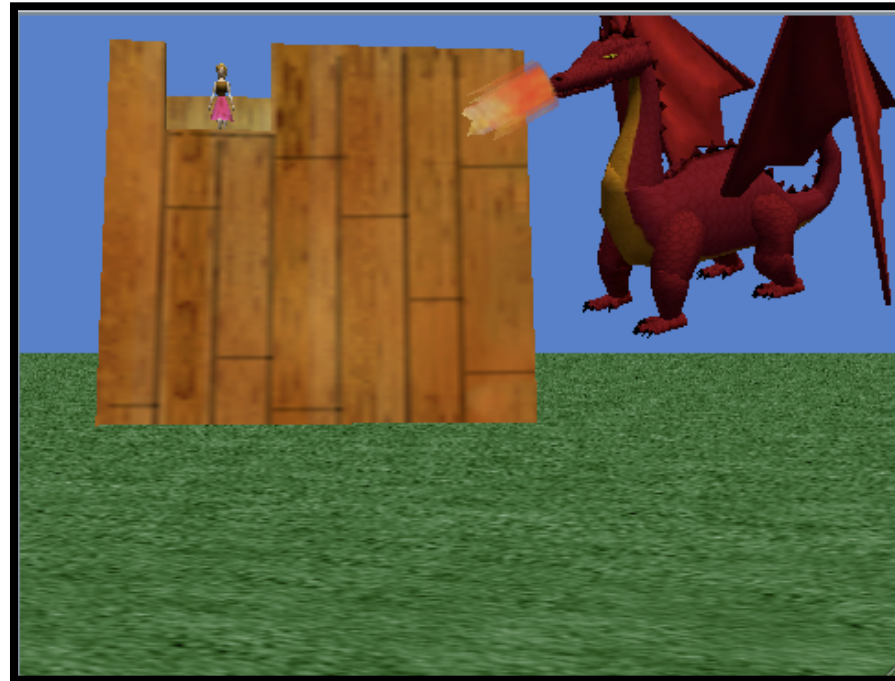


# Princess & Dragon

## Part 4: Breathing Fire—Adding Effects to Alice



By Elizabeth Liang  
under the direction of  
Professor Susan Rodger  
Duke University  
June 2010

## Introduction

*Welcome to Part 4 of the Princess & Dragon tutorial. In Part 3 we covered how to create an event to change camera views as well as introduced you to functions.*

Part 1: Objects

Part 2: Methods & Properties

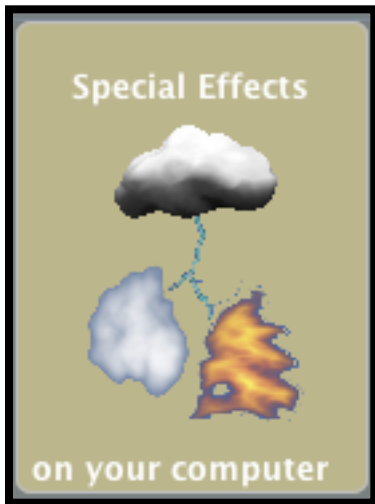
Part 3: Cameras & Events

Part 4: Billboards, Sound, & 3D-Text

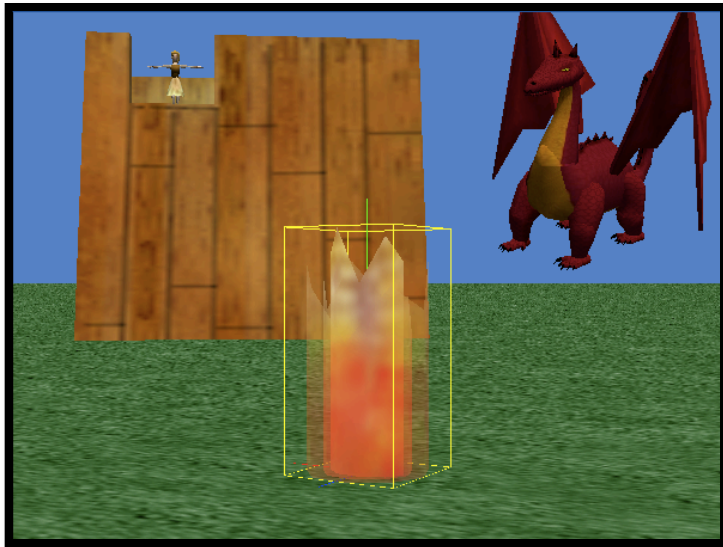
In Part 4 we'll add more events, tying them to 'special effects' in Alice to make the animation more realistic.

This will cover billboards, sound, and 3D-text.

## Step 1: Fire Object



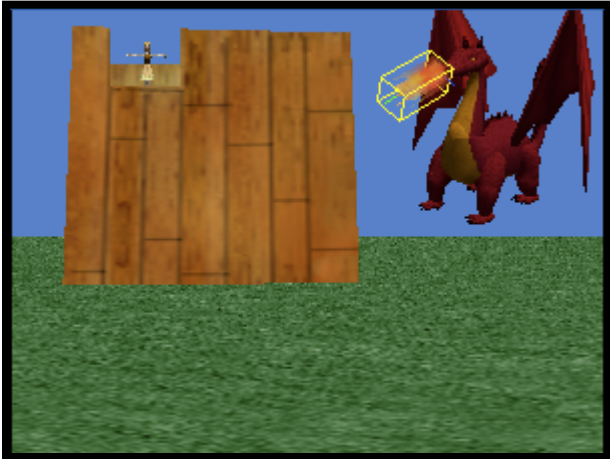
*The first thing we want to do is have the dragon roar and breathe fire. We'll do this by reviewing some of the techniques from parts one through three as well as introduce a new type of event and show you how to integrate sound into your Alice worlds.*



Click on **Add Objects** to access the gallery. Find the **Special Effects** folder in the **Local Gallery**.

Find the **Fire** object and **add an instance of it** to the world.

