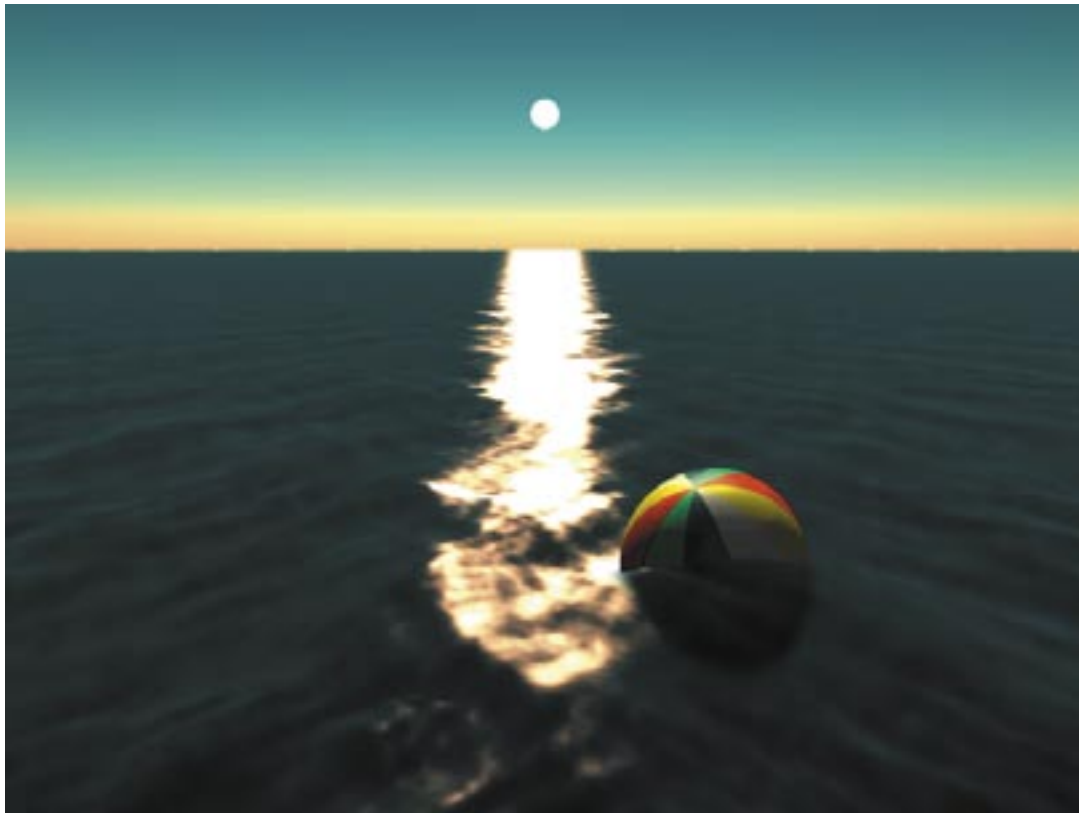




Float a Beachball in Psuanmi

How to composite objects into
Psunami's water surface



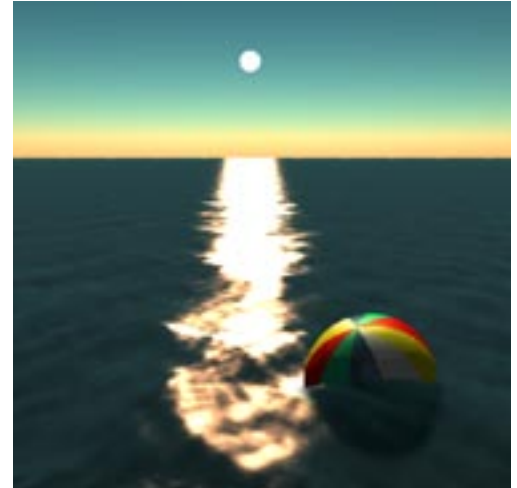
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Float a beachball in Psunami's waves

In this tutorial, we will go over how to place an object along Psunami's ocean surface. You and I will make a nifty beachball, then make it float in the Psunami waves.

step 01: create a composition

For this tutorial, we will use an After Effects composition set to 720x540 NTSC with a Square Pixel aspect ratio. In After Effects, create two new compositions. Set them both to the NTSC D1 Square Pixel composition preset. Name one composition 'Beachball' and the other one 'Final.' Each composition should be 5.0 seconds long using a 29.97 frame rate.



