## Glass Effects

a tip from KPT Craig

Glass effects, the illusion of your selection becoming a ball of textured glass, are created with two basic settings: Procedural Blend+ Mode and Bump Mapping. Contrary to what you might think, transparency has nothing to do with creating the illusion of glass. In fact, you should leave the global settings of the KPT Spheroid Designer Transparency Control set for opaque. Try this:
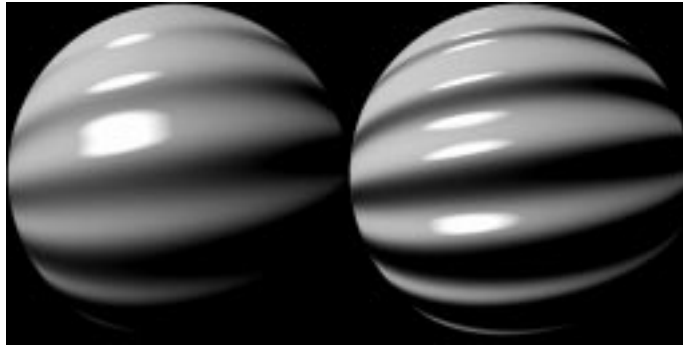
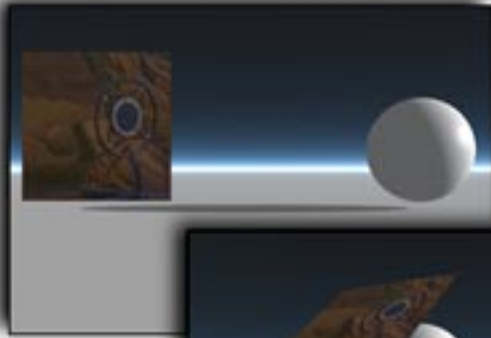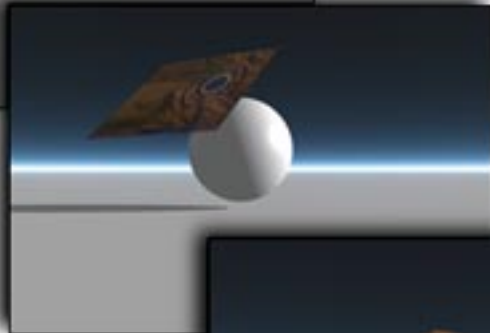Open any **RGB** document (or fill a blank, new document with a texture).
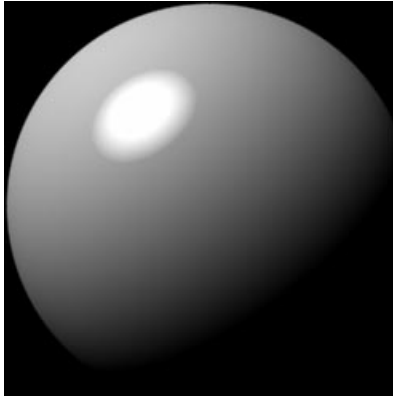
Create a circular selection, roughly 256x256 pixels, and then open the KPT Spheroid Designer, starting with the "Plain Default" setting.

Using the Bump Map presets control, pick a bump map that works for you. One of the Algorithmic bump maps such as Dune Ridges, might work best.

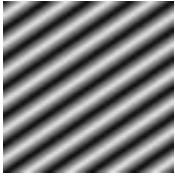A brief explanation of bump mapping is in order here. "Mapping" is a term most commonly applied to 3D graphics that means "shrink-wrapping," in the digital sense. That is, taking a two-dimensional image and fusing it to a three-dimensional object.

"Bump Mapping" is the same idea, only bump-mapping creates the optical illusion of relief texture on the surface of an object, according to grey values.
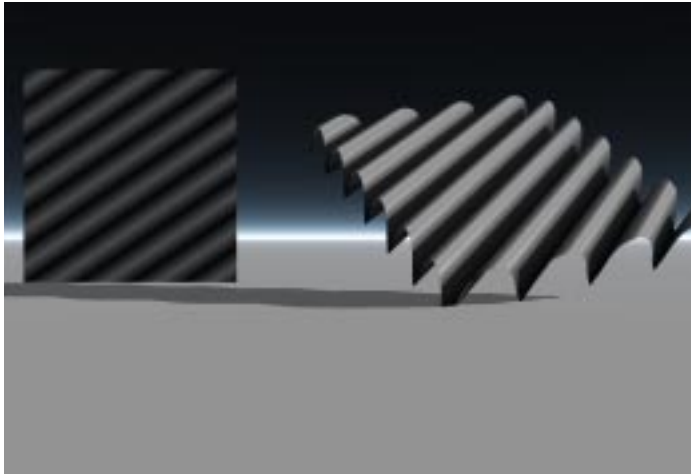
By altering the surface of an object according to greys, bump-mapping treats whites as high-points, and blacks as low-points.