## Step 1: Positioning the Fire



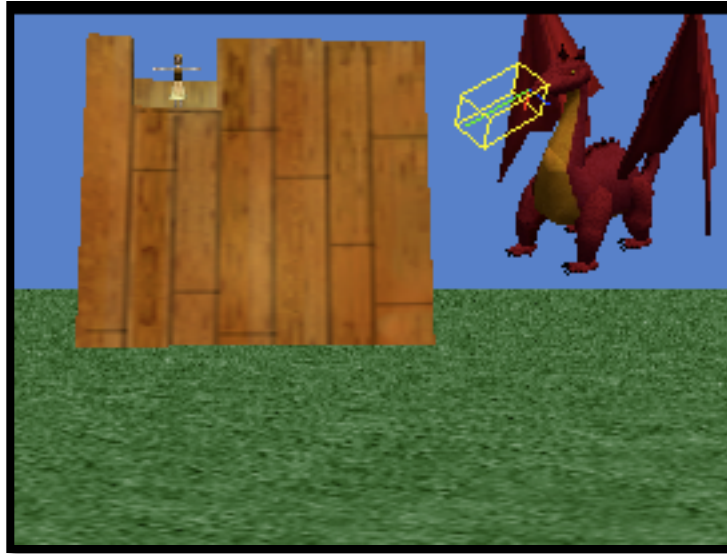
Use the **positioning tools** to move the **fire** to the mouth of the **dragon**.

You will need to use **quad view** to **turn** and **rotate** the **fire** so that the base is at the mouth of the **dragon**.

Click on **done** to exit add objects mode.



## Step 1: isShowing Property



Under the **properties** of the **fire**, set the **vehicle** property to the **dragon**. Remember, this will glue the fire to the dragon.

*Another property that is useful is the isShowing property. Like the name suggests, by setting *isShowing* to *false*, you can make objects disappear. To make them reappear, set *isShowing* to *true*.*

Set the **isShowing** property of the **fire** to **false**.

## Step 1: New Method

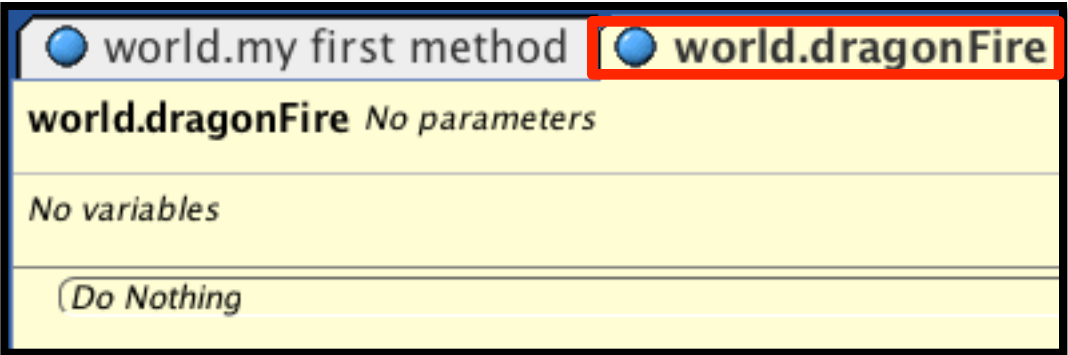


We will create a new method called *dragonFire* to put in our code.

Click on **world** in the object tree.



Click on **create new method** under the **methods** tab and name the method **dragonFire**.



*dragonFire* is a world method because it will use the fire and also sound from the world. Since these objects are different in the object tree, it must be a worldMethod.

## Step 1: isShowing & Wait

fire's details

properties methods func

color =

opacity = 0.6 (60%)

vehicle = dragon

skin texture = fire.texture

fillingStyle = solid

pointOfView = position:

isShowing = false

Click on **fire** in the object tree.

*The first thing we will animate is making the fire appear and then disappear.*

Drag the **isShowing** property into the code and set it to **true**. Put in a **Wait** command and select **1 second**. This will simply make the code do nothing for a second.

Drag in another **isShowing** property and set it to **false**. Set the **duration** of the **isShowing** lines to **0 seconds**.

fire No parameters create new parameter

No variables create new variable

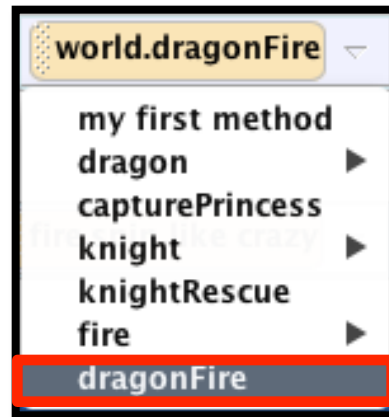
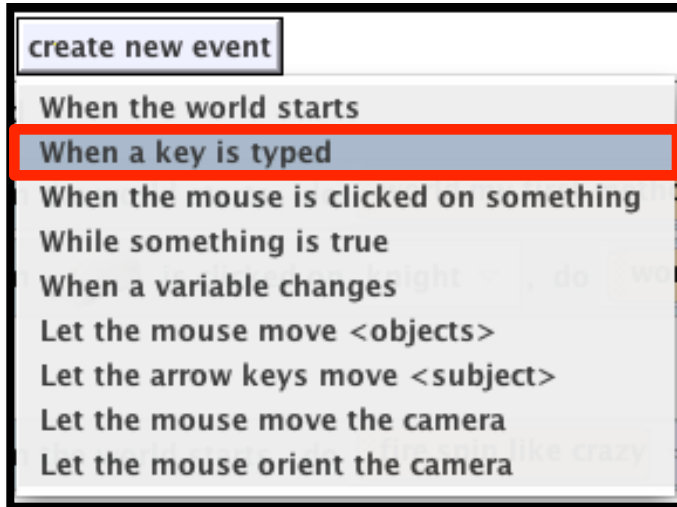
fire set isShowing to true duration = 0 seconds more...

Wait 1 second

fire set isShowing to false duration = 0 seconds more...

Do in order Do together If/Else Loop While For all in order For all together Wait

