Layers of reality

ART & DESIGN CODING

Learn with
Procreate®

Jarom Vogel
Illustrator

The artwork and Swift Playgrounds workbook that accompany this lesson idea were created by American Illustrator Jarom Vogel.

Jarom has created artwork for clients including Disney, Procreate, Spotify, Facebook, Pepsi, Peugeot, Adobe, HarperCollins, Skillshare, and others. He loves creating experiments that bring together illustration and code in Swift.

To see more of his work, including more Code and Creativity experiments, visit **jaromvogel.com** or look up **@jaromvogel** on Twitter or Instagram.

Use this Lesson Idea to spark your imagination for using Procreate in the classroom. Feel free to take the activity further and make it your own. Share using **#LearnWithProcreate** or **@ProcreateEDU**.

Layers of reality

In this lesson students will create a layered artwork in Procreate, then use basic coding principles in Swift Playgrounds to turn it into an Augmented Reality experience.

All you need is an iPad and the following apps:
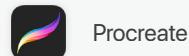
Procreate

Swift Playgrounds

Educational Value

✓ Students will gain an entry-level understanding of programming fundamentals.

✓ Students will implement and modify programs with user interfaces involving variables and functions in a general-purpose programming language.

✓ Students will gain an understanding of the intersection of digital technologies and creative processes.

In this guide

What is AR?

Augmented Reality

AR stands for Augmented Reality. It is technology that puts information such as pictures, words or sounds, over the world around us.

In this lesson you will create an artwork that has a background layer, as well as a few midground and foregound layers. You will use some basic coding principles to make your midground and foregound layers hover over your background through AR.

Getting started

## Creating a custom canvas

To bring your artwork into Swift Playgrounds later, it will need to be in the range of 1000px.

1 In the *Gallery*, tap the + symbol to create a new artwork.

2 Then tap the *dark rectangle with a small +*, symbol to create a custom canvas.

3 Make sure your units are set to Pixels.

4 Enter your dimensions. Let one of these dimensions be 1000px, and the other be close by (e.g. 1000 x 1300 px, if you'd like it to be in portrait orientation).

TOP TIP:

If you're looking to adapt a previously made artwork for this activity, you can resize your canvas by tapping *Actions > Crop and Resize > Settings >* Turn on *Resample canvas,* and enter your new dimensions.
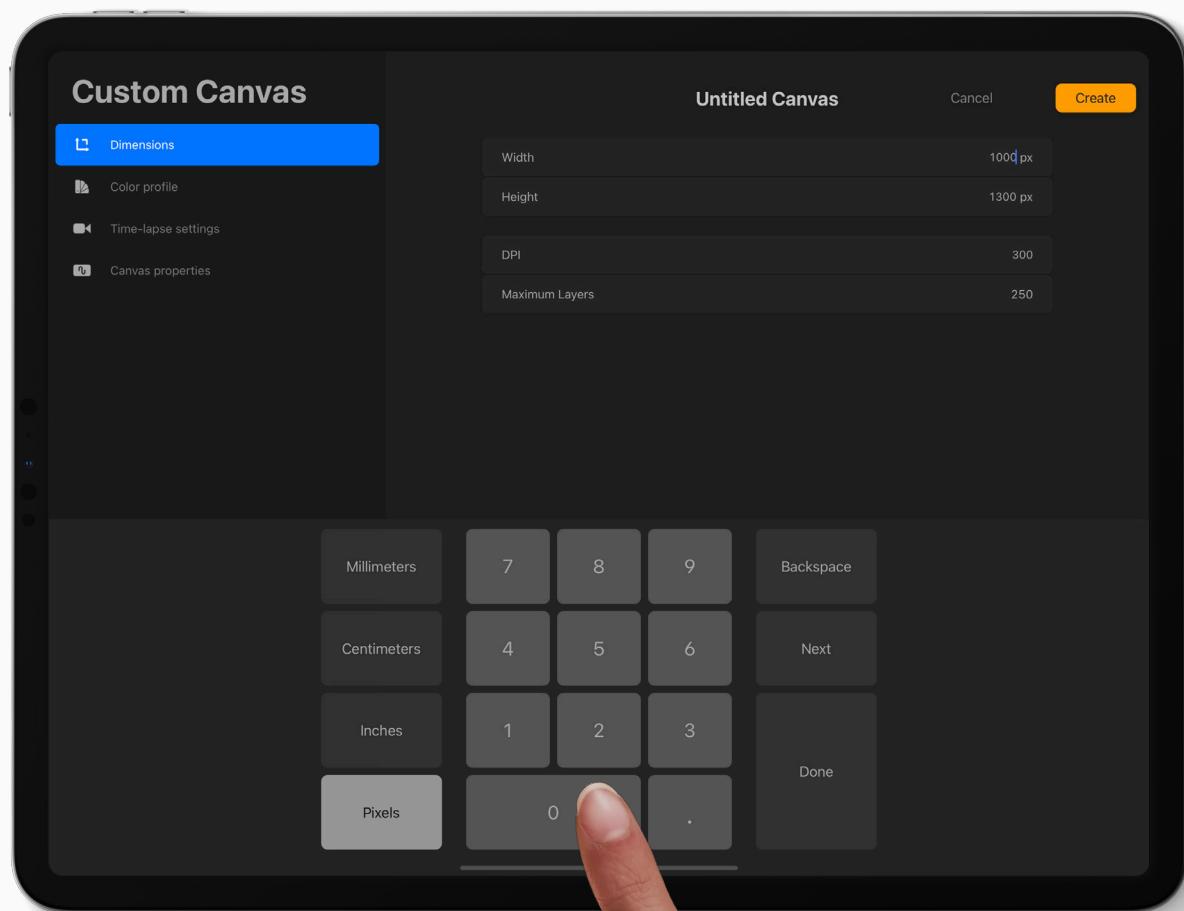
Sketch

