Party Monkey

Introduction

Create a 3D model of a monkey wearing a party hat using Blender.

What you will make

Here is how your finished piece will look:

What you will need

Hardware

- A desktop or laptop computer capable of running the Blender software

Software

- [Blender](#) (v2.73 or higher)

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Step 1: Zooming and rotating

✅ Activity Checklist

☐ Open Blender.

When you open Blender, it starts with a splash screen. The splash screen of Blender v2.76 looks like this:
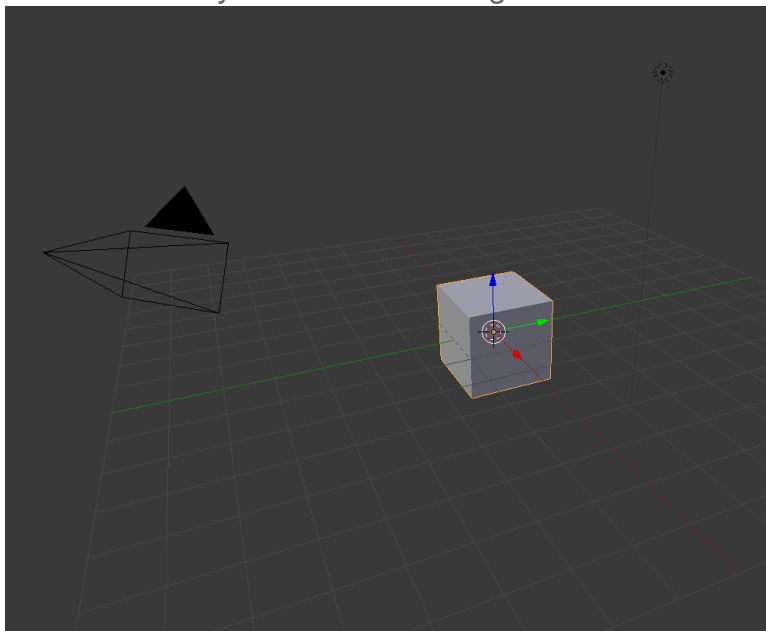

For this tutorial we won't be needing the splash screen.

☐ Click to the right of the splash screen to make it disappear.

In the centre, you'll see the 3D view. In this space you'll be positioning all the items that need to be displayed or rendered. You have three different items in the 3D view already. We will be looking at those later.
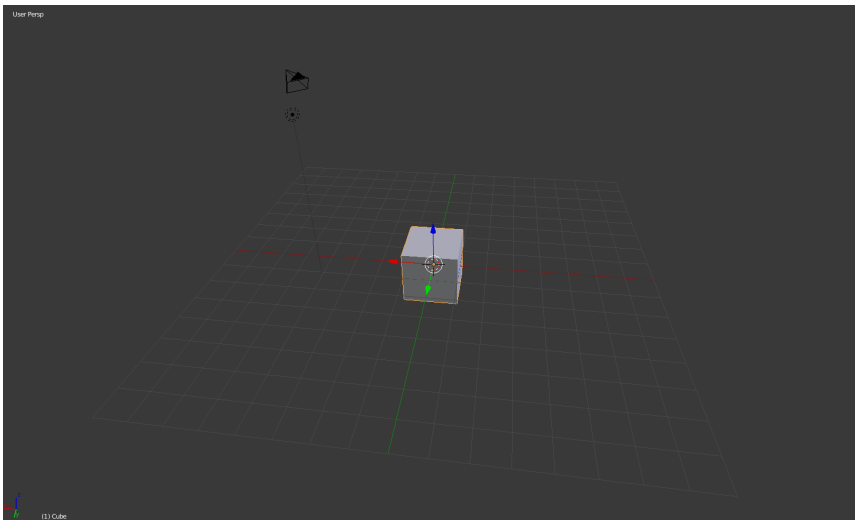

In the 3D view, you can zoom in and out using the mouse wheel.

☐ Try to zoom in and out of the cube.
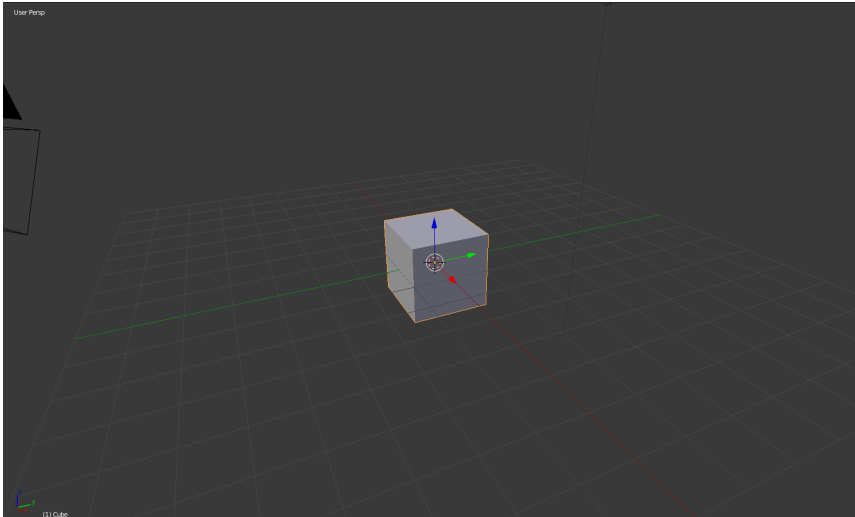
You can rotate the whole scene by pressing the middle mouse button or the mouse wheel and rotating around.

