VR Activity:
Sumerian

INSTRUCTIONS

aws

Introduction

Have you ever wondered what it's like to perform surgery, scuba dive to the bottom of the ocean, or ride the world's tallest roller coaster? Well, now you can! With virtual reality (VR), nothing is off limits. Virtual reality offers a simulated vision to create an immersive 3D environment. While some VR experiences require a headset and controllers, other VR can be experienced simply by using a computer screen.

Virtual reality allows the user to experience and explore different environments. In VR, the user gets a 360° view. VR can be passive, where the user can control how they move around in the environment, or interactive, where controllers allow the user to truly interact with the virtual environment.

VR is a valuable tool for training and practice, especially in fields where it might be dangerous or even impossible to practice in real life. Doctors in training can have the opportunity to truly put themselves in realistic situations, without endangering patients. Companies are also starting to use VR to help them train new employees in customer service situations. These options can be easier and less expensive than traditional training.

As the equipment to develop VR becomes less expensive and the computers that program the experience become faster and more sophisticated, more of our reality will become...virtual.

Practice Activity

Today, you will get to practice designing your own VR experience using Amazon Sumerian. Sumerian makes it easy to build, produce, and publish exciting VR experiences.

1 To begin the demo, please **login to your AWS Educate account**:

2 If you do not have one, **visit the URL**:

When filling out the application, enter your school name, enter your school-issued or personal email address, and fill in the remaining fields.

3 Accept the Terms and Conditions

4 Open the link sent to your email to verify your email address

5 You will be redirected to a page, confirming your application has been submitted and is under review. Applications are reviewed within 24 to 48 hours.

Your email has been verified! We'll review your application shortly. Check your email for status updates as we process your application.
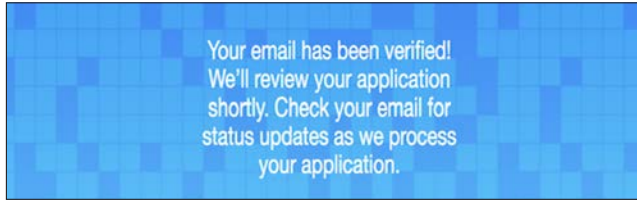
6 After your application is approved, you will receive a confirmation email. Follow the link to **Set Password**.

aws educate

Welcome to the AWS Educate Community

Set Your Password

Your Login Credential   jenewe@gmail.com

New Password   ●●●●●●●●●●

Verify New Password

Set Password

The password you enter here will be used for access to the AWS Educate Community. It is always more secure to not use the same password that you use on other sites.

Please ensure your password meets the following requirements:

  i. Password must be at least 8 characters long

  ii. Password must contain at least one letter

  iii. Password must contain at least one number

  iv. Password cannot equal or contain your user name

  v. Password must contain at least one of the following characters ! # $ % - _ = + < >

7 Now you have access to the AWS Educate portal.

Click **AWS Account** to create your free AWS starter account.

aws educate   Badges   My Backpack   Advanced Learning   AWS Account   Logout

KaMarie Newton, your cloud journey awaits!

You're well on your way to career awesomeness. Let's get started!

Cloud Explorer
Badge

A great place to start! Explore concepts like algorithms, programming, and cybersecurity through real-world examples.

Cloud Inventor
Badge

Dive a little deeper! Expand your knowledge with more in-depth challenges on the explorer topics and learn how to use technology to invent the future.

Cloud Builder
Badge

Time to create! Learn about the AWS console, services, and start building in the cloud.

aws

8 Click **Create Starter Account**.

9 Review your account information including credits and expiration date.

10 Accept the **Terms and Conditions**.

11 Click on the **AWS Console**.

Welcome to your AWS Educate Account

AWS Educate provides you with access to a wide variety of AWS Services for you to get your hands on and build on AWS! To get started, click on the AWS Console button to log in to your AWS console.

Please read the FAQ below to help you get started on your Starter Account.

- What are the list of services supported?

- What regions are supported with Starter Accounts or Classroom Accounts?

- I can't start any resources. What happened?

- Can I create users within my Starter or Classroom Account for others to access?

Your AWS Account Status

Active
full access ()

$30
remaining credits (estimated)

2:60
session time

Account Details   AWS Console

Please use AWS Educate Account responsibly. Remember to shut down your instances when not in use to make the best use of your credits. And, don't forget to logout once you are done with your work!

NOTE: CloudFront service is temporarily unavailable.

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12 Type **Sumerian** in the search box and click on Amazon Sumerian to open the program.

AWS Management Console

AWS services

Find Services
You can enter names, keywords or acronyms.

🔍 Sumerian   ✕

Amazon Sumerian
Build VR, AR, and 3D applications

▼ **Recently visited services**

Amazon Sumerian   AWS DeepComposer

▶ **All services**

Stay conne
on-the-go

Down
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Learn

Explore AW

AWS re:Inven

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13 The first step for building a virtual reality world is to create a scene. Click on **Create new scene**.

aws   Services ▼

Did you know that you can use Open Source solutions like three.js and Babylon.js to build 3D, AR, and VR content on AWS? To learn more, check out these tutorials.

🏠 Home
✏ Drafts
🗑 Trash
⊙ Projects

Recent scenes

+

Create new scene
Today

Default Lighting Template
GTD Scene
23 October 2020

Default Lighting Template
test
23 October 2020

Default Lighting Template
GTD Scene
23 October 2020

Welcome to
Amazon Sumerian

For the best experience, use the latest version of Firefox.

Announcement: Amazon Sumerian Hosts is now available as an Open Source project on GitHub. Our goal is to make it easy to create interactive animated 3D characters that can be rendered on the Web and leverage AWS Services. To learn more, check out the Amazon Sumerian Hosts GitHub repository.