## Step 1: When Key is Pressed Event

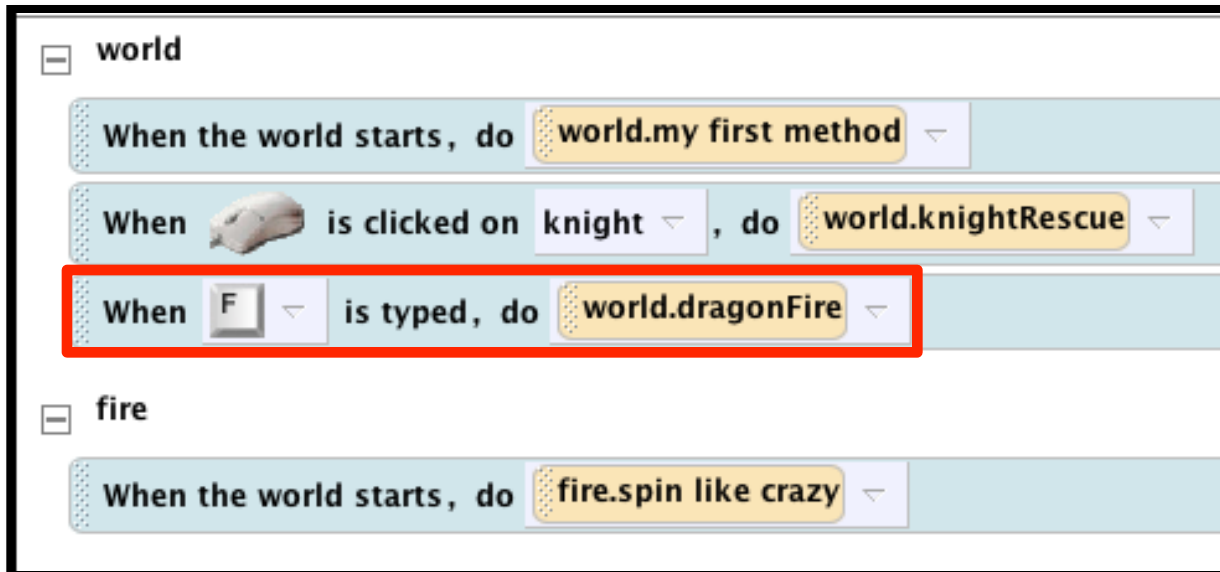


*To make this code run we will create a new event that runs code when a key is typed.*

Select **create new event** in the **event editor**. Select **When a key is typed**.



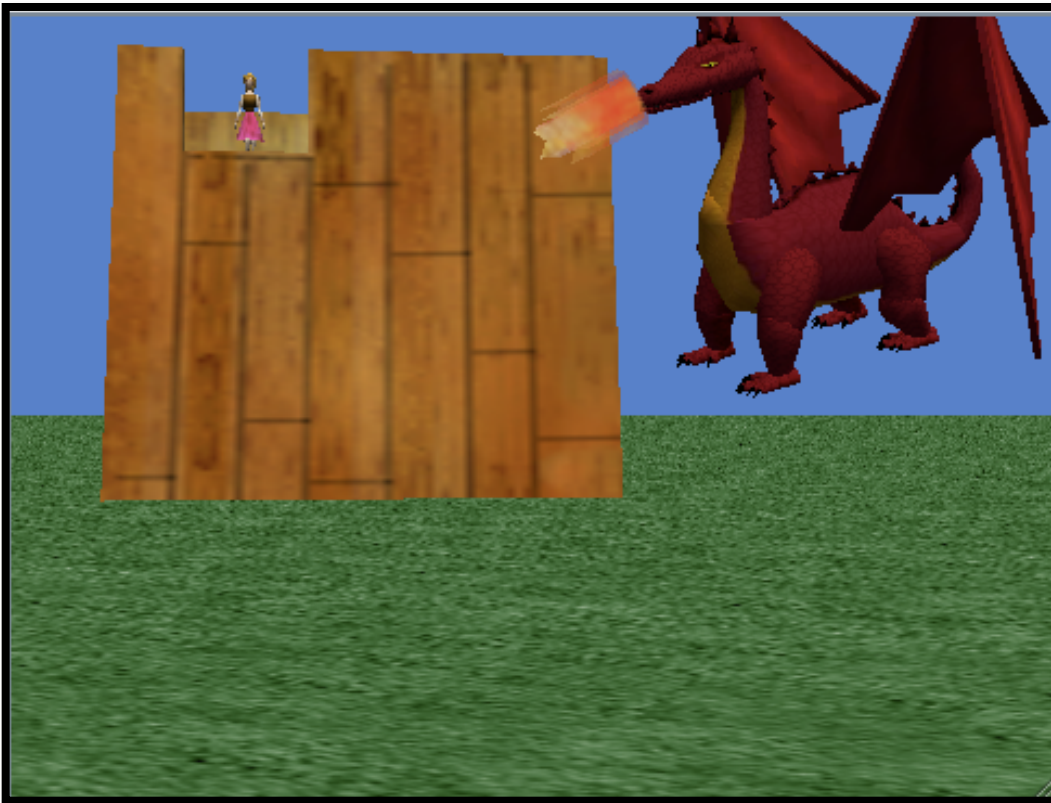
In the first blank, select **Letter** and then **F**. In the second blank select **dragonFire**.



*You will notice that there is a new event in the events editor under fire: When the world starts, do fire.spin like crazy. Some objects come with built in events; in this case this method helps the fire look natural.*



## Step 1: Testing dragonFire



Now **play** your world. When the **dragon** begins to fly around the **tower**, press **F**.

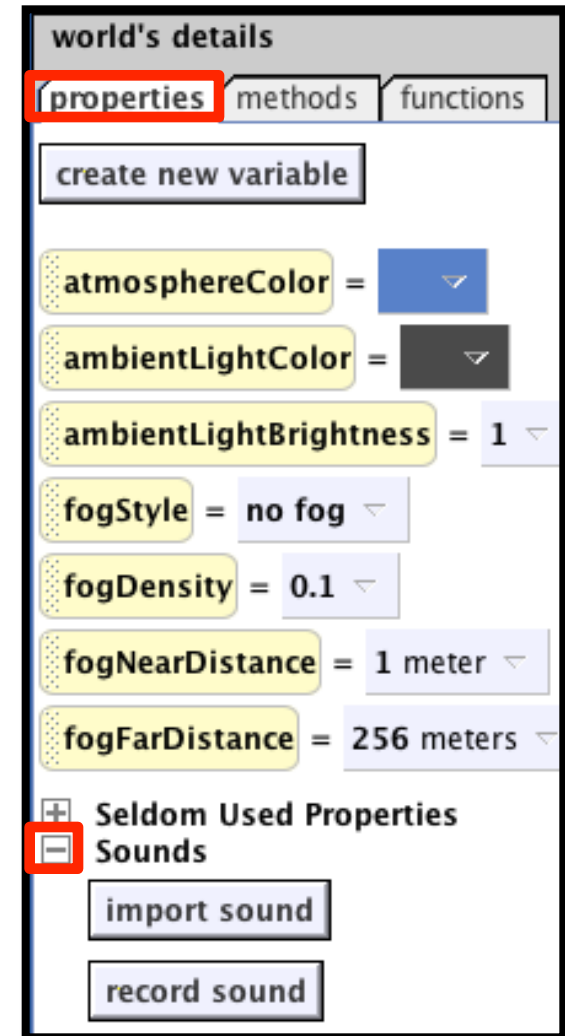
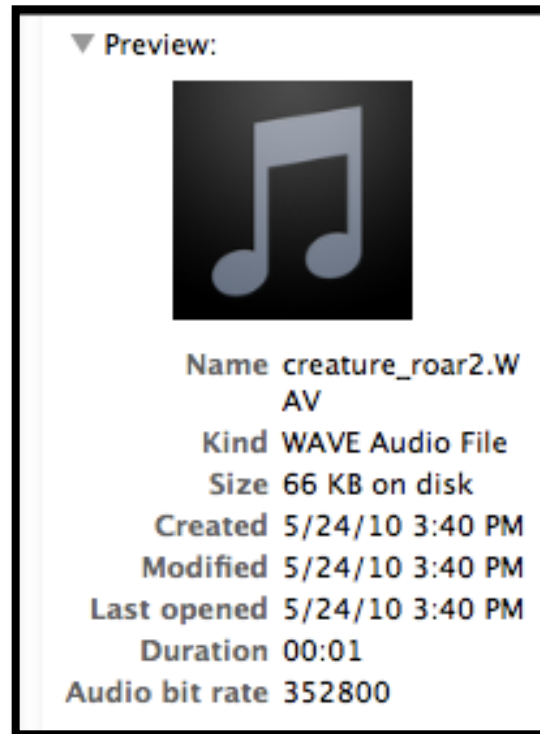
*You will notice that every time you press F, the fire will appear. This happens whether you can see the dragon in the frame or not.*