Remember, though, that this treating of lights and darks as highs and lows is only an optical illusion.... the shape of your object is not being changed. Notice that the sphere in

your preview, while having a surface depth on its face, is actually perfectly round on its edges. Again, bump mapping creates the illusion of surface depth.

Notice that once you add a bump map to the plain default sphere, the highlight in the upper left gets split up, as though the highlight were striking more than one high point on the image.

Next, under your Options dialogue, change your Channel Operation to "Procedural Blend+."

Procedural Blend mode works by applying a particular effect, be it a gradient, a texture, or a composite of one image on top of another, according to light and dark values. This means that the applied texture or effect occurs on the source image with equal intensity of the light and dark values of the source image.
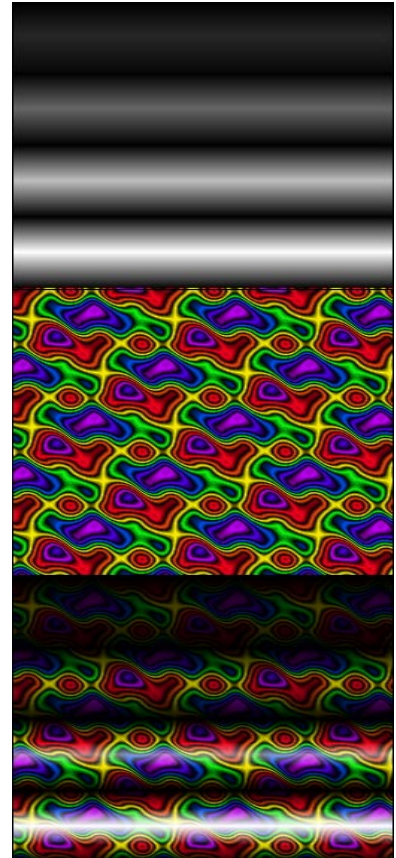
Now, you can see your Preview Window showing your source image through, with the effect of distortion (due to the curvature of the sphere), along with specular highlights hitting your bump map. Apply this to check out your glass ball.

Try this variation:

Start with an image and it's circular selection, as above. Launch the KPT Spheroid Designer to the Default Setting.

Now, change your active light source color to black. Yes, that's right, black. With this setting, you won't see anything in your preview window except the specular highlight.

Next, change your channel operation to "Screen." Here comes the discussion on screening... Think of screen like a stencil. Where your effect is black, your stencil is solid; where your effect is white, your stencil has a hole. Grey levels, then, indicate different levels of solidity.

Thus, where your your sphere is black, nothing will be applied to your image, and you should see this in your preview. However, given that your specular is white, you will be applying that white to your selection. This will add a white specular onto your curved image.

Now, add bump mapping to taste, as this will fragment the specular highlight for more interesting glass effects.
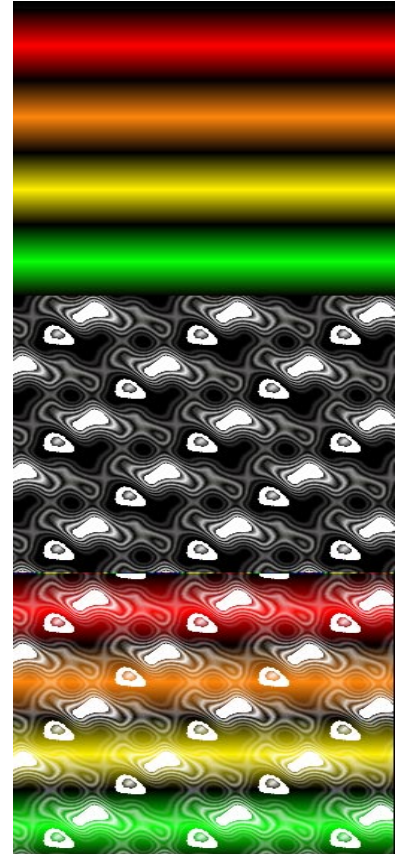
Start with your "Test Image" loaded. Load the Circular selection in from the alpha channel.

Note that simply adjusting the transparency control in the Spheroid Designer does nothing more than make your sphere invisible regardless of bump properties and light sources.

Load Up the Plain Default option from the Spheroid Designer. Start by adding bump properties with the bump control. Dune Ridges works well for this.

Change your apply mode to "Procedural Blend+"

With a single white light source, set your ambient light in the lower quarter range, say 45%-60% (remember, the ambient light goes to 200%), and your highlight to its midrange, around 50% (this control only goes to 100%).

There you have it.... glass. What you'll see at this point is a spherized version of your image, with specular highlights striking the bump properties of your object.

Variations:

Try this with different bump maps, or your lights turned to black lights, only with stronger specular... this will exagger-ate the specular highlights of the bumps, and make the transparency have more contrast.