Tutorials on alternative 3D solutions

Sumerian Hosts in three.js
30 August 2020

Sumerian Hosts in Babylon.js
30 August 2020

Export to glTF
30 March 2020

Create a glTF Viewer
30 April 2020

⚠ AWS Amplify

⚠ AWS Amplify

Publish with Amplify
30 April 2020

Privately Publish with Amplify
17 July 2020

Feedback   English (US) ▼

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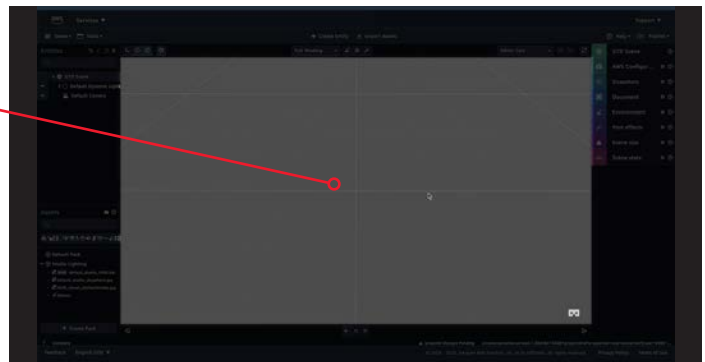
**14** Give your scene the name, **GTD Scene**, and click **Create**.
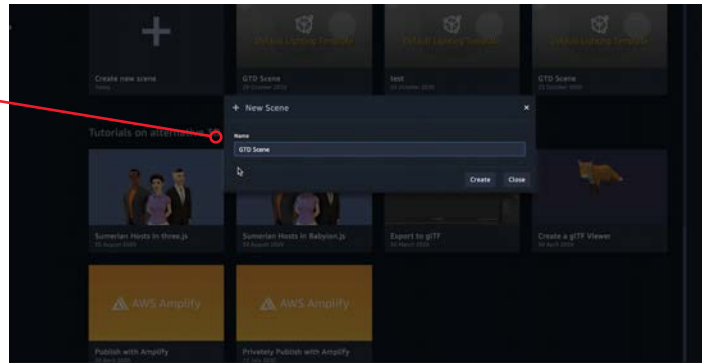
15 Here's the empty scene. Before we start building, let's get a closer look at the Sumerian interface.
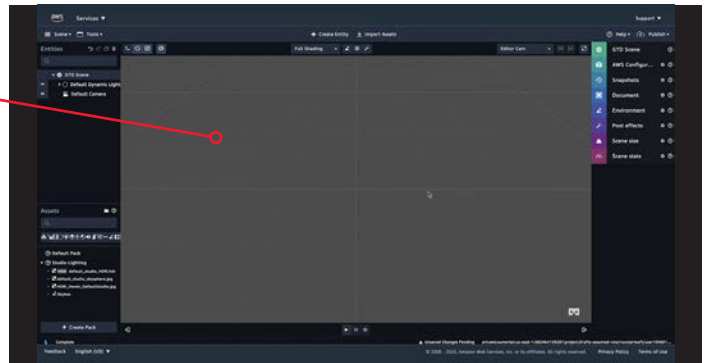
16 The area in the center is the canvas. This is where you will place, view, navigate, inspect, and preview all the contents of your scene.


17 Look at the top left of the screen. Entities are the elements that make up a scene.
The **Entities** panel is the best place to select specific entities. Click an entity here, and it will be selected in the canvas.
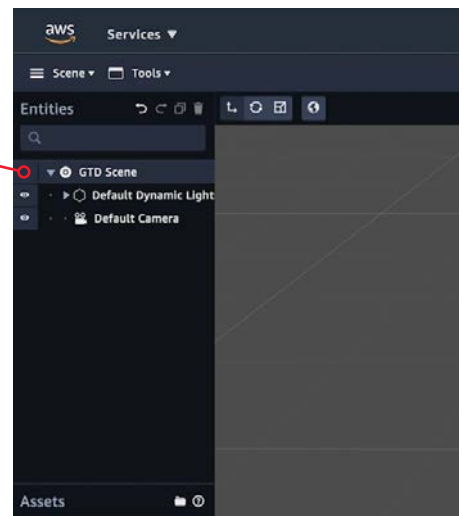
18 On the bottom left of your screen you will find the Assets that you've added to your scene.

You can add assets to your scene from Sumerian's asset library or upload them from your computer. Assets become entities once they are added to a scene.
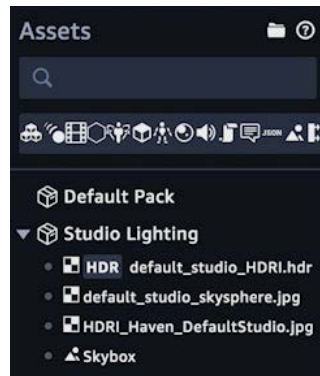
19 The right side of your screen shows all the configuration options. The **Inspector** panel is used the most, and it changes depending on the selected entity.

Try selecting an entity in the **Entities** panel. Notice when you select an entity, its components show up in the **Inspector** panel.
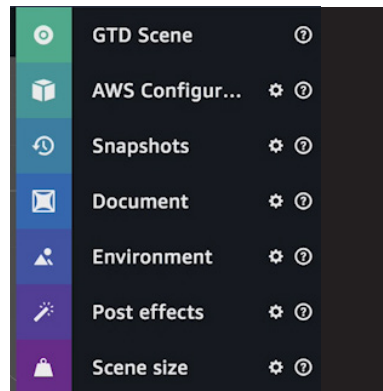
20 The bar at the top of the interface contains the options for managing your account, publishing your scenes, searching, and getting help.

The **Scene** drop down menu allows you to return to the dashboard, open a recent scene or export a scene.
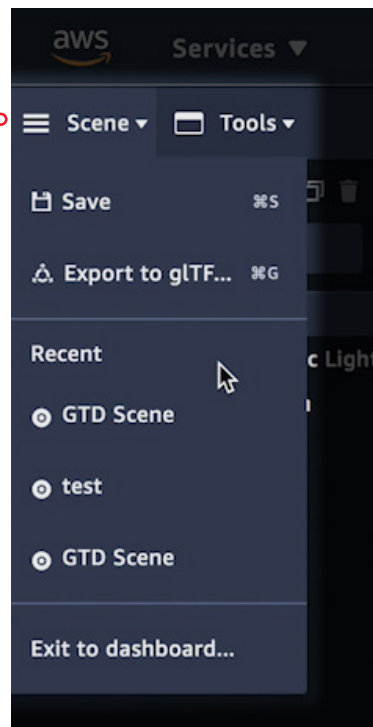
21 The most common buttons in the menu bar are Create Entity and Import Assets.