## Step 2: Adding Sound

If you have not downloaded the **creature\_roar2.wav** file from the tutorial site, do so now and save it in a place you can find it.

*There are many short clips of sounds for free online. Check the terms of use before you use music however. For this particular animation we are looking for a noise that sounds like a dragon and lasts for about a second.*

Click on **world** in the object tree and then on the **Properties** tab. Scroll down until you see **Sounds** and click on the **+** next to it to reveal the sound controls.

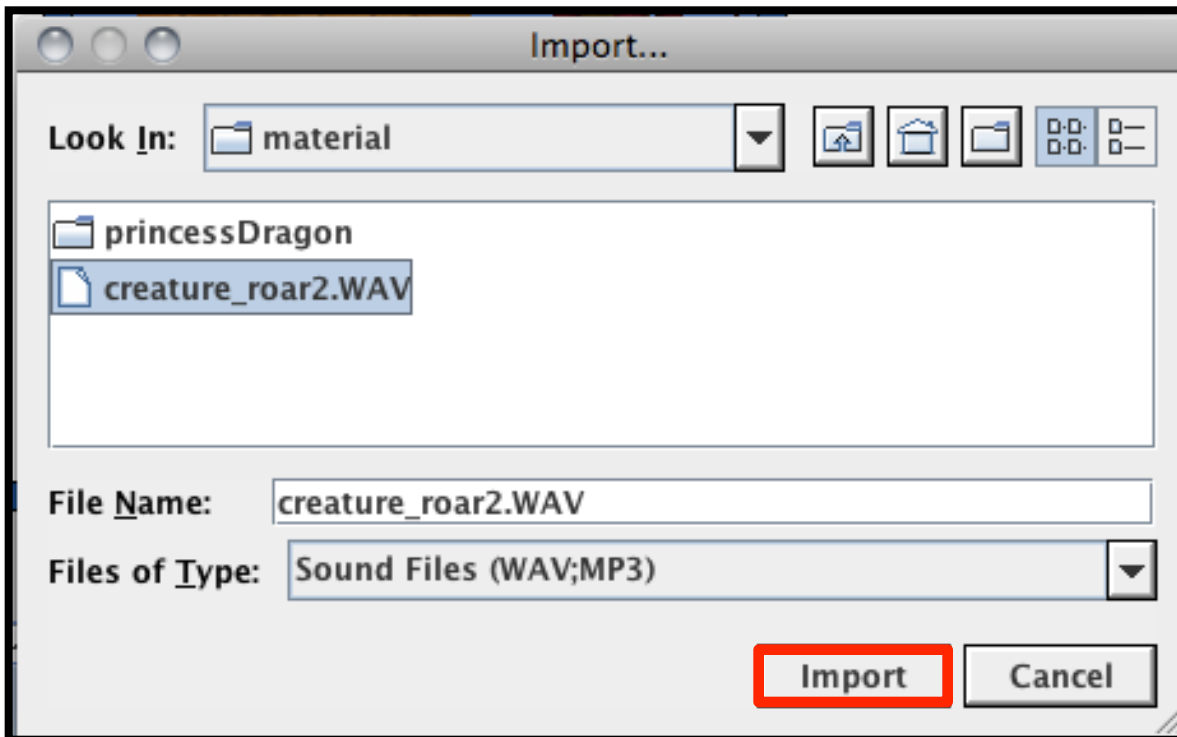


## Step 2: Adding Sound Continued



Click on **import sound** and find the **creature\_roar2.Wav**. Click on **import** when you have found it. You will see that it appears under **Sounds**.

You can preview the sound by pressing the **green play arrow**.



*You will see that you can also record a sound. This feature currently only works on the Alice 2.2 PC version and not the Mac version.*

*An alternative for Mac users is to use another program to record and save the sound and then import it into the world.*

## Step 2: Animation with Sound

*We want the fire and sound to appear and play at the same time.*

Drag in a **Do in order** and put all three lines of code inside. Drag in a **Do together** and put the **Do in order** inside.