Thumbnail sketches

Explore the composition of your artwork in a few quick thumbnail sketches. For now, sketch everything on one layer, but consider:

LAYERS

Think about how your layers will relate to each other and make a plan about what parts of your illustration should be grouped together. Things that you want to float together in AR should be drawn on the same layer.

BACKGROUND

When planning your background composition, consider how it might be framed, and how the other elements of your artwork will interact with the edges.

Experiment with keeping a clear boundary or edge to your background, and drawing additional elements that are 'breaking free' from this.

If you'd like to use a physical AR target and don't have access to a good printer, you may like to use a background anchor file we've created for you. You can create any artwork on top of it, as long as this image is inserted as your background layer in Swift Playgrounds in Part 2 of this lesson.

Download from procre.at/layersofreality.
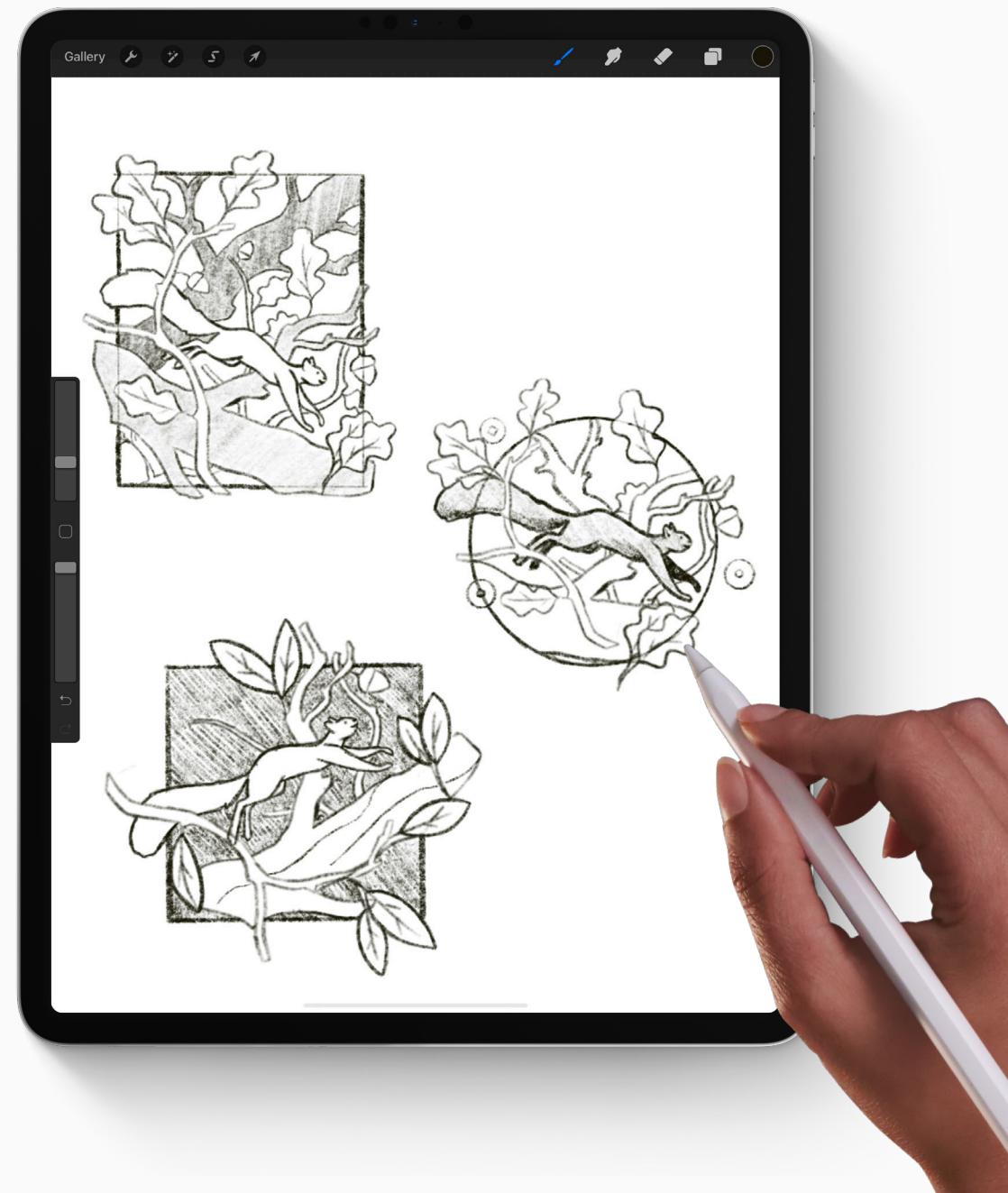
Refine