Click on the **Create Entity** button to see the entity menu, where you create new entities for your scene: 3D Primitive shapes, 2D Shapes, Empty and HTML entities, Light entities, and Camera entities.
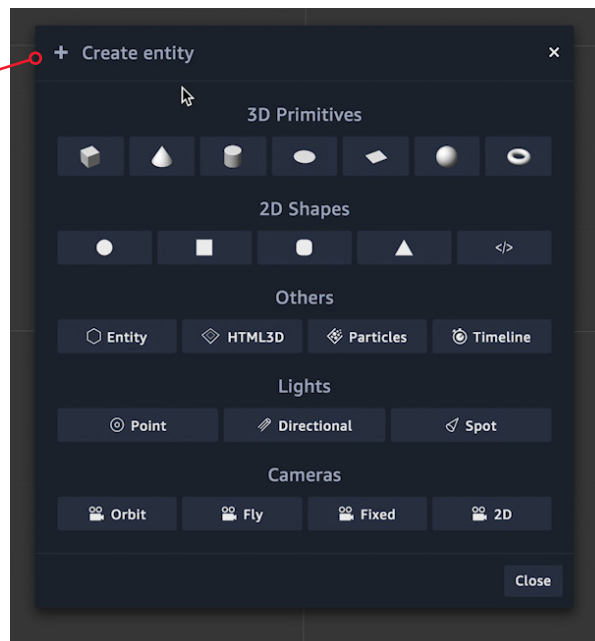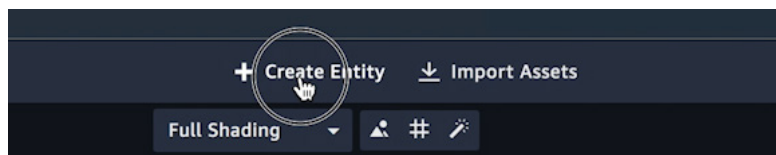

22 Now click on the **Import Assets** button to open the asset library, a public library of 3D assets for you to use.
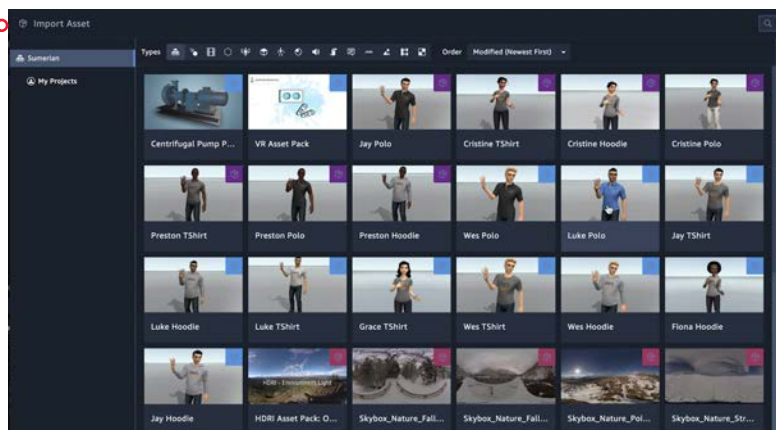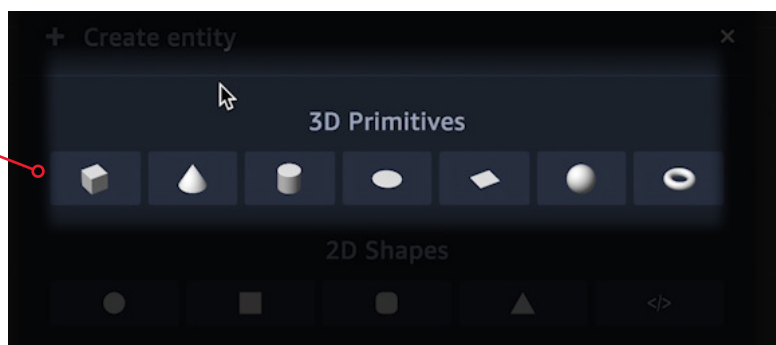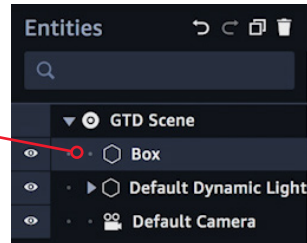

Let's practice by creating a room using a Box.

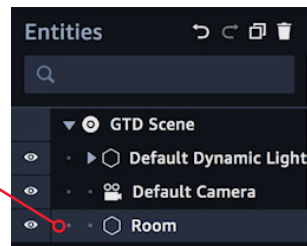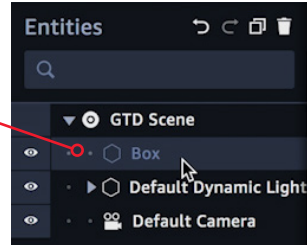**23** First, we need to select **Create Entity**.

24 Then, choose the box in the **3D Primitives** menu.

25 If you look at the **Entities** section, you will see that you've now added the box.

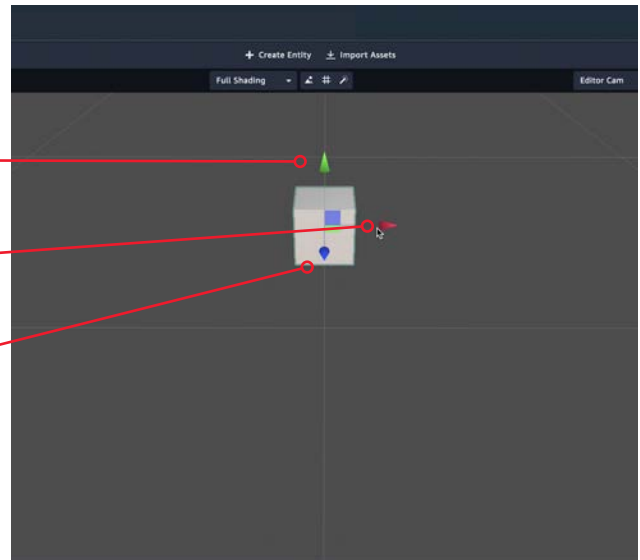**26** Double click on the Box and rename it **Room**.

27 The box appears in the Canvas. Practice moving the box.

You can move the box up by clicking on the green arrow

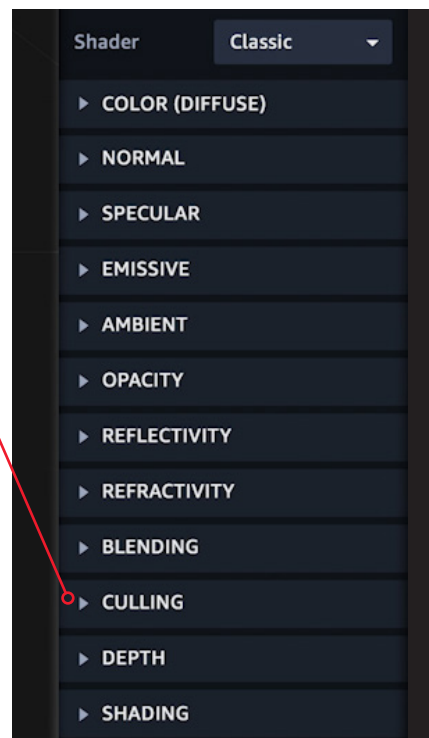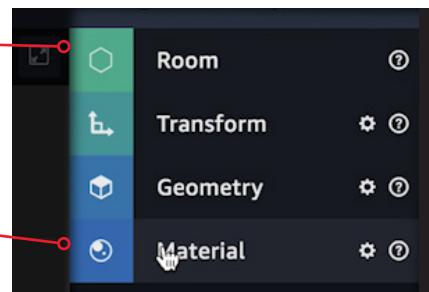You can move the box to the right by clicking the red arrow.