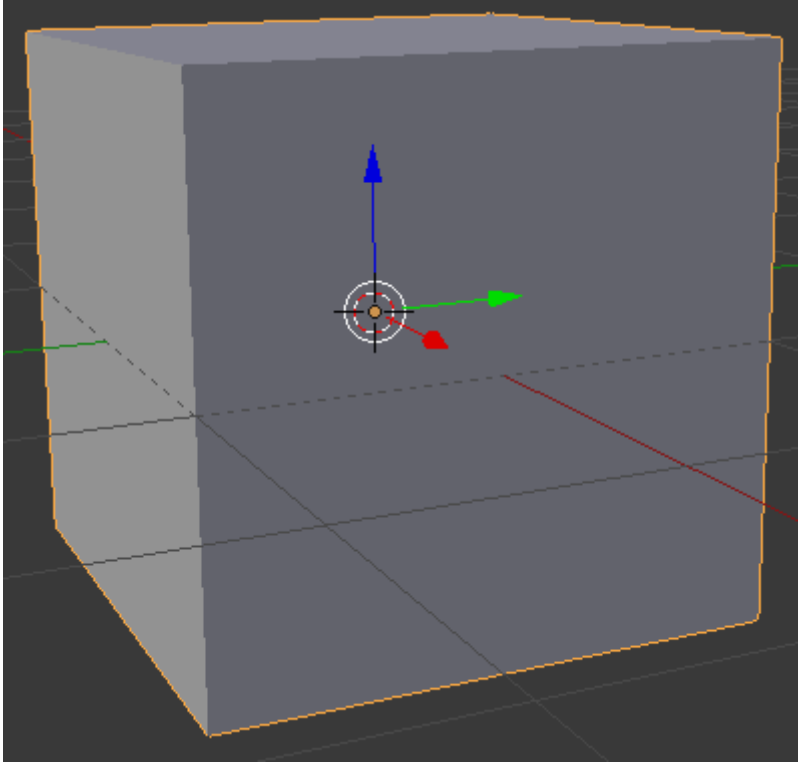☐ Try rotating your scene.

Step 2: The 3D scene

In the 3D view you have your 3D scene, which looks a bit like what you might see in a computer game for example.

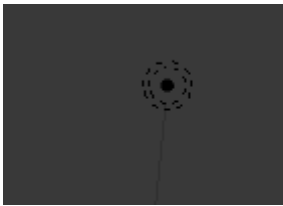There are three main components in the 3D scene that we need to understand to get started.

A cube in the centre

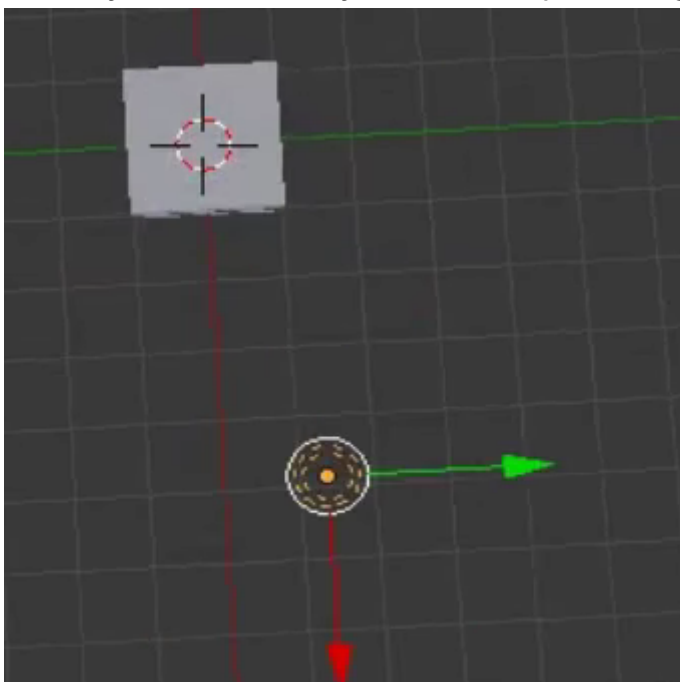This is what is going to be rendered and shown in the image.

A light source

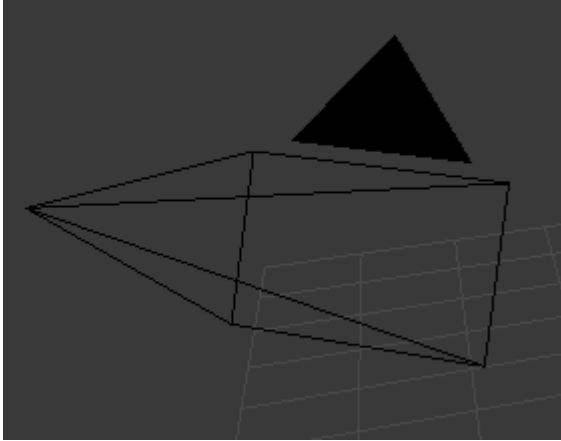By rotating the scene you can see the exact position of the light source.