Do together

- Do in order
  - fire set isShowing to true duration = 0 seconds
  - Wait 1 second
  - fire set isShowing to false duration = 0 seconds

Do in order Do together If/Else Loop While For all in order For

Seldom Used Properties

Sounds

- creature\_roar2 0:01.394
- import sound
- record sound

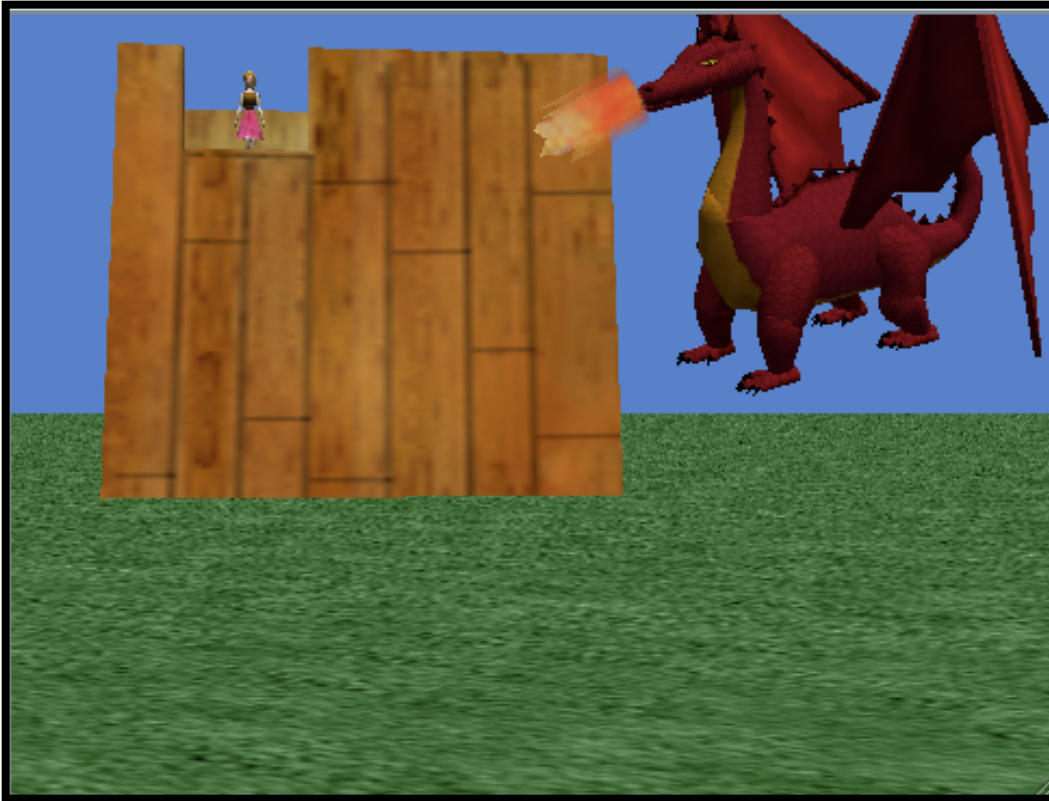
Drag in the **creature\_roar2** clip into the **Do together** outside of the **Do in order**.

Do together

- Do in order
  - fire set isShowing to true duration = 0 seconds
  - Wait 1 second
  - fire set isShowing to false duration = 0 seconds
- world play sound world.creature\_roar2 (0:01.394) mo

Do in order Do together If/Else Loop While For all in order

## Step 2: Testing dragonFire Again

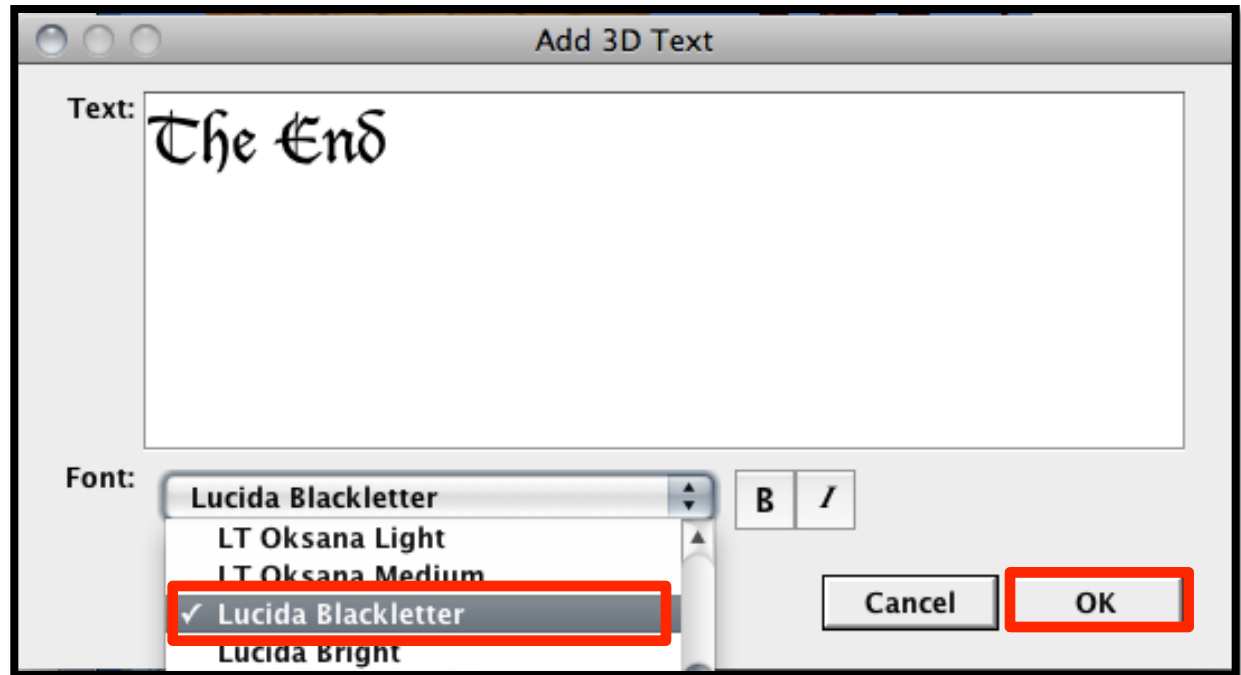


**Play** the world and press **F** when the dragon begins flying. You should see the fire and hear the dragon roar.

*Make sure your volume is on!*

*The next step is to add the words "The End" to the animation and have them show up at the end after the knight catches the princess.*

