Dream place with 3D objects Lesson plan

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Education level: From primary
Subject: STEAM, social sciences, languages, ELA
Format: Individual or in groups
Duration: Approx. 2 hours

Introduction and lesson objectives:

The Delightex Library has 3D objects that can be used to create any virtual worlds.

However, there are times when you might not find exactly the object that suits your needs or you may have students creating their own 3D objects in programs such as Tinkercad, Sketchup, or others.

Thankfully, Delightex Edu enables users to import external 3D objects (STL or OBJ) directly into the space. There is also a feature that allows users to search Google Poly for publicly shared 3D objects from the library.

The objective of this lesson is to teach how to import 3D objects from outside resources and develop digital literacy skills and creativity, through the creation of a virtual world. This could be a favorite vacation spot, a place you dream of visiting, a favorite room in your house or anything you can think of that makes you smile.

Learning goals and student benefits:

- Develop 3D creation skills
- Foster creativity
- Teach spatial awareness
- Develop sense of design
- Practice construction skills

Activity example:

1. Challenge students to use their imagination in order to create a scene that makes them happy, such as their favorite vacation spot, a dream vacation spot, or even a fantasy spot that could make them happy.
2. Challenge students to create a 3D model of bone from the skeleton to illustrate a fracture in a modeling program such as Tinkercad or Sketchup for import into Delightex Edu in a visual storytelling scene.
3. Search Google Poly for 3D objects that do not exist in the Delightex Edu Library to use in your scene, such as an anaconda for a rainforest scene, or a canoe for use in a story that involves traveling on a river.
4. Search Thingiverse or other 3D warehouses for objects that were shared for use (teach students to give credit to the source in their scene) for a story.
   Objects can include characters, objects for a house or city scene, vehicles, sci-fi objects and more.
5. Ask students to use their sense of sight and sound to create a rich environment including their 3D objects.
6. You can then have your students view their Project in VR or AR in order to feel like they're truly in the scene they created.

Extension idea:

Ask students to conduct short presentations of their dream worlds to the class.

Assessment and evaluation suggestions:

- Have your students managed to create their dream world in Delightex Edu?
- Have your students managed to upload external 3D objects to their scene?
- Does your students' work reflect a good understanding of Delightex Edu?

Creation guide

Option 1: Student creation of objects

Download for 3D Printing

Download this model as an STL file if you want to use external services or 3D printers.
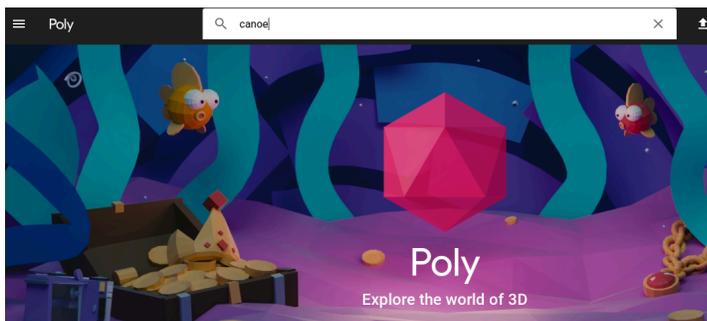
.STL   .OBJ

Use any software to create your objects, like:

- TinkerCad
- Sketchup
- Blocks (Vive and Oculus)

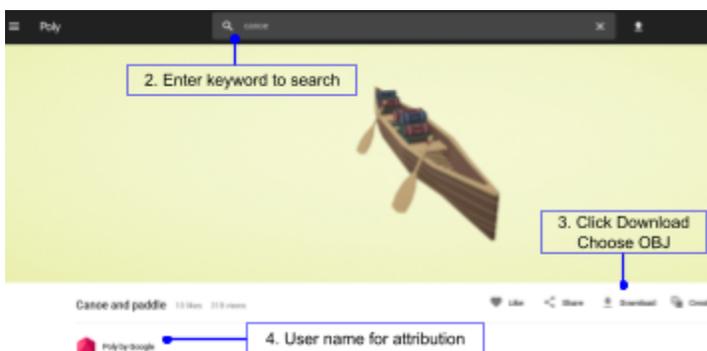Click the download button and choose OBJ or STL files to your computer.

Select all files (.obj, .stl, .mtl and/or .png) to include color/texture.

Option 2: Download existing objects from Google Poly

Poly

Explore the world of 3D

Go to **poly.google.com**.

Search for objects of your choice using keywords and filter for Poly objects.