✅ Activity Checklist

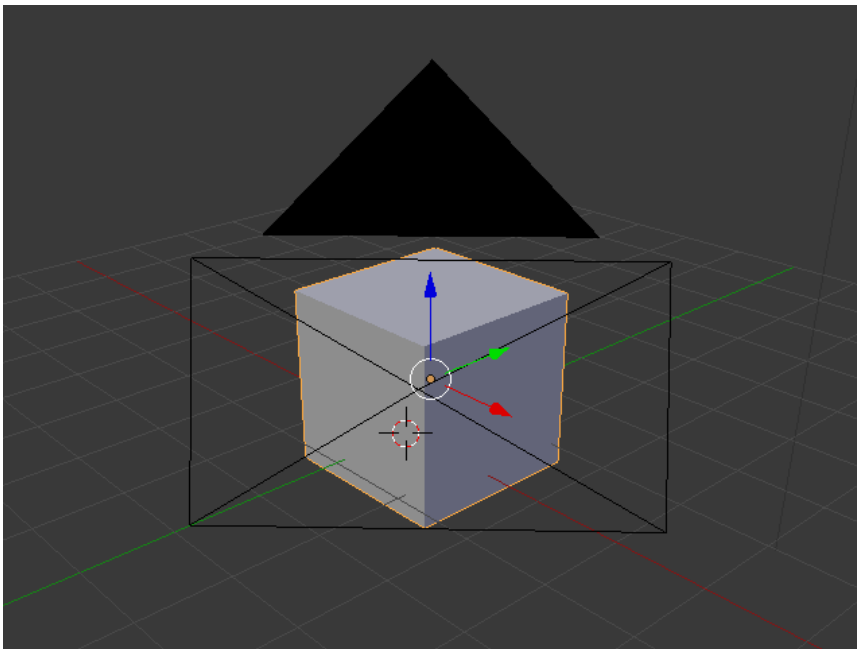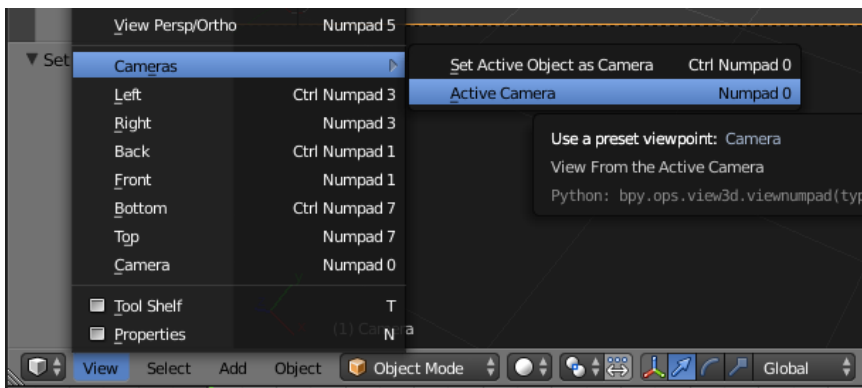☐ Rotate your scene until you see the top of the light source.

A camera

This is from where you will see your scene.

Rotate your scene so that it is behind the camera. An easy way to do this is to press `0` in you number pad, or go to `View` > `Cameras` > `Active Cameras`.

You will see a nice picture of the side of the cube.

Step 3: Rendering

Rendering is the process of generating an image from a 3D model.

☐ Render the scene by pressing `F12`. If you're working on a Mac, press `FN + F12`.

You can see that the top and right side of the cube are lit, but the left side is dark. That's because the light source is on the top right side of the cube.

☐ Press `ESC` to get out of the render view.

Step 4: Selecting and moving

To select an object in Blender, you'll have to use the right mouse button. In most other software you'd be using the left mouse button to select an object, but in Blender it's the right one.
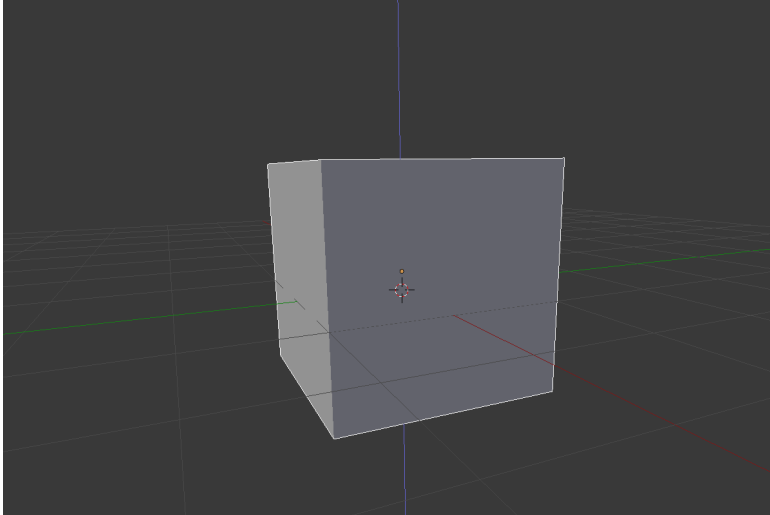
☐ Select the cube with the right mouse button. You'll see an orange border around the cube.
In Blender you can move objects by using the blue, green, and red handles: The blue handle to go up and down on the z-axis, the green handle to go left and right on the y-axis, and the red handle to go in and out on the x-axis.
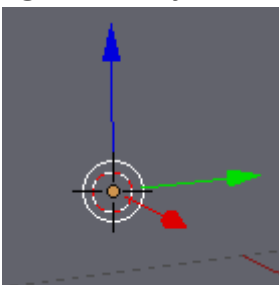
☐ Move the cube up by pressing the blue handle with the left mouse button and moving it up. When you press the blue handle, you'll see a blue line appear. Move the cube along the blue line.