### Step 3: 3D Text

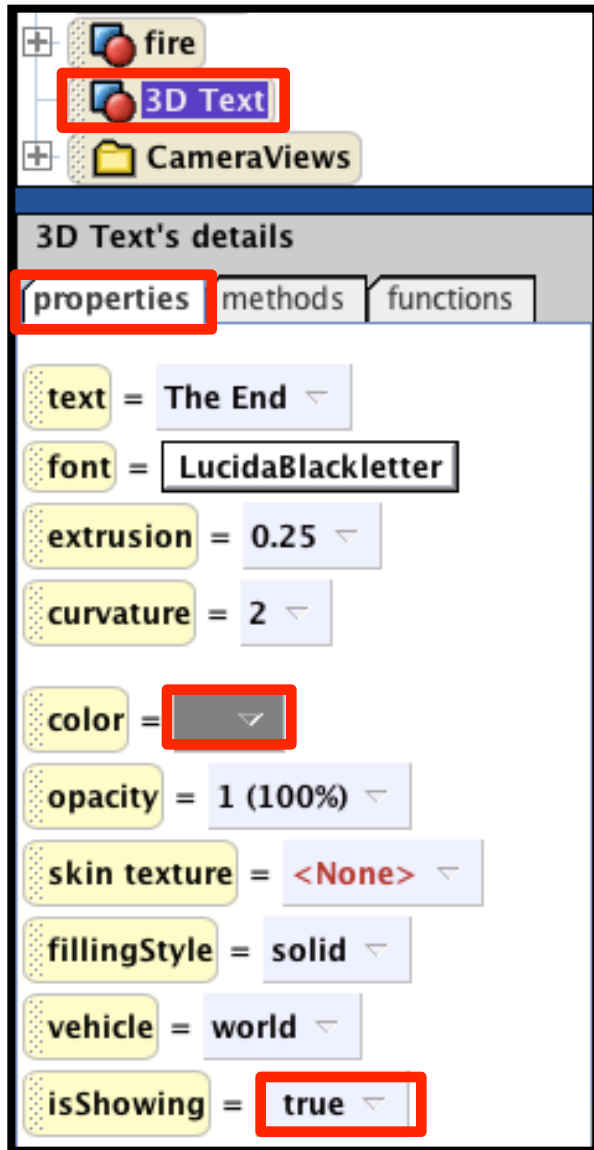


Click on **Create 3D Text** at the end of the local gallery in order to add a 3D Text object to the world. Type in the “**The End**” and select a font that you think looks good. We chose **Lucida Blackletter** but every computer has their own list of fonts. Click **OK** when you are done.

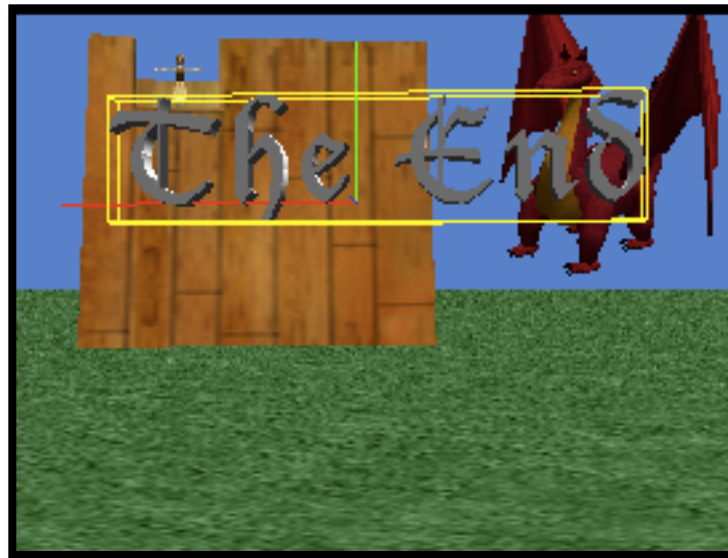
**Rotate** and **move** the **text** up with the **positioning tools**.



### Step 3: 3D Text Properties



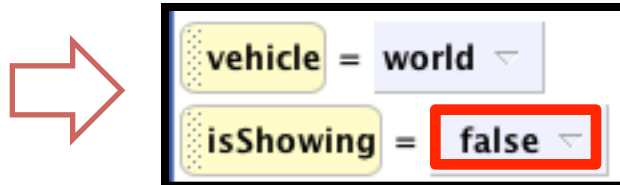
You will notice that the 3D Text object appears in the object tree. 3D Text is an object just like all the other objects in Alice, but they do have some special *properties*. Click on the **properties** and you will see that you can change what the text says, and what font it is from the properties panel.



Change the **color** of the text to **grey**.

Set the **isShowing** to **false**.

*We will now animate the text to appear at the end.*

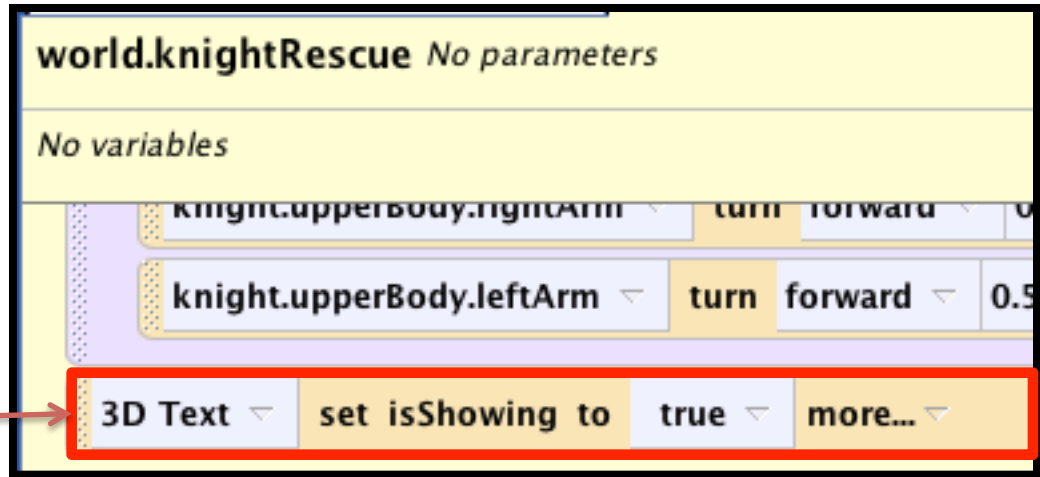
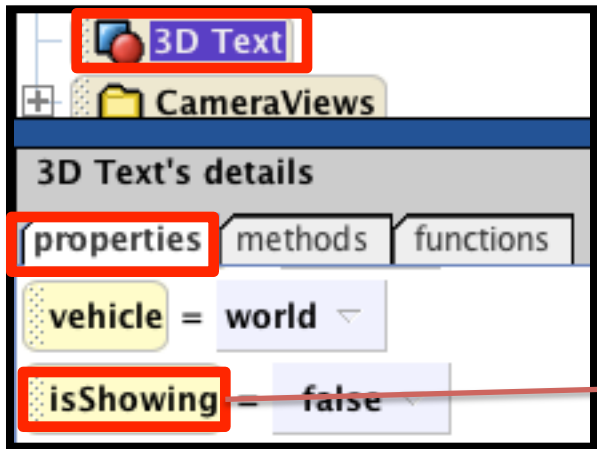


### Step 3: 3D Text Animation



We will add this code to the end of **knightRescue**. If you do not have the **knightRescue** tab open, go to **world methods** and then click the **edit** button next to **knightRescue**.

