

## Bryce Create Shelf

*There are more pre-defined primitives that can be accessed by some specific key combinations than are visible on the Create shelf.*

### Introduction

There are more Primitives on the Create shelf in Bryce 4 than in later versions. However, these shapes on the shelf of Bryce 4 are derived from the main shape and are also available directly in the other Bryce versions even though they do not appear on the shelf.



Shown above is the Bryce 4 Create shelf. The red arrows point to the Cube primitive and its two variants. Below is the Bryce 7.1 Create shelf. The red arrow points to the Cube primitive. There are no variants on the shelf.



This document will show how a derivate is different to the primitive and how it can be directly accessed from any Bryce version 5+ shelf.

### Accessing Primitives and Objects from the Create Shelf

Apart from the Primitives (Sphere, Torus, Cylinder, Cube, Pyramid, Cone, 2D-Face and 2D-Disk) there are other objects on the shelf that have some hidden features or options. This document will progress from left to right.

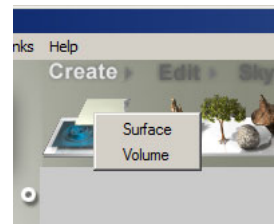
**NOTE:** The key [Ctrl] on the PC corresponds to the [Cmd] key on the Mac. A [key] means that this key must be held down when clicking with the left mouse button on the thumbnail.

### Infinite Planes and Slabs

There is a water plane, a ground plane and a cloud plane. Essentially, they share the same behaviour. Just clicking on any of them will create an infinite plane: *Water Plane* with a random water material at Y-position 10.249, *Ground Plane* with a random ground material at Y-position 0.019 and *Cloud Plane* with a random sky-cloud material at Y-position 40.967.

To get an infinite slab, hold down the left mouse key when over the thumbnail and a small options menu pops up from which either *Surface* or *Volume* can be selected. See picture at right.

Alternately, [Alt] will create a *Volume* object, an Infinite Slab, instead of a *Surface*.



[Ctrl] for any of the three planes or slabs creates the plane or slab with the default grey material applied instead of a random one.

**[Ctrl]+[Alt]** or **[Alt Gr]** creates a volume slab in default grey at the vertical position depending on whether the water, ground or cloud thumbnail was clicked on.

The default ground plane is positioned at Y-position 0.01 and its X and Z sizes are 163.84 and Y 0.00. This is the size it appears as wireframe. Rendered, it covers the whole Bryce world.

The Infinite water and cloud planes have a wireframe X and Z size of 81.92 and the ground plane double that like the default plane.

The X and Z sizes of the volume ground slab are also 163.84, Y size is 20.48 and it appears at Y-position 10.222.

The X and Z sizes for the water and cloud slabs are 81.92 and the Y size 20.48. The water slab is placed at Y-position 0.006 and the cloud slab at 51.206.

## **Terrain**

Clicking on the terrain thumbnail creates a random mountain or island terrain the size of X/Y/Z 81.92/20.48/81.92 at Y-position 10.24 with a random terrain material. **[Alt]** does the same but opens directly the Terrain Editor (TE). **[Ctrl]** creates such a terrain in default grey and **[Alt Gr]** or **[Ctrl]+[Alt]** a grey terrain and opening the TE.

## **Tree**

Clicking on the tree thumbnail creates a random default tree with a random wood and random leaf material. **[Alt]** opens the Open dialog and a BTO file (Bryce Tree Object) can be loaded. This tree can be anywhere on the computer. Bryce comes with 108 tree objects that can be found `{d:}\Bryce\Presets\Trees` where `d` is the drive and `Bryce` the folder where Bryce was installed into.

A tree can be saved as BTO when it is selected and clicked on the tree thumbnail with **[Ctrl]+[Alt]** or **[Alt Gr]** key held down. The wood material is saved with the tree but the leaf material is lost. The tree shape can be changed in the Tree Lab but even though the name changes, the geometry of the tree does not. This is a flaw. The included BTO trees are much better than the default one and loading them highly recommended.