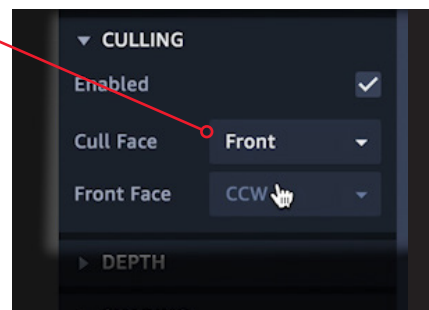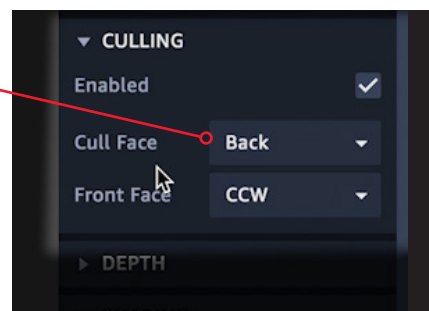You can move the box forward by clicking on the blue arrow.

28 Select the **Room** entity in the **Entities** section. Now look at the right-hand side of your screen.

Click to expand the **Material** component, and then open the **Culling** property. Culling allows you to "see through" part of the 3D figure.
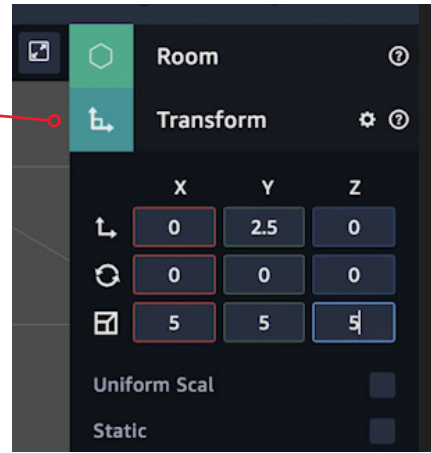
29 Change the Cull Face drop down option to **Front**.
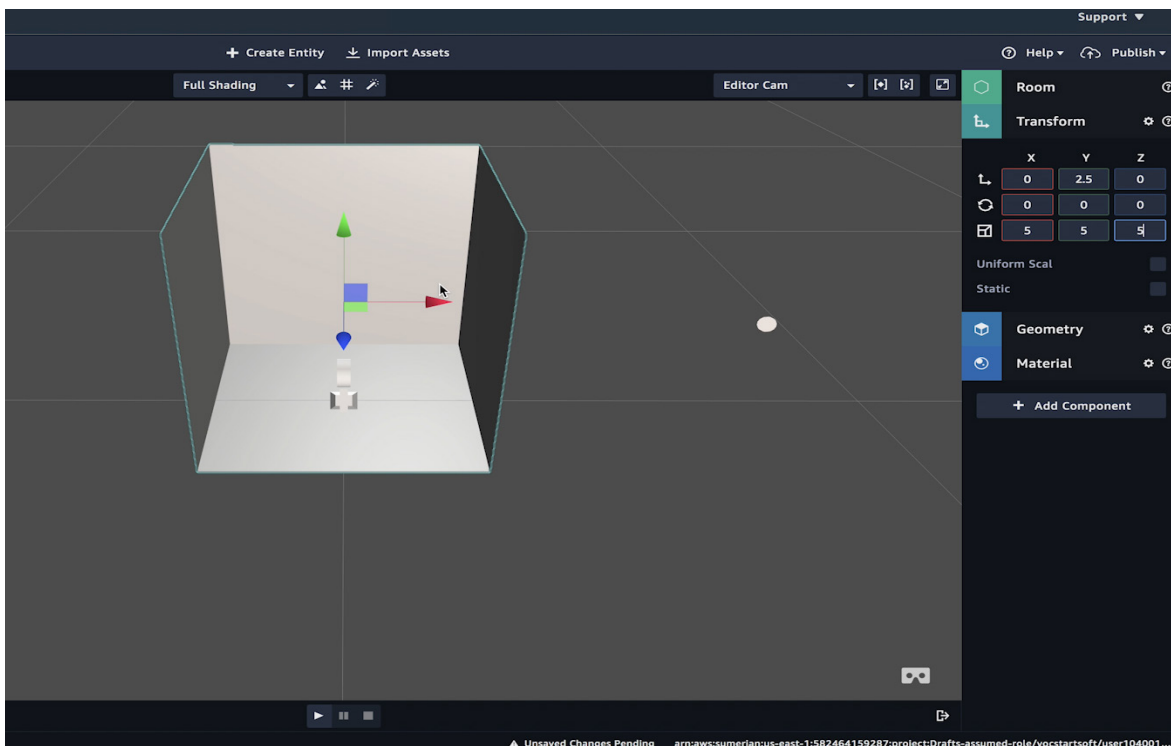
30 Scroll back up and expand the **Transform** component.

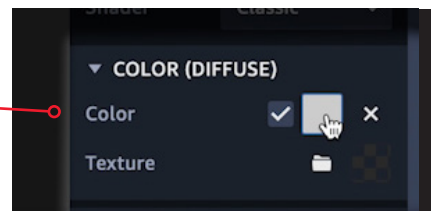Change the Transform values to the values shown here. This will change the size of your room.