The final image: A bobbing ball.

step 02: make a beachball

Open the Beachball composition. To make 10 stripes, we'll need 10 solids that are 72 pixels wide and 540 pixels tall. Create 10 separate solids using those dimensions and color them as you will. I made 5 different colored solids, arranged them in a row, then just duplicated them and positioned them until they filled the entire frame.

Here are the X positions that I used to create an evenly striped texture:

| Solid # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| X Position | 36 | 108 | 180 | 252 | 323 | 394 | 466 | 538 | 610 | 682 |

step 03: inflate the beachball

Once you get a nice pattern extending across the composition, drag the 'Beachball' composition into the 'Final' comp. Select the 'Beachball' comp and apply the CC Sphere filter; go to Effect> Perspective> CC Sphere.

NOTE: If you do not have this effect, you can install it FREE from your After Effects installation CD's Third Party plug-in folder. The Cycore (CC) effects are free and very fun to use.

Once the filter is applying, change these settings: Set the Sphere radius to 63. Set its Offset to 640 on X and 370 on Y. Then walk away from the ball, er.. filter. We'll come back to the beachball animation a bit later.



Our beachball texture map

step 04: apply psunami

Create a new Solid layer (New> Layer> Solid). Select the Solid and go to Effect> Digital Anarchy> Psunami to apply our filter. A default water scene will appear. This tutorial will use the Default setup, but our technique will work with all of the included Psunami presets or ones of your own design. Name this layer 'Psunami'.

We are going to sandwich the beachball between two layers of Psunami water. Then we will create a third Psunami layer to show a shadow as the ball passes across the scene.

step 05: top of the sandwich

Set up Psunami as you normally would, and set the Rendering mode to Realistic. Again, this tutorial is only starting off from the default settings. Drop down to the Primary waves section and set Wind Direction to 0°. This will make the water flow from right to left, which is how we will animate the ball.

Duplicate the Psunami layer. Put this duplicate layer above the Beachball comp in your timeline, and move your initial Psunami layer underneath the Beachball if it isn't there already. Name the top-most Psunami layer "Front."

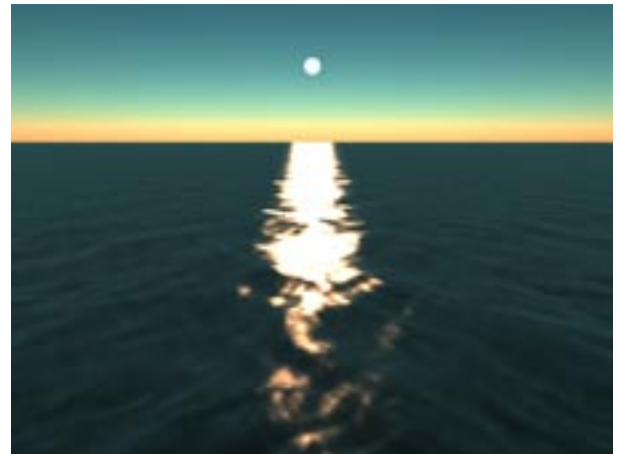
Open up the Psunami parameters on the Front layer. Pop open the render options section. Switch the Render What pop-up menu to Water Only to Max Distance. Set the Max Distance (KM) parameter to 0.055.

This will make the top layer of Psunami only render the water, and will have the rendered water cut off at a certain point while retaining the wave distortion at the edge of the rendering area. At this point, you should see the beachball poking up between the Front Psunami layer and looking very out of place; you now have the Beachball sandwiched between the two Psunami layers making it look as if it was actually in the water.

step 06: bobbing with the ocean breeze

We now need to light and animate our ball to properly fit the object into the Psunami scene. Let's start with animation.

Key the CC Sphere Offset parameter to go from 640 at the very beginning of the clip to 185 at the end of the comp. Set a keyframe for the actual Beachball layer's position at both the beginning and end of the clip, so that each keyframe has the same value.



Psunami with Wind Direction tweaked.

You now have a beachball floating across the screen. At 19 to 20 frame intervals, key the Layer position parameter to move up and down on the Y axis by about 8 to 10 pixels. So 19 frames out of the beginning of the clip, key the Layer position to 278 on Y. Then 19 frames later, key it back to a value around 270.