The document <https://www.horo.ch/docs/mine/pdf/BTO-Trees.pdf> discusses BTO trees in more detail and shows all 108 included ones rendered.

## **Stone**

Clicking on the stone thumbnail creates a stone of random size, form and material. **[Ctrl]** does the same but the material will be default grey.

## **Symmetrical Lattice (SymLat)**

Clicking on the symmetrical lattice thumbnail creates a random symmetrical lattice with the cube size (X, Y and Z) of 20.48 and a random material. **[Ctrl]** does the same but the material will be default grey. Although it is actually a terrain, there is no key to open the TE directly.

## **Metaballs**

Metaballs come into the world with a size of 20.48 in default grey. The attribute is set to Positive. **[Shift]** creates the same metaball but sets the attribute to Negative. A negative metaball is only visible as wireframe but invisible when rendered. A negative metaball near a positive one annihilates parts of the positive one and can be used to drill a hole through a metaball, for instance.

## Sphere

A sphere has a size of 20.48 in all three dimensions (X, Y and Z) and comes in default grey. **[Ctrl]** squashes it to half its height (Y 10.24) and **[Shift]** stretches it to double height (Y 40.96). These two additional shapes are shown on the Bryce 4 create shelf.

## Torus

The torus appears like an «O». X and Y are 20.48 in size and Z 5.12. There is an additional dimension, the inner radius. It can be accessed via the [E] attribute and the *Radius* adjusted from 1 (very thin) to 1024 (sphere). There are no key options. There is more to the torus than meets the eye and this video covers <https://www.youtube.com/watch?v=87JKgroxC-M> some of it.

## Cylinder

The cylinder has a size of 20.48 in all three dimensions (X, Y and Z) and comes in default grey. **[Ctrl]** just reduces its height to a fourth (Y 5.12). **[Shift]** is more complicated: the height is doubled (Y 40.96) and the depth halved (Z 10.24). **[Ctrl]+[Shift]** makes the cylinder lying flat on the ground with X 40.96, Y and Z 5.12. A similar result can be obtained when using the default cylinder, resizing X and Z to 5.12 and Y to 40.96, rotating Z by 90° and put it on the ground.

## Cube

The cube is also default grey and its size in all three dimensions 20.48. **[Ctrl]** changes the dimensions so that X and Y are a fourth 5.12 while Z is left unchanged (a beam). **[Shift]** creates a body with X half at 10.24 and Y double at 40.96 and Z remaining at 20.48.

## Pyramid

Again default grey with X = Y = Z = 20.48. **[Ctrl]** reduces the height to a fourth, i.e. Y 5.12. **[Shift]** reduces the width to a half (X 10.24) and doubles the height (Y 40.96) and the depth Z stays the same at 20.48.

## Cone

Like any other primitive, its bounding box is a cube with all sides 20.48 and grey. **[Ctrl]** creates a lying body pointing towards the viewer. X and Y are halved to 10.24 and Z doubled to 40.96. This has the same effect as setting X = Z = 10.24, Y = 40.96 and rotating X -90°. **[Shift]** halves the width X to 10.24, doubles the height Y to 40.96 and leaves Z at 20.48.

## 2D-Disk Vertical

The vertical 2D-disk has no depth, Z is 0.00, X and Y are 20.48. **[Ctrl]** makes it a 2D-Disk Horizontal by swapping Y and Z, making Y zero and Z 20.48.

## 2D-Face Vertical

Like the 2D-Disk, the square face has no depth, i.e. Z at 0 while X and Y are at 20.48. **[Ctrl]** makes it a 2D-Face Horizontal exactly like the 2D-Disk. However, instead of a flat 2D-face, half of a tiny sphere is visible.

Creating a horizontal 2D-face using the **[Ctrl]** key creates the *Particle Emitter*. The video <https://www.youtube.com/watch?v=W-XVYh4O-hk> covers the Particle Emitter, an Easter Egg. If a horizontal 2D-face is required, create a vertical one and rotate it.