SELECTION TOOL

Select your preferred design

1   Tap the *Selection Tool*, and tap *Freehand*.

2   Draw around your preferred design and tap the arrow to enter *Transform* mode.

3   Swipe down on the canvas with three fingers to open the *Copy & Paste* menu. Tap *Cut & Paste*.

4   Tap the icon with the two squares in the top right corner to open the *Layers Panel*.

5   Tap the tick next to your original sketching layer to hide it from you.
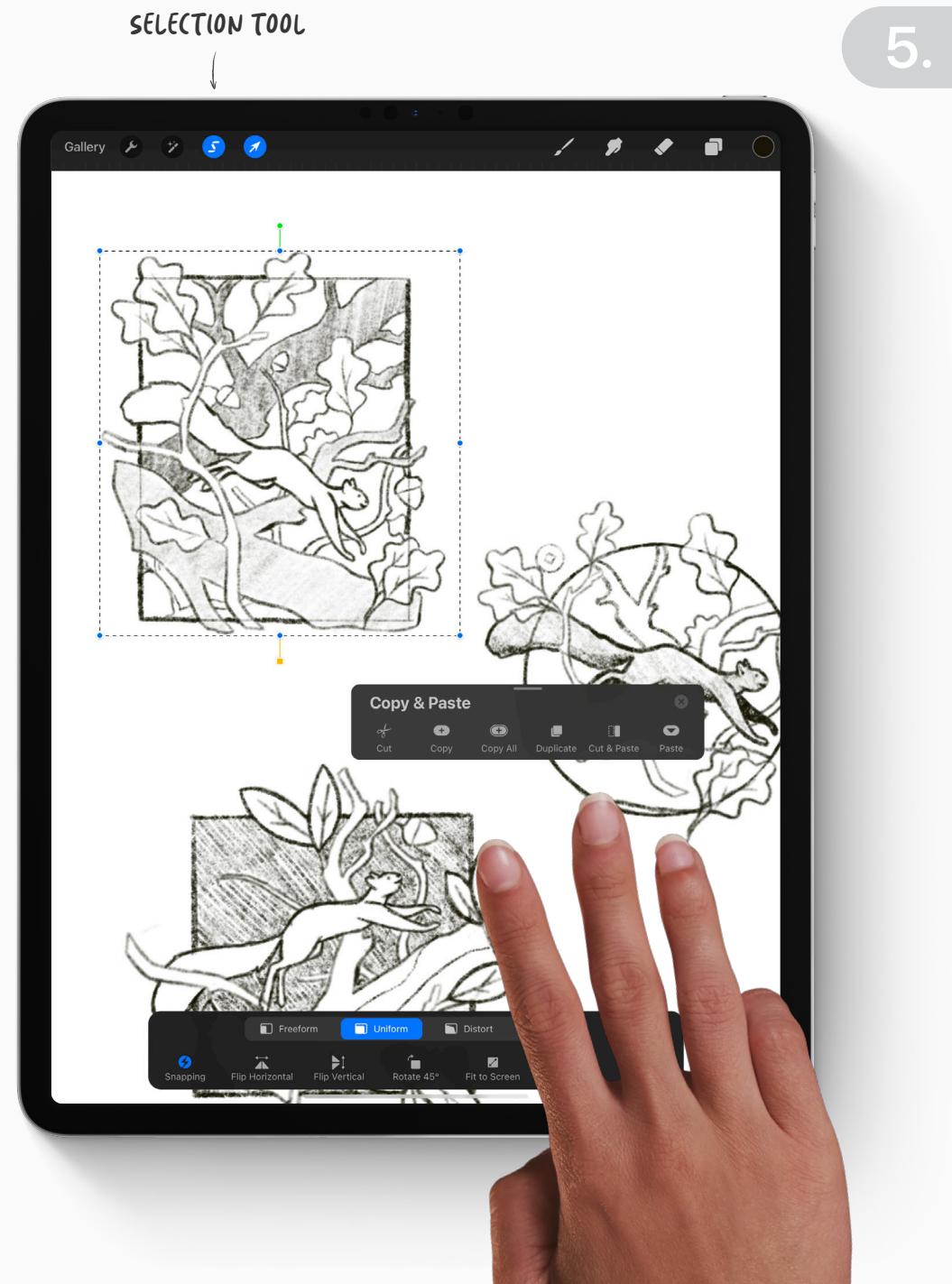
Transform and scale

1 Tap the arrow to use the transform tool to adjust the size of your chosen design.

2 Tap the two squares to open the *Layers Panel*, and tap the *N* on your selected design.

3 Drag the *Opacity slider* to the left to make your design fainter, so you can draw on top of it.

Layered illustration

Now illustrate each of the elements of your artwork on their own layer.

The elements that you would like to be in the foreground need to be in the top layers. The elements that you would like to be in the back need to be closer to the bottom background layer.