Scroll down to the end of **knightRescue** and drag in the **3D Text isShowing** property into the very end of the method, outside of the last **Do together**.





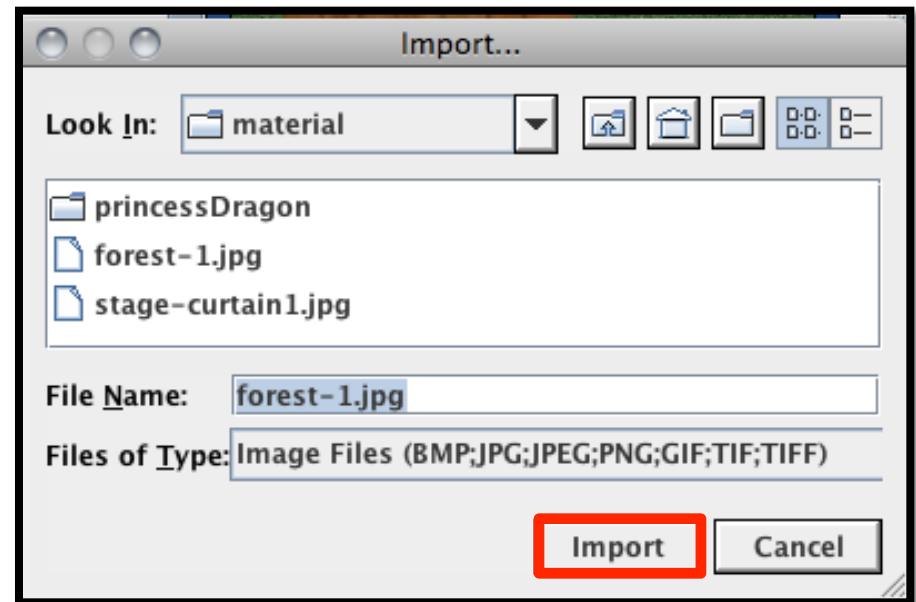
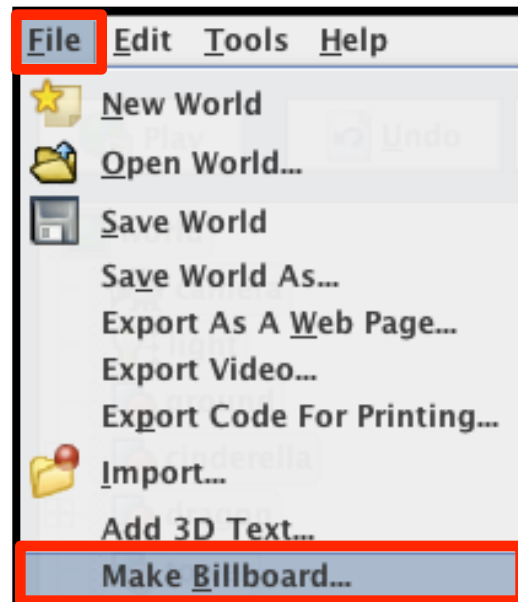
## Step 4: Making a Billboard

A billboard in Alice is a flat rectangle with a picture on it. You can either find the images for billboards online or you can make your own in an image editing program (like Paint or Photoshop) or Powerpoint.

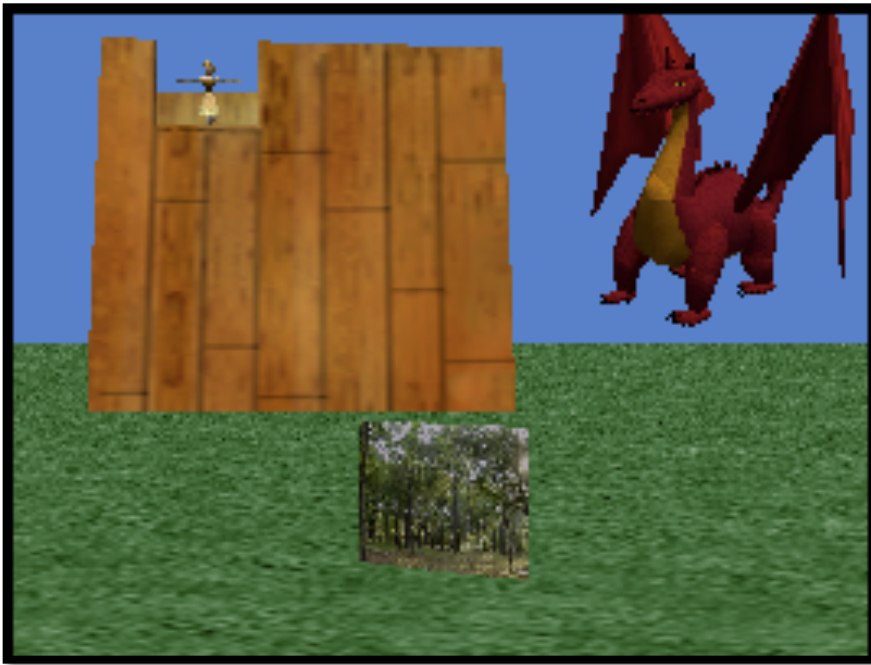
Either download the **forest-1.jpg** file from the tutorial website or use another image of a forest that you find online. **Save** it on your computer so you can find it later.



To put the billboard into the world, click on **File** and select **Make Billboard**. Find the image and click **Import**.



## Step 4: Positioning the Billboard

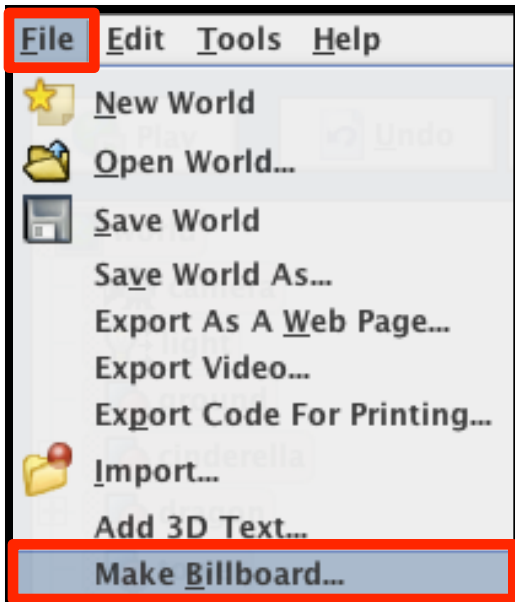


Click on **add objects** in order to move the **billboard** into place.