**31** You will see your open room in the scene.

32 Scroll down and expand the **Material** component once more.

33 Change the color of your room by
opening the **Color (Diffuse)** property.
Change the color using the color picker.
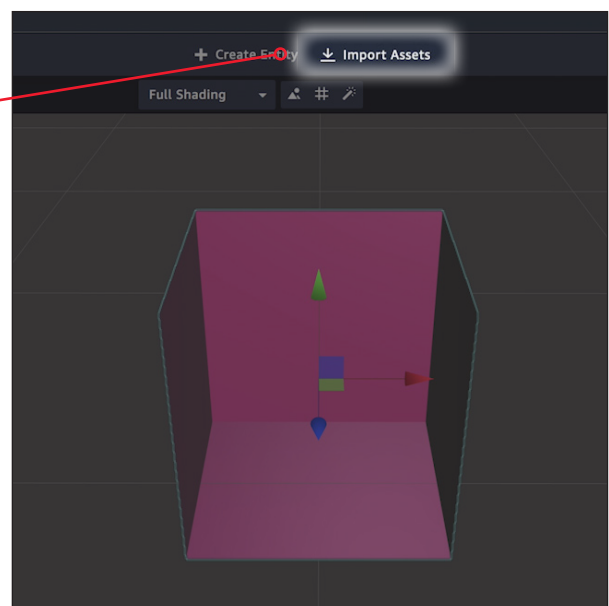I'm choosing a pink color, but you can
pick any color you prefer.

The scene will appear like this.

34 Open the Asset Library by clicking on
Import Assets above the canvas.
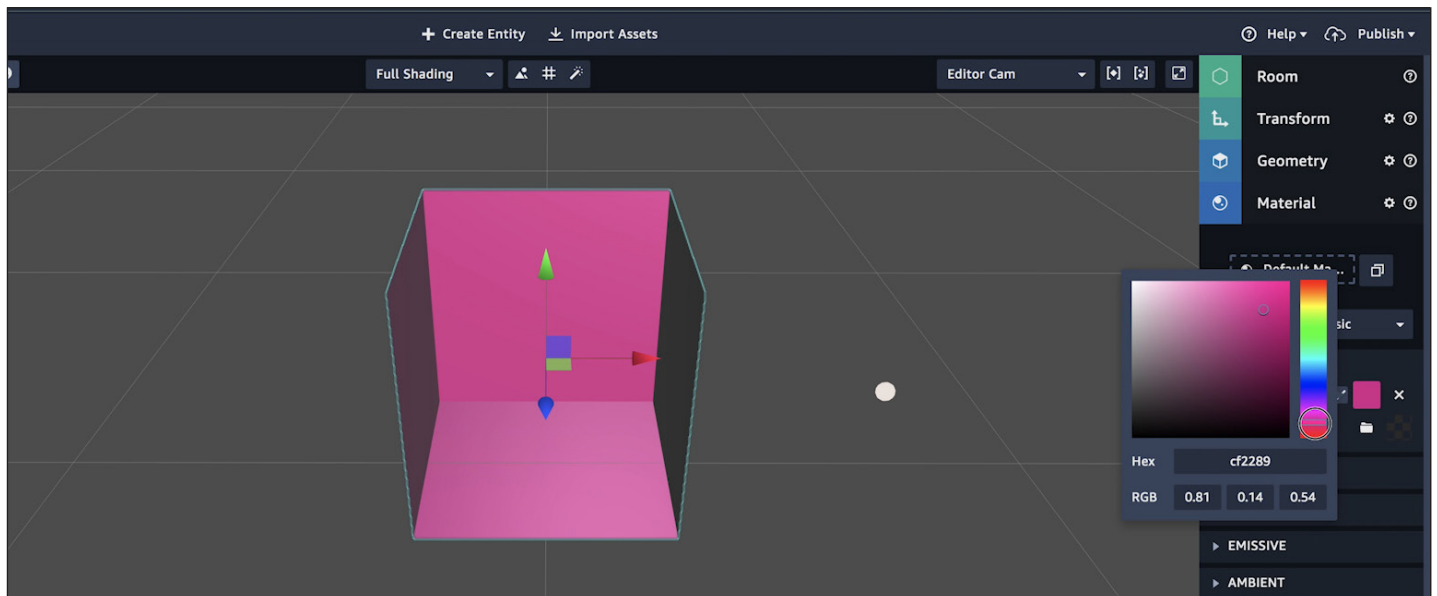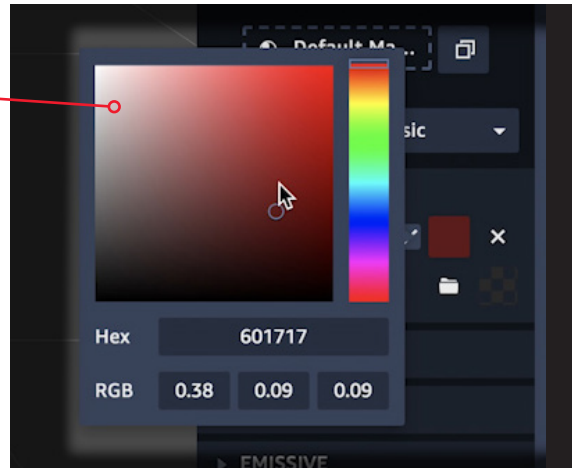
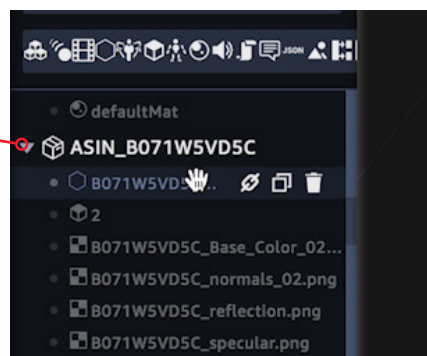Let's try adding some furniture to our room.