Vary the values a little bit for a more 'organic' bobbing animation. Keep the keyframes evenly spaced between the beginning and end keys.

step 07: rolling around aimlessly

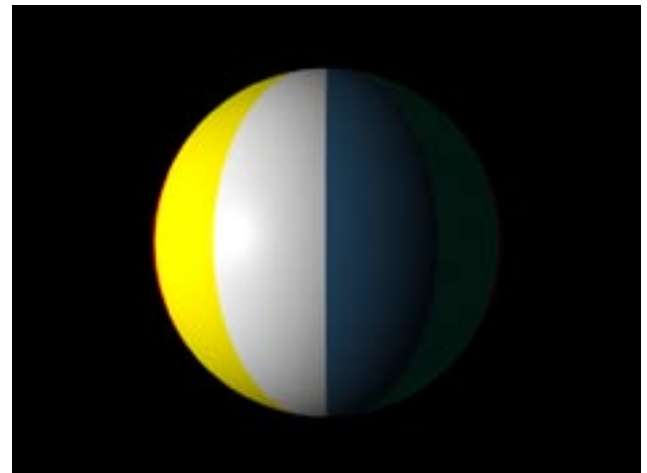
You can mimic the rolling effects of the ball moving through the water by lightly animating the Y and Z rotation values in CC Sphere. First, set the X Rotation to 14 for a more 'dynamic' beachball pose. Key the Y Rotation to spin about 300 to 360 degrees over the course of the composition. Key the Z Rotation to bounce between values of around -10 and 30 for a slight back-and-forth motion.

You should now have a beachball meandering across the water in the same direction as the waves, half obscured by the front water layer. We're almost there!

step 08: light the ball

The Beachball needs to look like it is wet and be shaded to fit in with the environment. These settings are for meshing the beachball into the Psunami default lighting, so adjust them as necessary for your own compositions.

Set the Light Intensity to somewhere around 118 and 120. Make the Light Color a light yellow, or use the color eyedropper to select a yellow from the horizon colors. Set the Light Height to about -30.



Default CC Sphere applied to our texture map.

The Light Direction will have to be animated as the ball is moving around in front of the light source. Using the position and animation values here, set the Light Direction to -25 and key it at the beginning of the comp. At the end of the timeline, set Light Direction to 25. Now as the ball moves across the screen, the light source should adjust itself to the position of the sun.

step 09: shade the ball

Pop open the Shading parameter set in CC Sphere if it isn't already open. We need to define how the ball interacts with the light, also known as adjusting the shading.

Set the Ambient parameter to about 20. Set Diffuse to 100. This will decrease the amount of contrast present on the ball and tie it into the global lighting in the Psunami water.

Set the Specular setting to 53. Set Roughness to 0.081, and set Metal to 6.0. These shading settings will make the ball look smooth and wet with a sharp highlight glinting off it's surface. Tweak them to come up with different surface shading settings, maybe make a steel or iron beachball (they might not float in real life, but hey, we all have an artistic license, right?)

step 10: follow your shadow

So we now have a happy little beachball floating across the screen... but something is still not right. The ball isn't casting a shadow! Note how the water highlight stays even though the ball passes across it. We'll fix this with a cunning use of masks.

Duplicate the Front Psunami layer and pre-comp it; select it in the Timeline and hit Shift+Command+C (Shift+Ctrl+C on a PC). Select "Move all attributes into new composition", name the comp 'Shadowpass', and hit OK.

Go into the Shadowpass composition and open up the Psunami effect controls. Change the Max Distance to 0.6 even. This will give you some room to blend the mask into the final footage without any hard clipping edges.

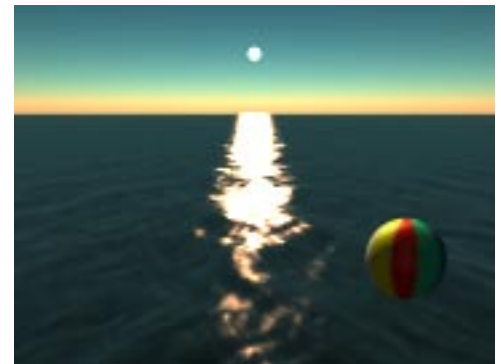
Head down to the Light 1 parameter set and twirl it down. Set the Light Affects pop-up to Air. This will get rid of the glittering highlights in the water.

Add a Levels filter and tap the Black level in a bit to slightly darken the water. This layer is now ready to be masked.