Position the **billboard** behind the **tower** and the **dragon**. By **resizing** it and **moving** it backwards.

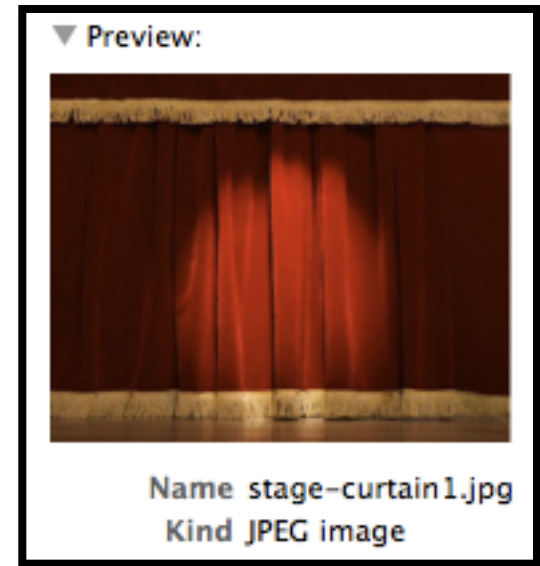
*Billboards can also be animated like any other object. We will add a curtain billboard that will rise at the beginning of the animation and drop back down at the end.*

## Step 5: Another Billboard



*The curtain we will be using is another billboard that you can download from the tutorial site. You can also find similar images online.*

**Make a Billboard** with the **stage-curtain1** image or another similar image. **Turn** and **Move** it forward and **resize** it so that it covers the entire view.



## Step 5: Animating Billboard

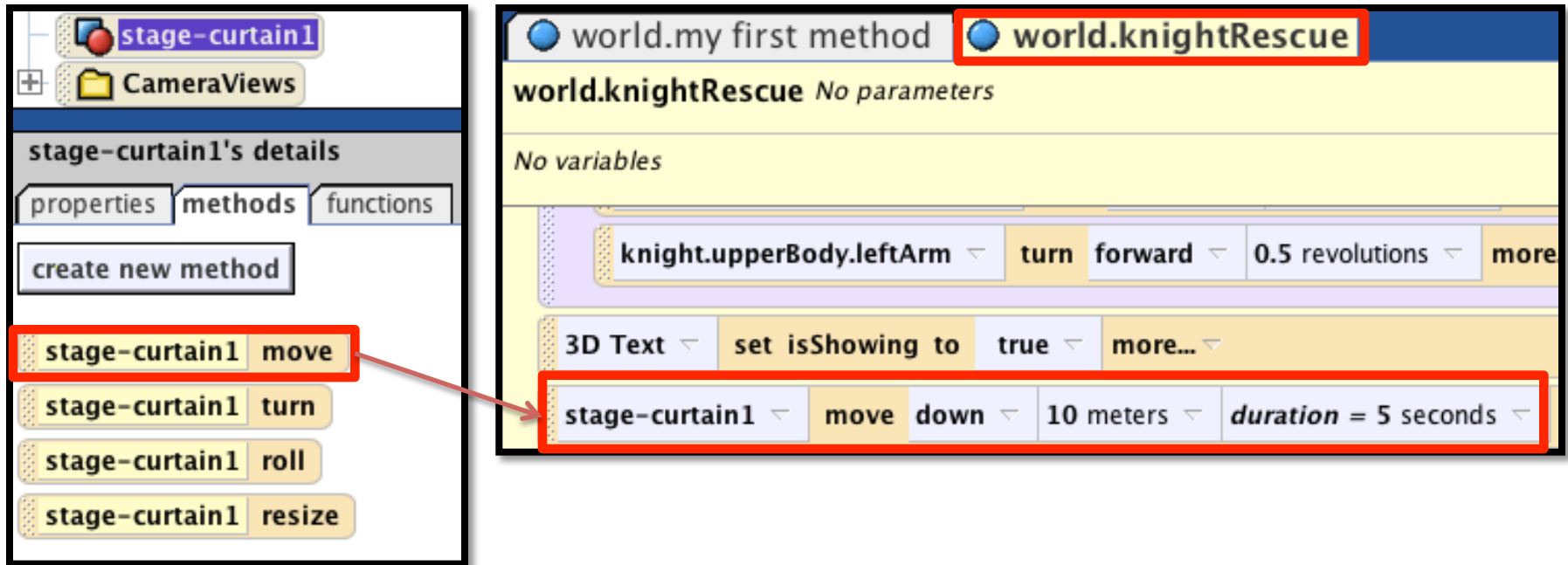
The image shows two panels from a software interface. The left panel displays the object tree with 'stage-curtain1' selected. Under 'stage-curtain1's details', the 'methods' tab is active, showing a list of methods: 'stage-curtain1 move', 'stage-curtain1 turn', 'stage-curtain1 roll', and 'stage-curtain1 resize'. The 'stage-curtain1 move' method is highlighted with a red box. The right panel shows the 'world.my first method' editor. The 'world.my first method' tab is selected. The code area contains two comment lines: '// Name: Liz Liang' and '// Date: June 2, 2010'. Below these, a 'stage-curtain1 move up 10 meters duration = 5 seconds' block is added, highlighted with a red box. An arrow points from the 'stage-curtain1 move' method in the left panel to this block in the right panel.

To raise the curtain at the beginning we will add a line of code to **world.my first method**.

Click on the **world.my first method** tab in the method editor. Click on the **stage-curtain1** billboard in the object tree.

Drag the **stage-curtain1 move** method into the code directly below the two **comment** lines. Have the curtain **move up 10 meters**. Set the duration to **5 seconds**.

## Step 5: Animating Billboard Continued



To lower the curtain at the end we will add a line of code to `world.knightRescue`.

Click on the `world.knightRescue` tab in the method editor.

Drag the `stage-curtain1 move` method into the code into the end directly below the `3D text isShowing` command. Have the curtain `move down 10 meters`. Set the duration to `5 seconds`.

Congratulations!



Now **play** your world.

*Watch the curtain pull up and the animation play. Billboards, Sound, and 3D effects help add another layer to your world to make your animations look more polished and engaging.*

*Congratulations on finishing Part 4! Use the basic skills that you have learned to create your own Alice animation. Continue learning about the features of Alice in other tutorials on the site. Welcome to the Alice world!*