FOREGROUND

MIDGROUND

BACKGROUND

Gallery
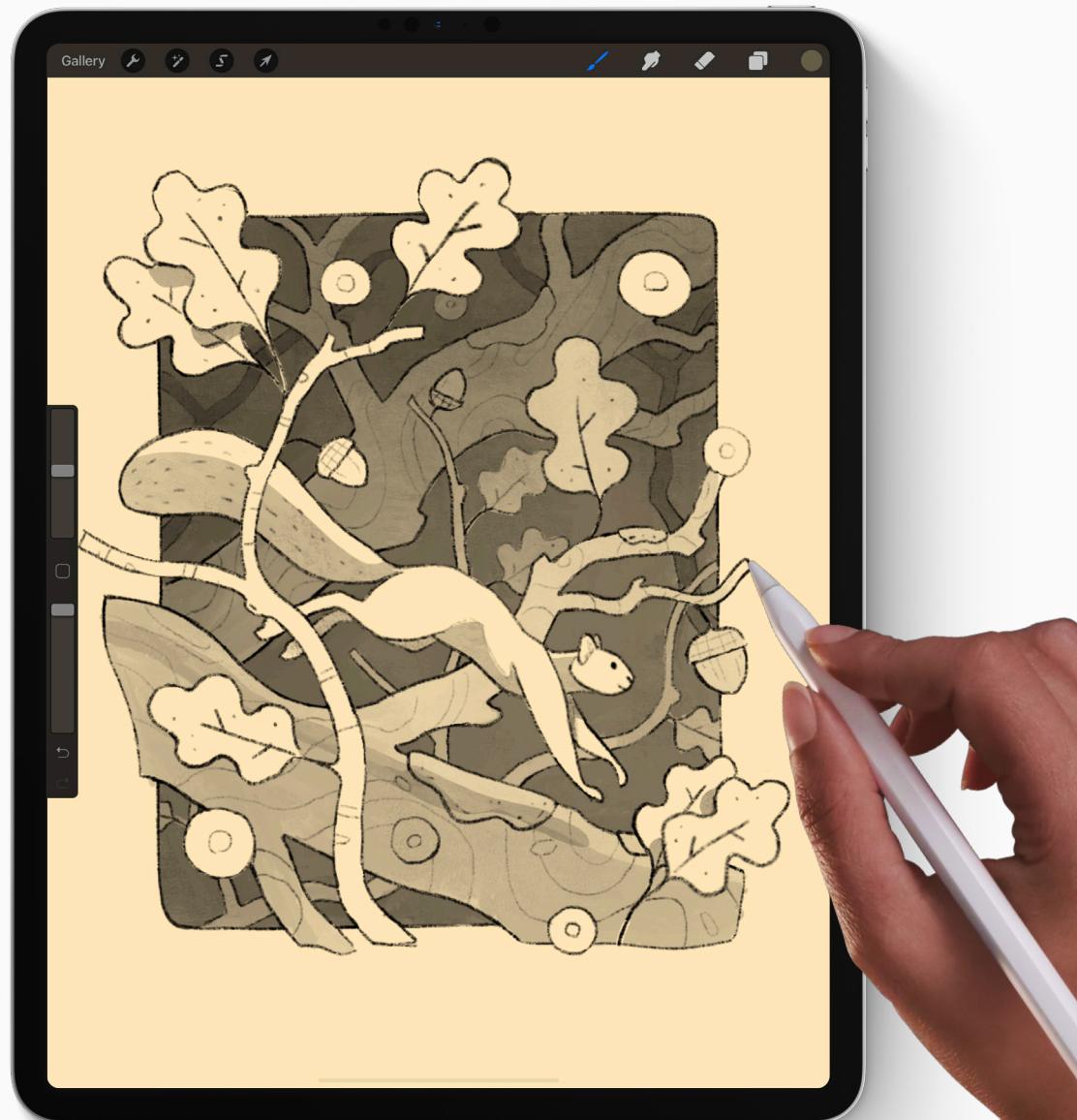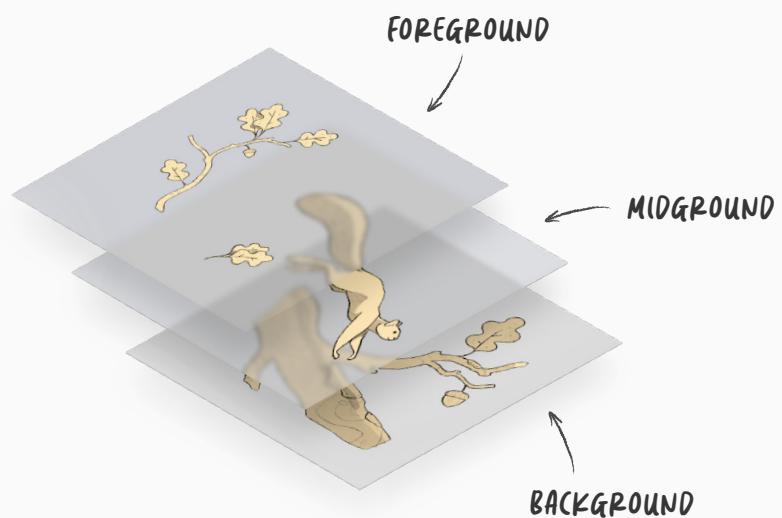
Final artwork

Color and texture

Experiment with different brushes from the *Brush Library*, add color to bring your artwork on each layer to life.

REMEMBER

You'll be able to see behind objects at some angles in AR, so don't leave any 'holes' in you artwork. Draw each layer completely, even if an object sits in front and covers parts of it up.

Turn your layers off and on using the tick boxes in the *Layers Panel* to check your work as you go.