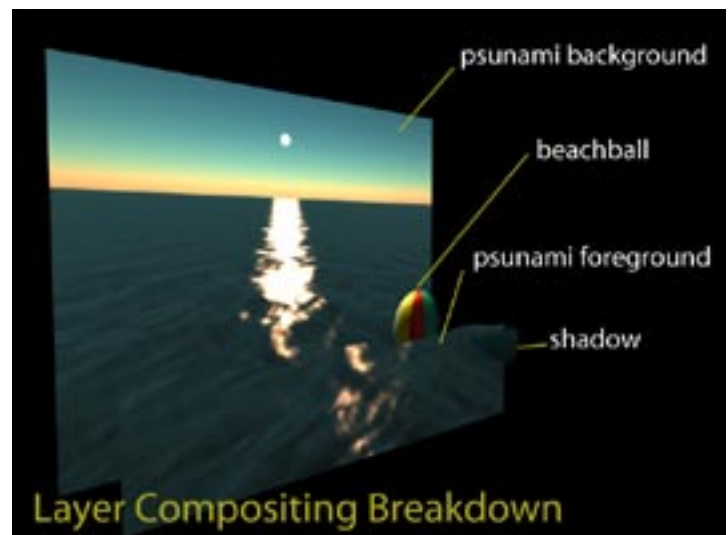
step 11: a bit of masking

Head back to the 'Final' comp. Go to the beginning of the Timeline and select the 'Shadowpass' pre-comp. Select the circular masking tool and draw a circular mask in the general area of your beachball. Set the Mask Feathering to 10 pixels.

You are going to want to make a tongue-shape that starts right at the point where the beachball touches the water, so flatten the top of the circular mask. Place the top-most mask point at the middle

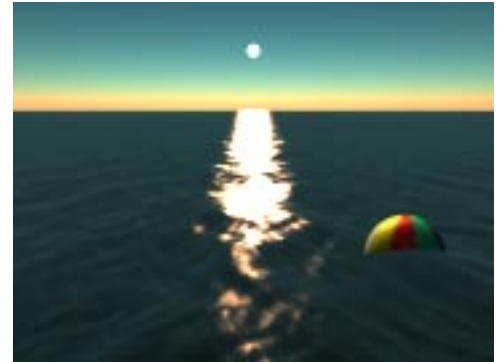


Our ball needs a shadow to pull off the believability of this scene.



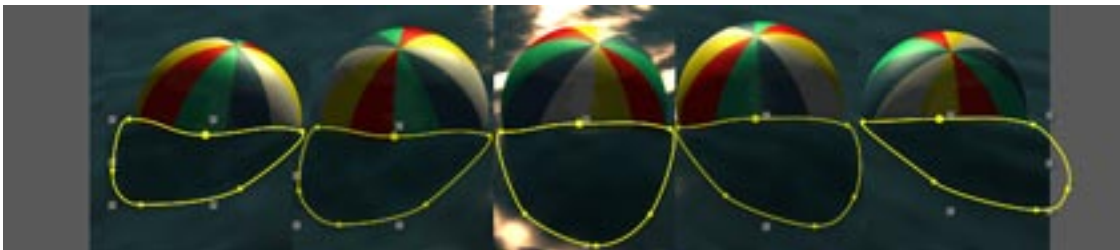
Select the Pen tool and make two Bezier points between the side knots and the bottom-most point. Here's where you get to eyeball the shadow that the ball will make. Take the bottom-most point and drag it so that it lines up in the angle made from the sun to the highlight on the ball. Stretch it downwards to extend the shadow over the water surface, as the default Psunami sun is relatively low in the sky.

Once you have the shadow shaped up, set a Mask Shape keyframe. Move to the end of the timeline, double-click on the mask so you can move it all at once, hold down Shift to lock the axis and drag the mask across the frame until the top three points match up to the beachball.



Our scene is more believable with a wave lapping over the beachball.

From here, move the bottom points until they meet up with the new angle created between the sun and the ball highlight, so more off to the left of the frame. The shadow will now animate along with the ball across the water, and will obscure the water highlights down the center of the frame when the ball passes over them.



How the mask should look like over time.

step 12: final suggestions

Sit back, relax, and enjoy the beach time. After you get the mask animated, you will have a happy little beachball floating across the Psunami water surface. You've successfully composited an element within the waves using the main compositing method built into Psunami Water.

To really sell the placement of the object, you can always use an animated displacement map along with your water layers to place underneath your comped object. We have a separate tutorial that covers using a displacement map in Psunami. That tutorial can be found here: http://digitalanarchy.com/psunami/psunami_tutes.html

Have questions about this tutorial? Just email Marco at marco@digitalanarchy.com. Thanks!