☐ Move the cube to the right by pressing the green handle with the left mouse button and moving it to the right. When you press the green handle, you'll see a green line appear. Move the cube along the green line.
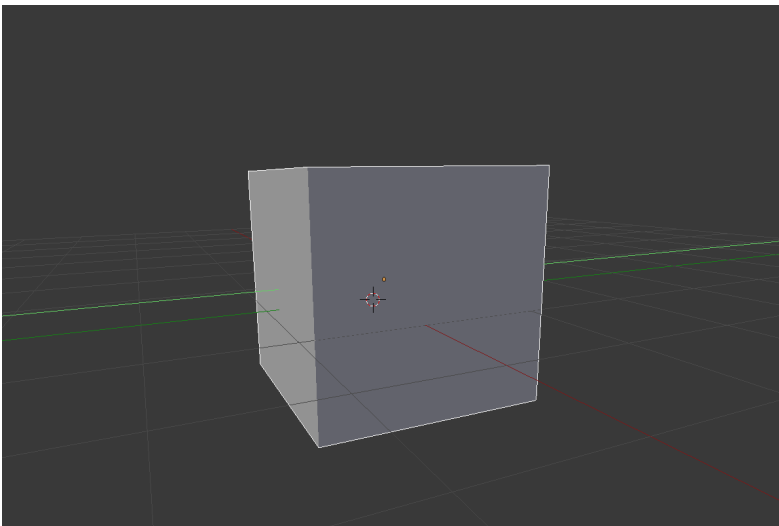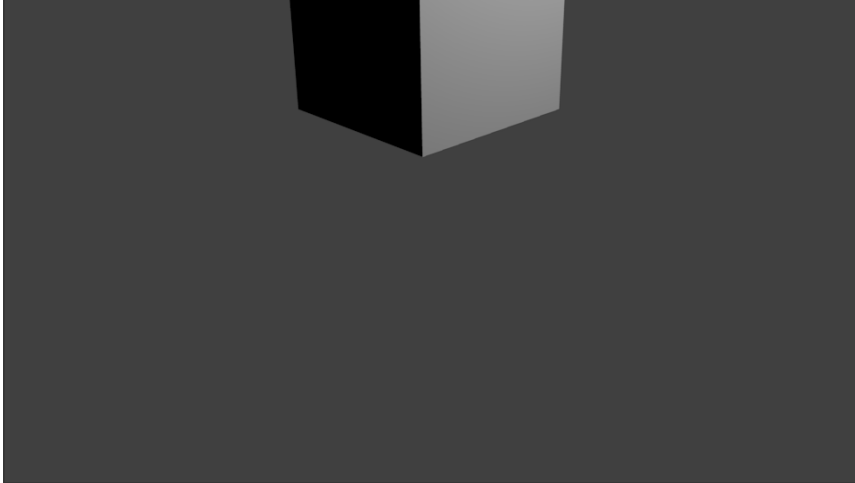

☐ Move the cube in or out by pressing the red handle with the left mouse button and moving it back and forth. When you press the red handle, you'll see a red line appear. Move the cube along the red line.
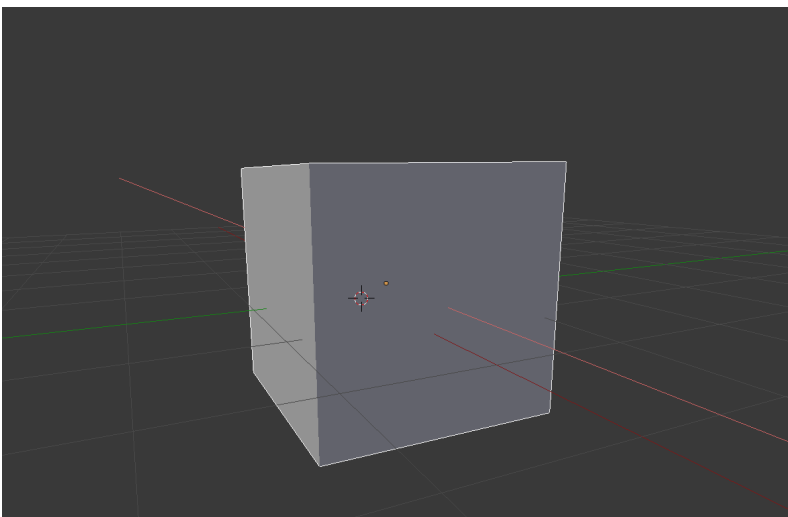
☐ Move the cube around your scene to a different position.
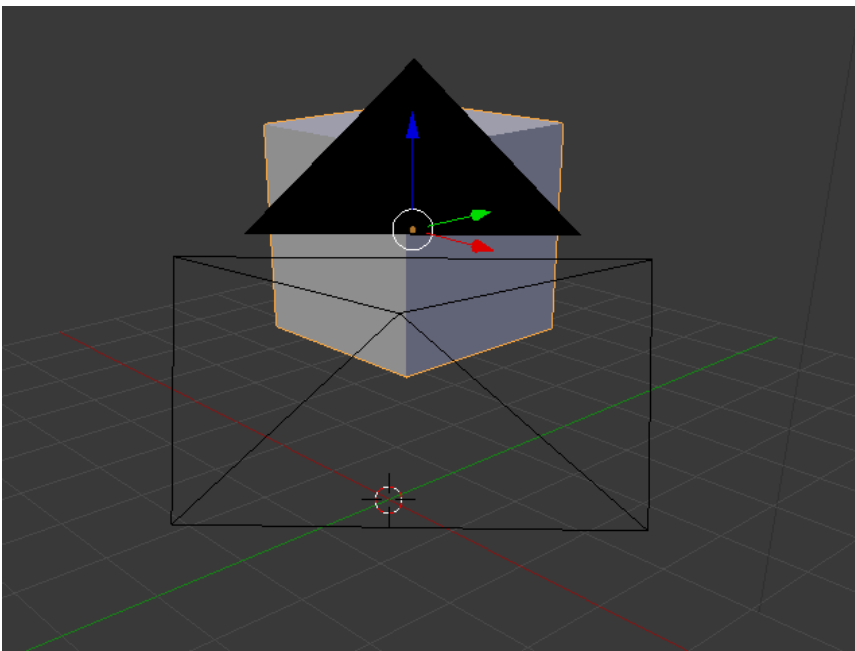
☐ Go to the render view to see what it will look like. For example:

You might see nothing or only part of the cube. This means that the object is not (completely) in the camera's view.
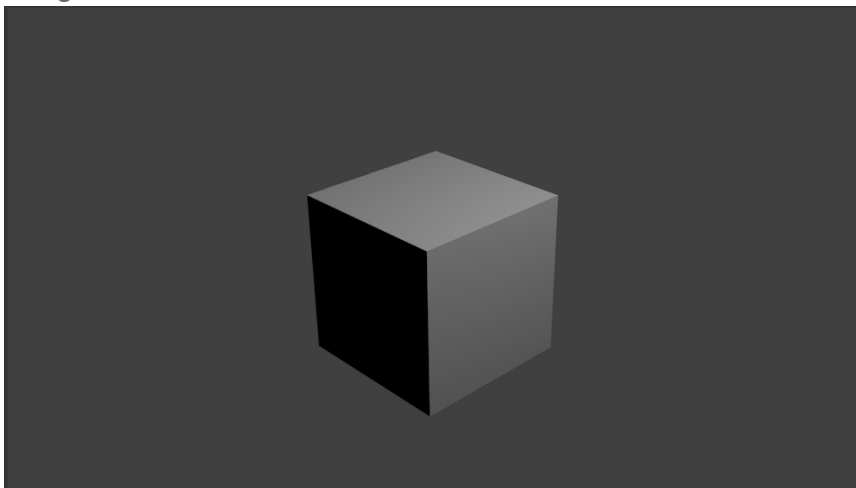
☐ Press ESC to get out of the render view.

☐ Move the 3D scene with the middle mouse button to behind the camera. For example:

Move the cube using the blue, green, and red handles such that you can see the cube from behind the camera.
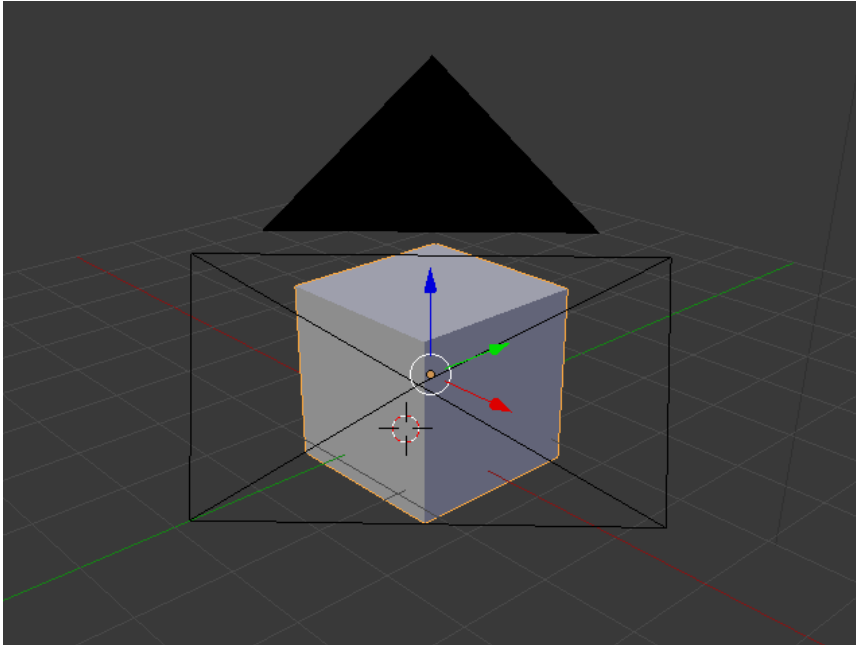
Render again to see how your image looks. You probably will see the same image as before.

Press ᴇsᴄ to exit the render view.

Step 5: Add a monkey

We won't be needing the cube, so let's remove it.

✅ Activity Checklist

Select the cube with the right mouse button. An orange border should appear around the cube.

Make sure your mouse is in the 3D view.

Press   x to delete the cube.