35 Scroll down to find the furniture assets.
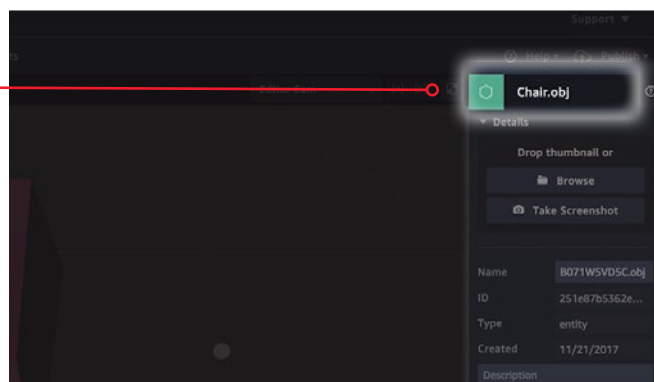
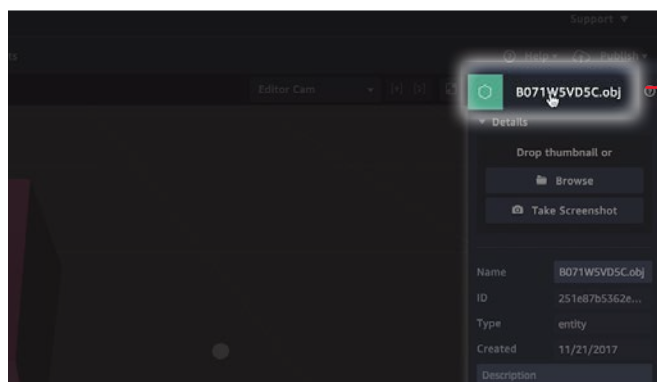Select a chair and click **Add**.
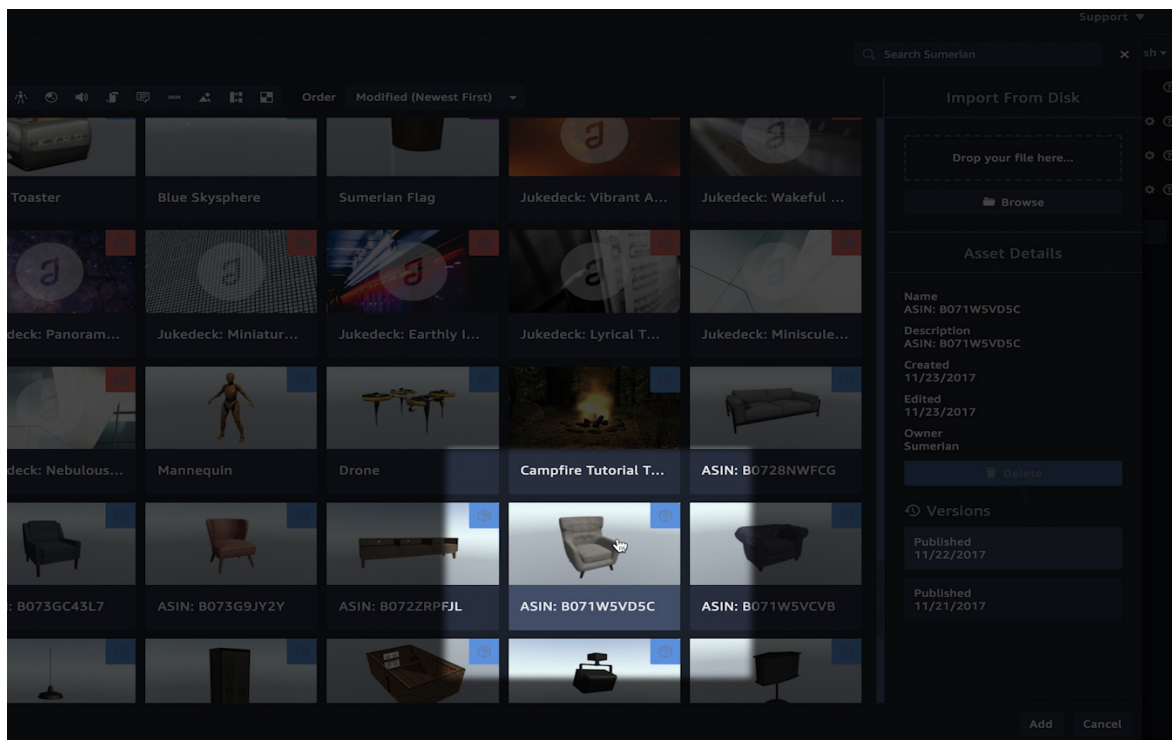
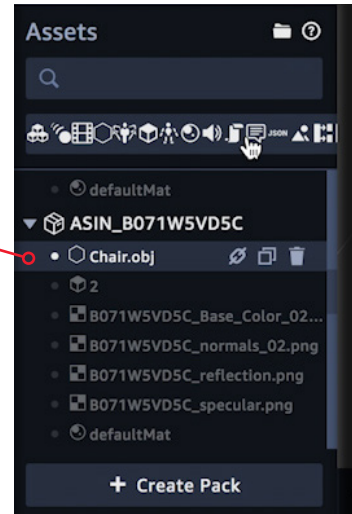**36** The chair is now an Asset. Select the chair in the **Assets** section.

Notice the chair now appears on the right-hand side of your screen.

37 Underneath the image of the chair, change the name to Chair.

38 Now look back at the **Assets** section.

Expand the asset pack contents and find the asset type (it ends with .obj); it has a hexagon icon next to it.

Drag the asset onto the canvas.

39 See? Now the chair appears in your scene. You can move the chair by using the green, red, and blue handles. Place the chair anywhere in the room.
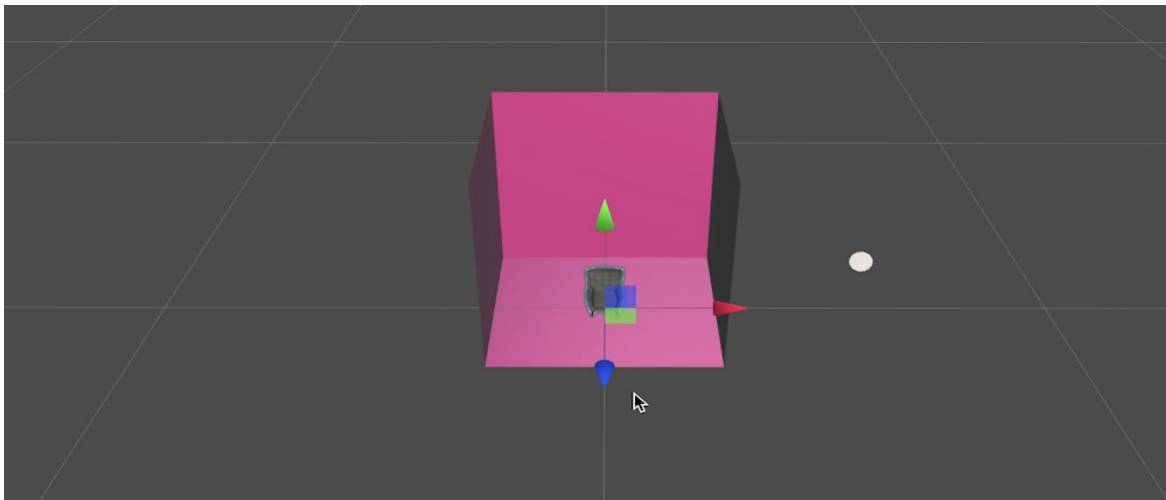
40 To practice adding more objects to your scene, try adding the following:
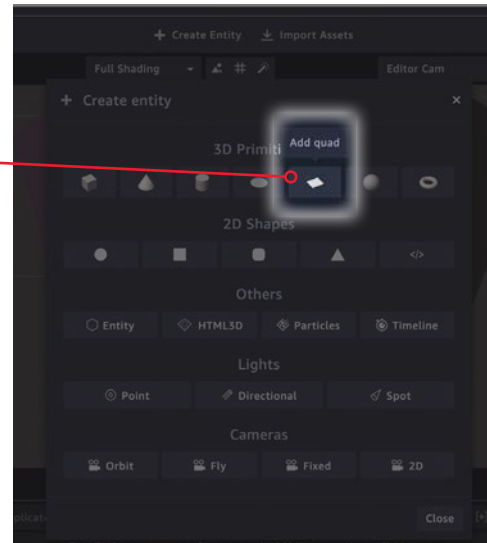
    Table