## 2D Picture Object (Leo)

The 2D picture object is also called Leo because the picture on the shelf shows the *Vitruvian Man* by Leonardo da Vinci (see [http://en.wikipedia.org/wiki/Vitruvian\\_Man](http://en.wikipedia.org/wiki/Vitruvian_Man)). A picture texture can be applied to any object. However, when clicking on the Leo, the Picture Library opens so the desired image can be selected or loaded. It is applied to a 2D-face and the aspect ratio of the 2D-face is automatically adjusted to match the picture loaded.

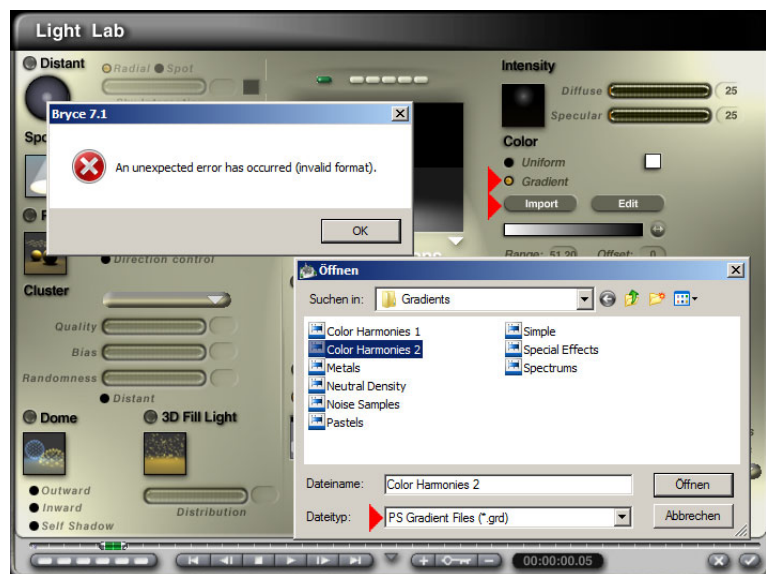
Additionally, in the Materials Lab, dots are set for Diffuse and Ambient in channel A and Diffusion set to 100. The image is mapped *Parametric* and *Picture Interpolation* enabled. In the Material Options, *Blend Transparency* is selected. If transparency is actually needed, a dot has to be set in channel A for Transparency.

Using the Leo instead of a 2D-face makes it much easier to get a picture into Bryce. Pictures are a bit special to use and the video <https://www.youtube.com/watch?v=WPHLx336g70> *Tiling Pictures on a single Object* may be of some help

## Lights

Any light can be configured in the Light Lab. **[Shift]** opens the dialogue to load a gradient. It expects a GRD file, which is a Photoshop Gradient file. However, even if a file is selected, only the light is created. The file selected is ignored. A gradient file can also be loaded in the Light Lab (see picture at right).

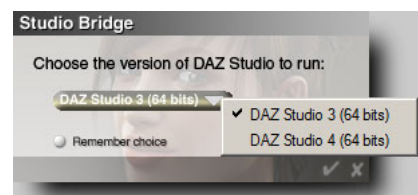
Unfortunately, Bryce answers with an error message. This is so since Bryce 5.01 on the PC. It may be that it works on the Mac.



This is so for all lights, except the Spot light, which has not got this option.

## DAZ | Studio

The last thumbnail opens DAZ Studio if installed. There are no keys to access bits. If more than one Studio version is installed, an option pops up to select which one should be started.



## Wrap-up

This concludes the discussion of the Create shelf. As this document shows, all primitives that were available in Bryce 4 are still available in Bryce 7.1 Pro, even though they are not represented individually on the shelf.

## Primitive Renders

The following two pages show the primitives and the result of their mutations by using the Ctrl/Cmd and Shift keys rendered. The usually grey wireframes for the metaballs are coloured blue for positive and red for negative.

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