Solo mode.

The Editors

Bryce has several editors that let you do everything from creating terrains to editing the speed of animation. Each editor is like a separate room in Bryce. When active, the editor takes over the interface, completely replacing the Working Window.

The Terrain Editor

The Terrain Editor is where you'll create all the terrain objects in your scene. The editor contains tools for painting and refining terrain objects.



The Terrain Editor lets you create any type of landscape using the preset tools and paint brush.

The Terrain Editor also has a real-time preview so you can see the effects of your changes instantly.

Three tabs in the Terrain Editor let you switch between the various terrain creation tools:

- Elevation provides access to the terrain generation and editing tools.
- Filtering lets you adjust the filter curve for a terrain. By adjusting this curve you can make subtle changes to the topography of your terrain.
- Picture lets you use 2D pictures to create terrains.

Refer to **“The Terrain Editor” on page 164** for more on the Terrain Editor.

The Materials Lab

The Materials Lab is where you'll create the materials to apply to your objects. By combining up to four texture components on the materials grid, you can create incredibly complex surfaces that can bring your scene to life.

There are two types of materials you can create: Surface materials, which define the surface properties of an object, and Volume materials, which define the properties of an object's volume as well as its surface. Refer to **“The Materials Lab” on page 229** for more on the Materials Lab.



The Materials Lab lets you create different types of materials by combining texture components on the materials grid.

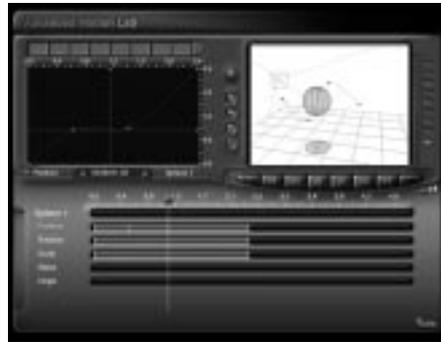
When you're creating a Volume material, the settings available in the Materials Lab change. The settings that appear let you set up the volumetric properties of the material. Refer to **“Understanding Volume Material Channels” on page 197** for more on Volume materials.



When you're creating volume materials the settings in the Materials Lab change. Some of the surface material settings are replaced by volume effects settings.

The Advanced Motion Lab

The Advanced Motion Lab lets you fine-tune your animations. After you've created your key frames, using the Animation controls, you can use the tools available in this lab to control the speed at which objects move along a motion path, adjust the position of key frames, and preview your changes.



The Advanced Motion Lab lets you refine the action in your animations. Use the Velocity Curve editor to create different velocity effects and the Hierarchy area to control when object transformations occur.

There are three areas within the Advanced Motion Lab that let you edit specific aspects of your animations: the Time Mapping Curve editor, the Hierarchy List and the Sequencer.

The Time Mapping Curve editor lets you create a time mapping filter which alters how the time in your animation is mapped to actual time.

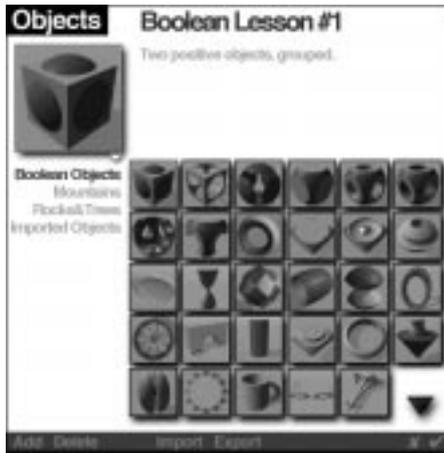
By adjusting the shape of a time mapping curve you can create different velocity effects. Refer to "Time Mapping Curves" on page 367 for more on velocity curves.

The Hierarchy List area lets you see how objects are linked and grouped within your scene. Although you can't change the hierarchy of your scene in this area, it can be a valuable visualization tool.

The Sequencer lets you see where key events were recorded for all of an object's properties. Using this area you can control exactly when object transformations occur. Refer to "Properties in the Sequencer" on page 353 for more on the Sequencer.

The Bryce Preset Libraries

Bryce has several libraries of presets that can make creating scenes easier. There are three main preset Libraries available in Bryce 3D: the Preset Objects Library, the Materials Presets Library, and the Sky & Fog Preset Library. You can use the objects library to add pre-made objects to your scene. Refer to “Using the Presets Object Library” on page 125 for more on the Preset Objects Library.



The Preset Object Library contains a variety of 3D objects you can use in your scene.

The Materials library lets you add a wide variety of materials to your objects. Refer to “Using the Preset Materials Library” on page 234 for more on the Preset Materials Library.

The Sky & Fog Preset library contains pre-made skies that you can add to your scene to quickly create an environment. Refer to “Using the Preset Skies Library” on page 160 for more on the Preset Sky & Fog Library.

The Menu Bar

The Bryce 3D menu bar contains three menus: the File menu, the Edit menu, and the Objects menu. These menus provide access to several Bryce functions and editors.

The display of the menu bar depends on the state of the application. When the application interface snaps to the edges of your screen, the menu bar is hidden until you pass the pointer over the menu bar area.