    Lamp

    Rug

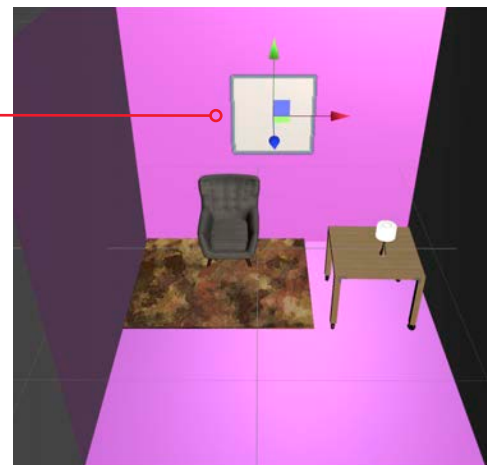When you are finished, your scene should look something like this.

Way to go!

41 If you want to keep decorating your space, you can place a custom picture on the wall by using a **Quad entity** and then adding a custom image as the texture.

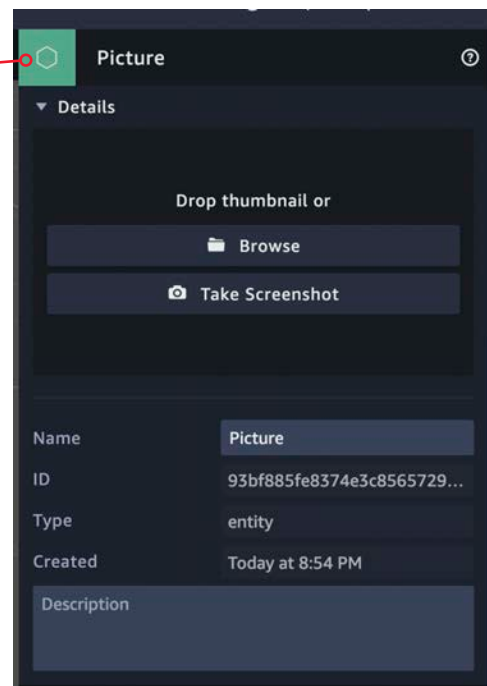From the Create Entity menu, add a Quad by clicking on it. It is found under "3D Primitives".
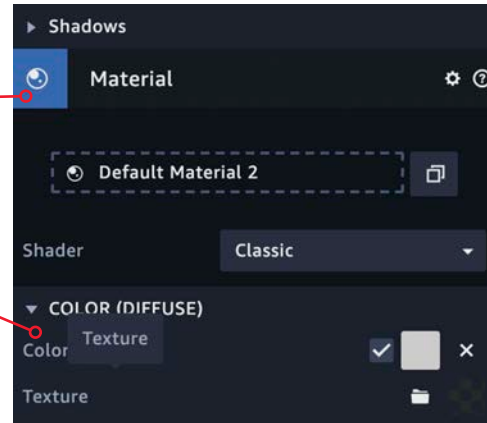

42 Move the Quad so that it appears on the wall.

43 On the right-hand side, scroll to the "Details" section and rename the Quad "Picture".

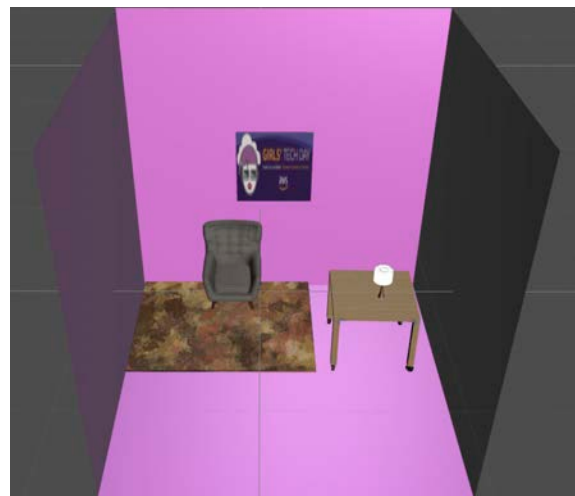**44** With the Picture entity selected, expand the **Material** component and then expand the **Color (Diffuse)** property.

45 Either upload your own image by clicking on **Texture** or drag and drop your own image on the Texture drop input. Here is a picture of the Girls' Tech Day logo. Use any image that you have uploaded to your computer.
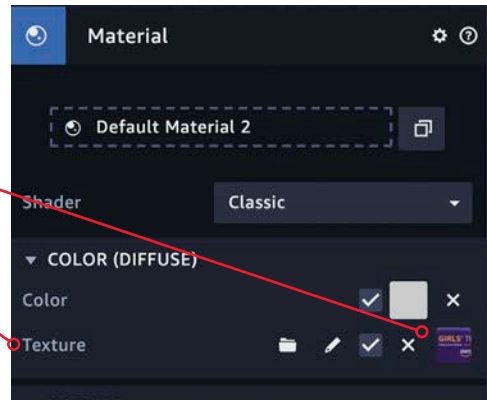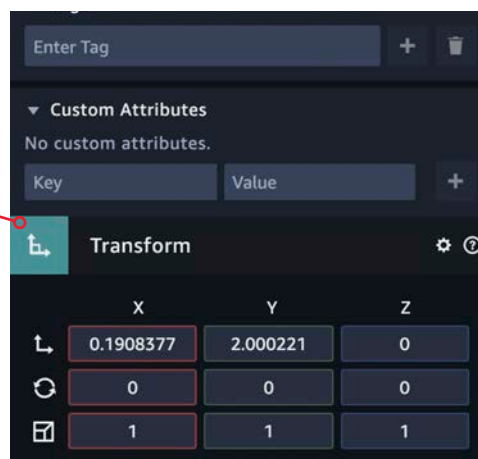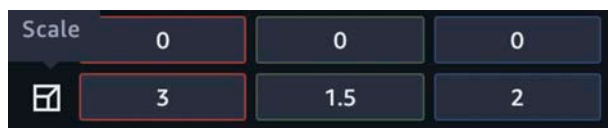

46 The scene will look something like this.

47 To make the image bigger, on the right-hand side, scroll up to **Transform**.

Change the scale value to what's shown.