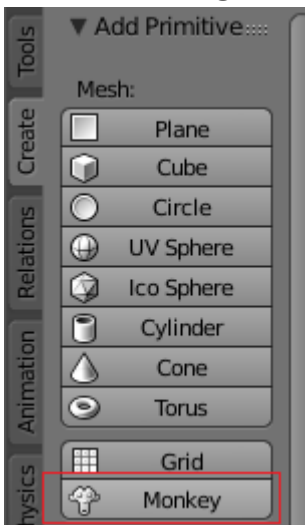You'll be asked whether it's OK to delete the object.
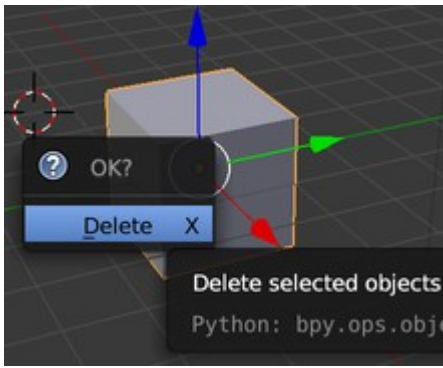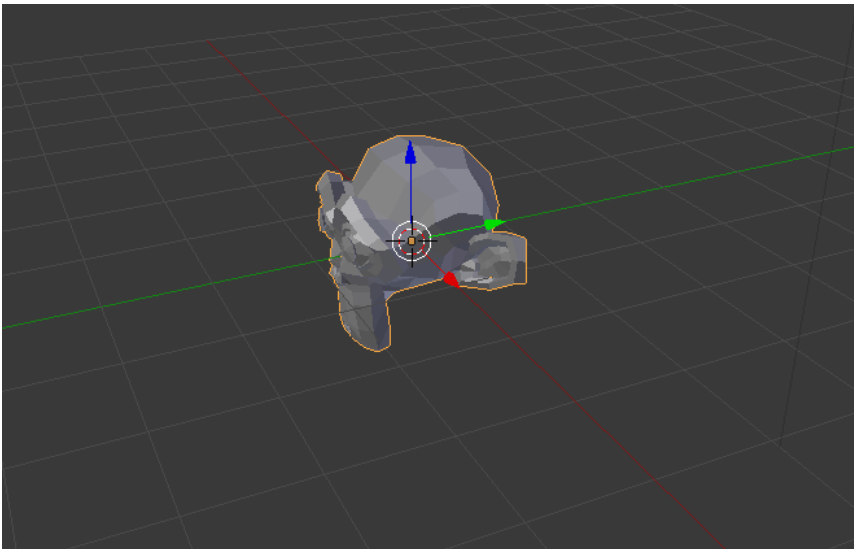
Select **Delete** or press `Enter`.

To add objects to the scene, you can use the toolbox on the left. The toolbox on the left contains a **Create** tab that has a selection of things that you can add.
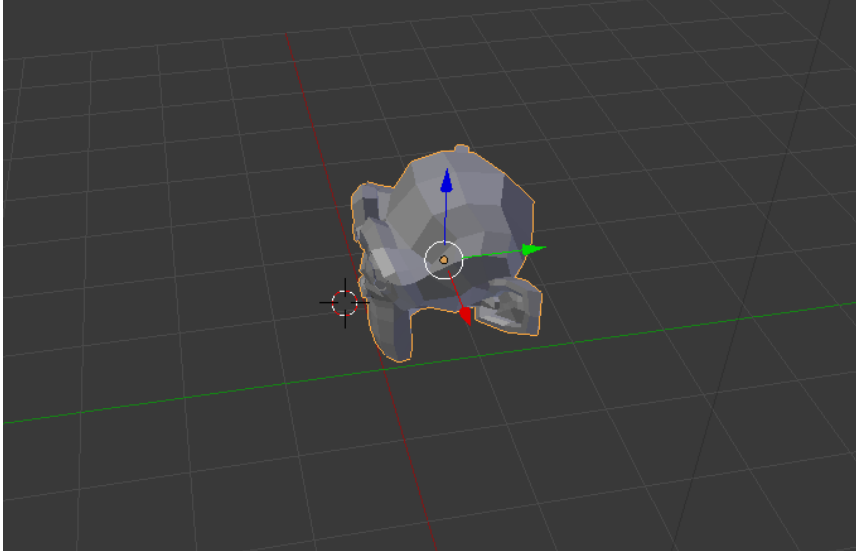
In the toolbox, go to the **Create** tab and select **Monkey**.

A monkey appears in your scene.

Position the monkey in front of the camera just like you did with the cube, so that we can see it after rendering. You can use the blue, green, and red handles again to move the monkey.
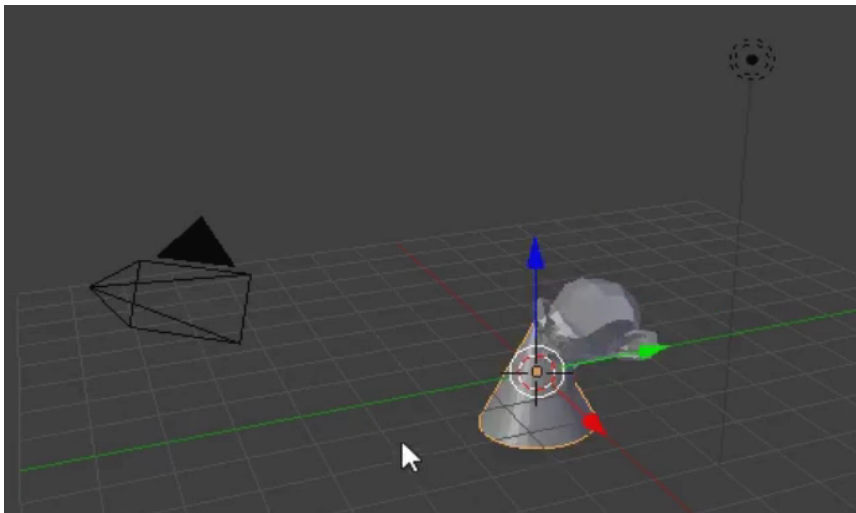