Export

Export layers to Photos

1 Once you've completed your artwork, tap the *wrench* icon to open the *Actions menu*.

2 Then tap *Share*.

3 Under *Share Layers*, tap *PNG Files*. This will export all of the layers in your artwork as a separate image to your *Photos* app.
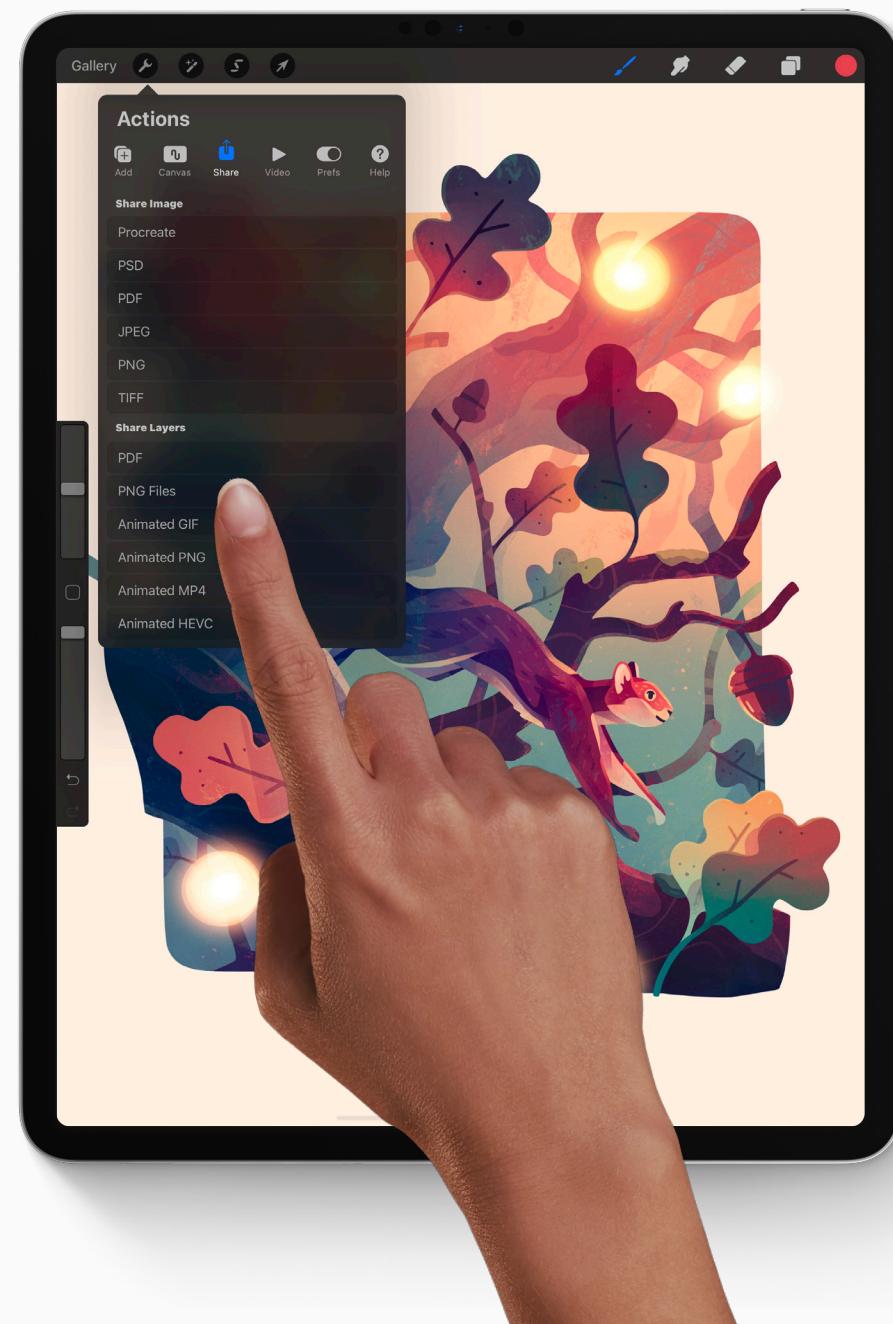
Part 2 - Code

Create an Augmented Reality Experience

Congratulations! Your artwork is ready to be coded into your very own AR environment.