2. Enter keyword to search

3. Click Download Choose OBJ

Canoe and paddle

4. User name for attribution

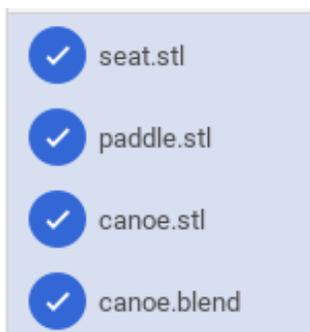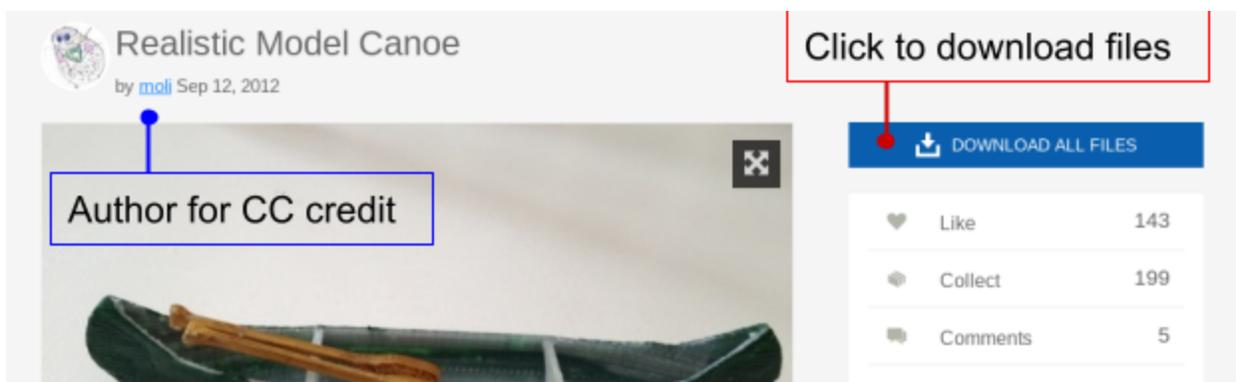Click the Download link and choose OBJ to download all files.

Remember to give attribution to the creator!

Option 3: Download already created objects from Thingiverse

Go to **Thingiverse.com**.

Search for objects of your choice using keywords and open one of the files.

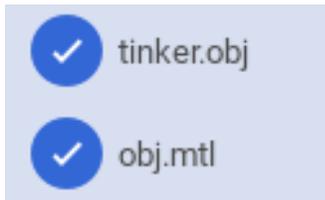Click the Download link and save all of the files.

If files saved as a ZIP, extract the ZIP folder to your computer.

Select all files (OBJ, MTL and PNG) to include color/texture.

Remember to give attribution to the creator listed under the name of the model.
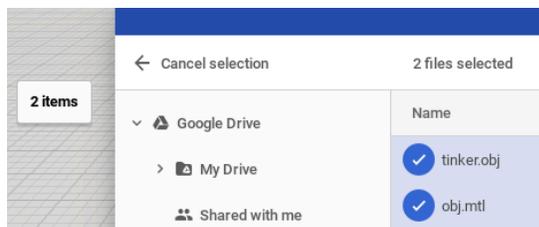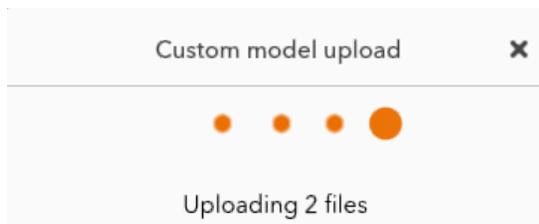
Upload your 3D objects to Delightex Edu

Create a new scene in Delightex Edu.

Locate your downloaded files on your computer.

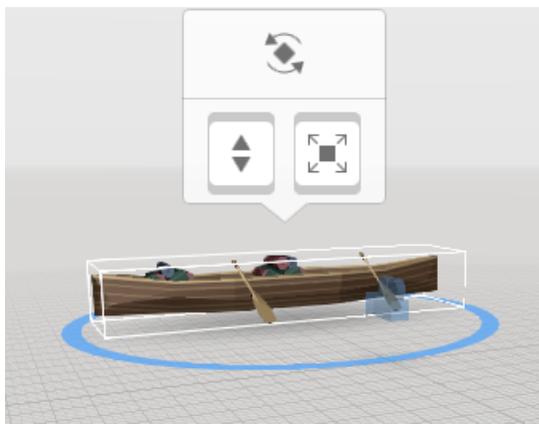If saved as a Zip file, unzip the file to a folder.

Select all files (OBJ, STL, MTL and/or PNG) by pressing and holding the CTRL key and clicking to select multiple files at once on a PC or chromebook (or the Command button on a Mac).

Drag and drop the selected files into your scene in Delightex Edu.

Use the objects in your scene as you do from the Library.

The **Sample canoe** with color and texture downloaded from Google Poly. File from the "Poly by Google" library of published objects under the Creative Commons license.

The canoe is placed in an environment with water to appear in a river with trees and animated grass surrounding it from the library. There's also a man from the Library placed into the canoe in a kneeling position to appear to be riding in the canoe.

The scene can be created to represent a beautiful rainforest where a person can explore the wonders of the rainforest, including plants, animals and even the sounds of the rainforest. Let your imagination go wild and create the place that makes you smile or that you're dreaming of...

Example Project

Uploaded 3D canoe

https://edu.delightex.com/FAS-JHQ