Step 6: Add a hat

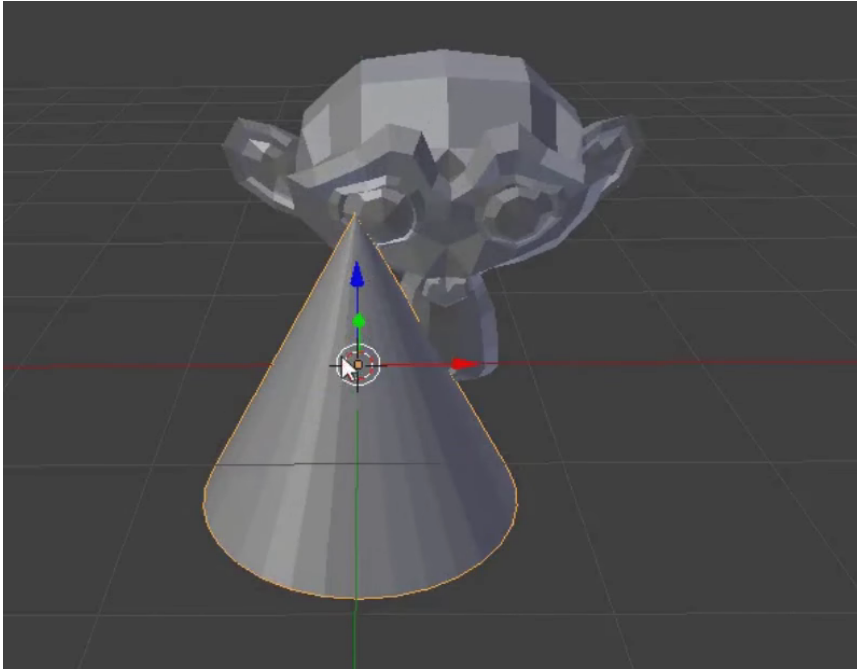We can also add a hat. For this we will use a cone.

✅ Activity Checklist

Select **Cone** from the **Create** tab.

A cone should appear in your scene. Now you have a monkey and a cone.

Now the cone needs to be positioned on top of the monkey.

Rotate and zoom a bit towards the cone and the monkey to have a better view on both objects.

Select the cone using the right mouse button. Again an orange border should appear around it.