48 The canvas appears as shown.

You can enlarge the pink room, by selecting **Room** in the entities section or by selecting the room in the canvas.
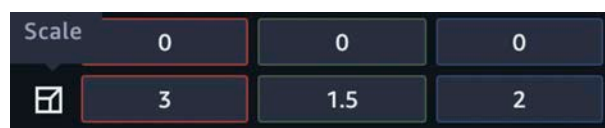
When the canvas is selected, it will be highlighted green.

49 Once selected, navigate to the **Transform** component on the right-hand side, and change the scale to the values shown.

The room appears as shown.

Now you can add a person (called a host) to the scene.

50 Click on the **Import Assets**
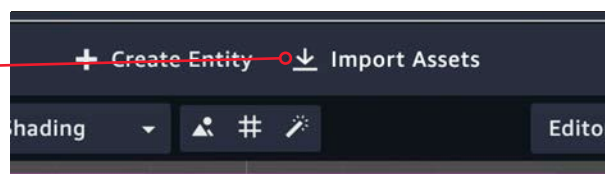
51 Find Cristine (with the purple shirt) and select her and click **Add**.

Christine will appear under Assets.

52 Select **Cristine** and move it to the scene.

53 Cristine appears in the scene. Move her to where you want her in the scene.

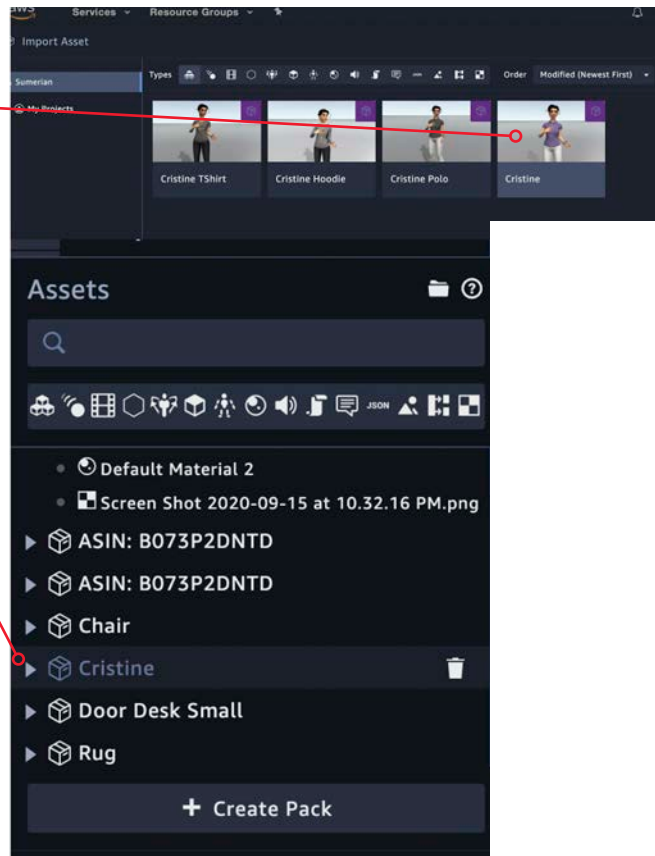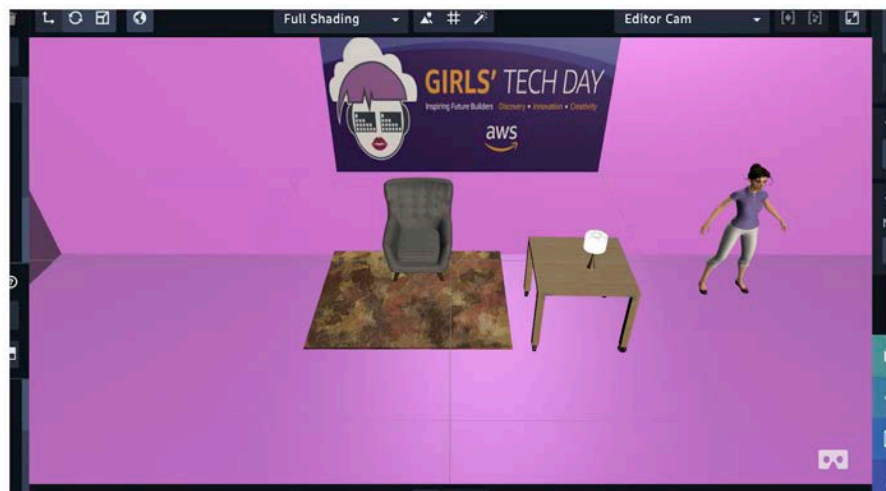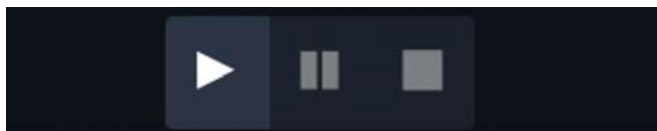**54** Cristine appears in the scene. Move her to where you want her in the scene.

55 You can run the scene by clicking the **run** button.

Keep experimenting with all the tools to make as many spaces as you can!

Extension Activities

To learn more about virtual reality, explore these activities and ideas:

☐ Use Sumerian to create a new 3D scene. Explore the Assets Library to find more ways to customize your virtual environment.

☐ Learn about how VR is used in the workplace by looking at fields like architecture, addiction treatment, and more. Think about ways VR can benefit other career fields.

☐ Design your own VR environment through art. Draw or sketch the VR environment of your dreams.

Parent Tips

Your child is learning about virtual reality. VR offers a simulated vision to create an immersive 3D environment. VR gives users the chance to experience, or even interact, with a new environment. Support your child by asking her to share her project with you, and try one or more of the ideas below:

- ☐ Ask your child to tell you examples of where VR is used every day.

- ☐ Look around your environment and discuss how you would turn your space into a virtual environment.

- ☐ Explore careers where people design VR experiences for others, or careers where you might experience VR training.