Use the blue, green, and red handles to move the cone on top of the monkey. You might have to rotate and zoom in or out to get a proper view.
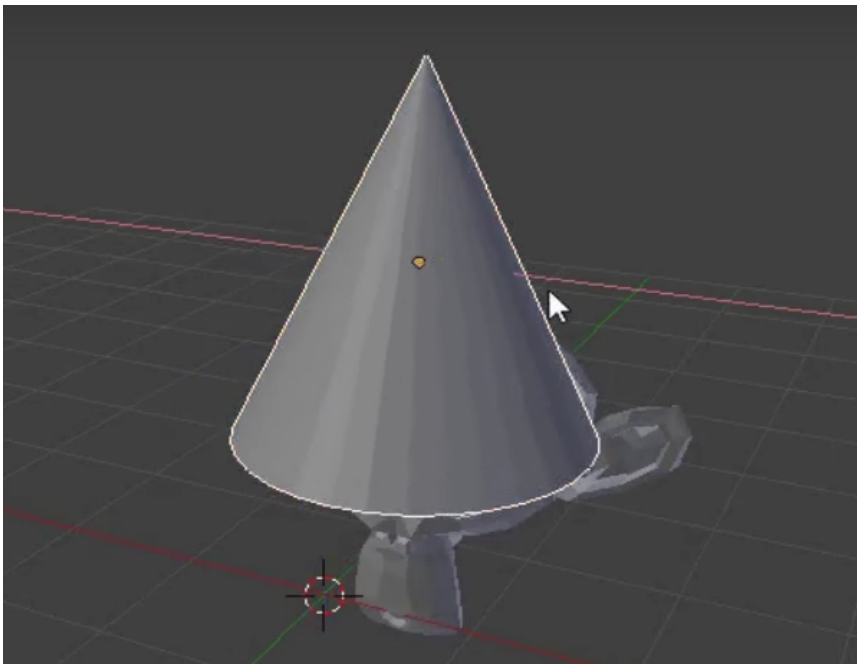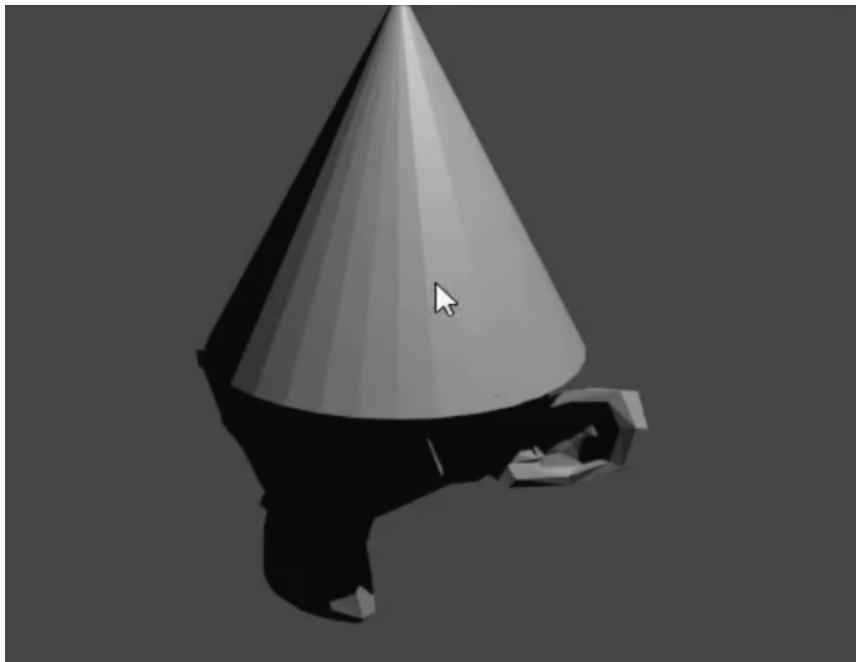
☐ Check from different angles if the the cone is positioned properly on top of the monkey.
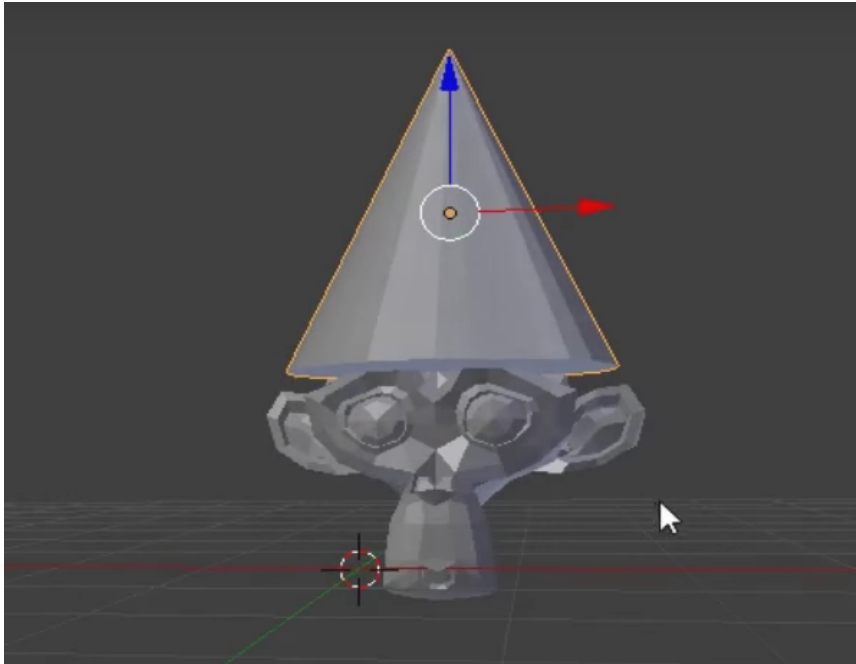
Now we need to see what it looks like.

☐ Render the image.


The image shows that the monkey is not very well lit.

☐ Press ᴇsᴄ to exit the render view.

Step 7: Change the lighting

We need to move the light to shine upon the front of the monkey.

✔ Activity Checklist

☐   Select the lamp with the right mouse button. Check for the orange border.

☐   Move the lamp using the handles so that it is shining on the front of the monkey's face.

☐   Render the image again.

☐   Check whether the monkey's face is well lit, like in the image below.
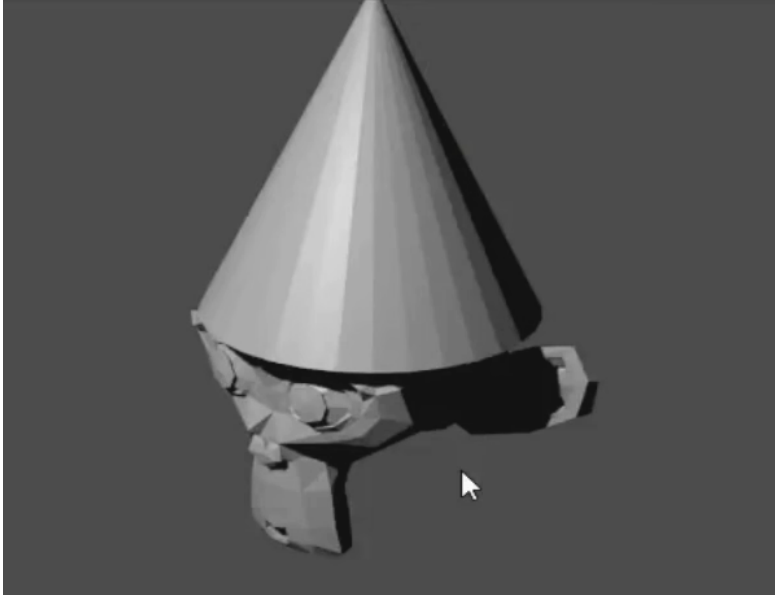
☐   If it isn't, press ᴇsᴄ and move the lamp a bit more towards the monkey's face.

Challenge: a new scene

- Add more objects from the **Create** tab in the toolbox.
- Move the objects around, creating a different scene.
- Add a disco ball to the party scene.
- Add a rim to the party monkey's hat.