Make sure you have the Swift Playgrounds app installed on your iPad from the App Store, to do the second part of this lesson.
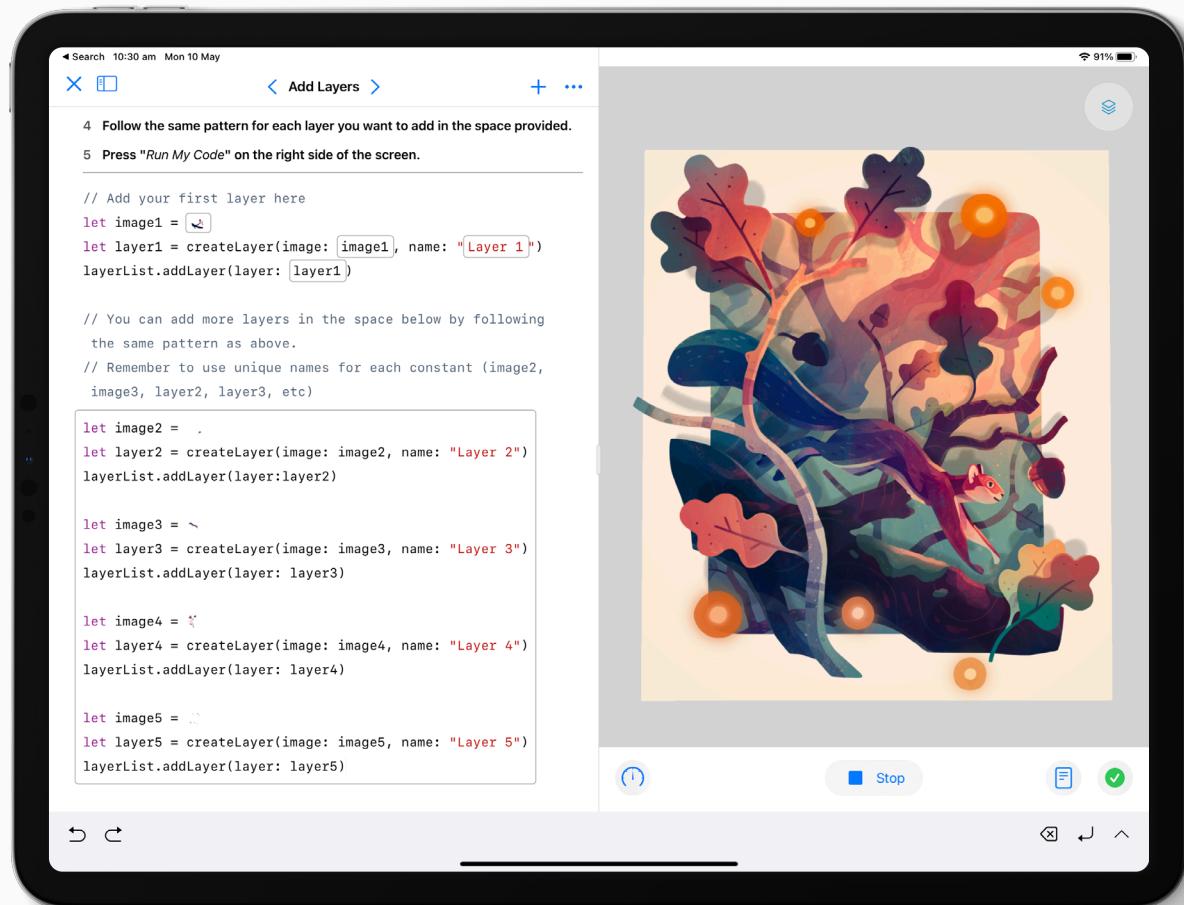
Download options

Subscribe in
Swift Playgrounds

If you subscribe in Playgrounds you will automatically see all lessons published by Procreate in the Swift Playgrounds App.

1. Open Swift Playgrounds

2. Tap See All at the bottom right of the screen to find more lessons.

3. Scroll to the bottom of the More Playgrounds screen, and tap Enter a Subscription URL.

4. Type in *swift.procre.at* and tap *Subscribe.*

5. Tap Subscribe in the confirmation pop up.

6. The lesson will appear in the above feed. Tap *Get* next to the Layers of Reality lesson.

Swift Playgrounds
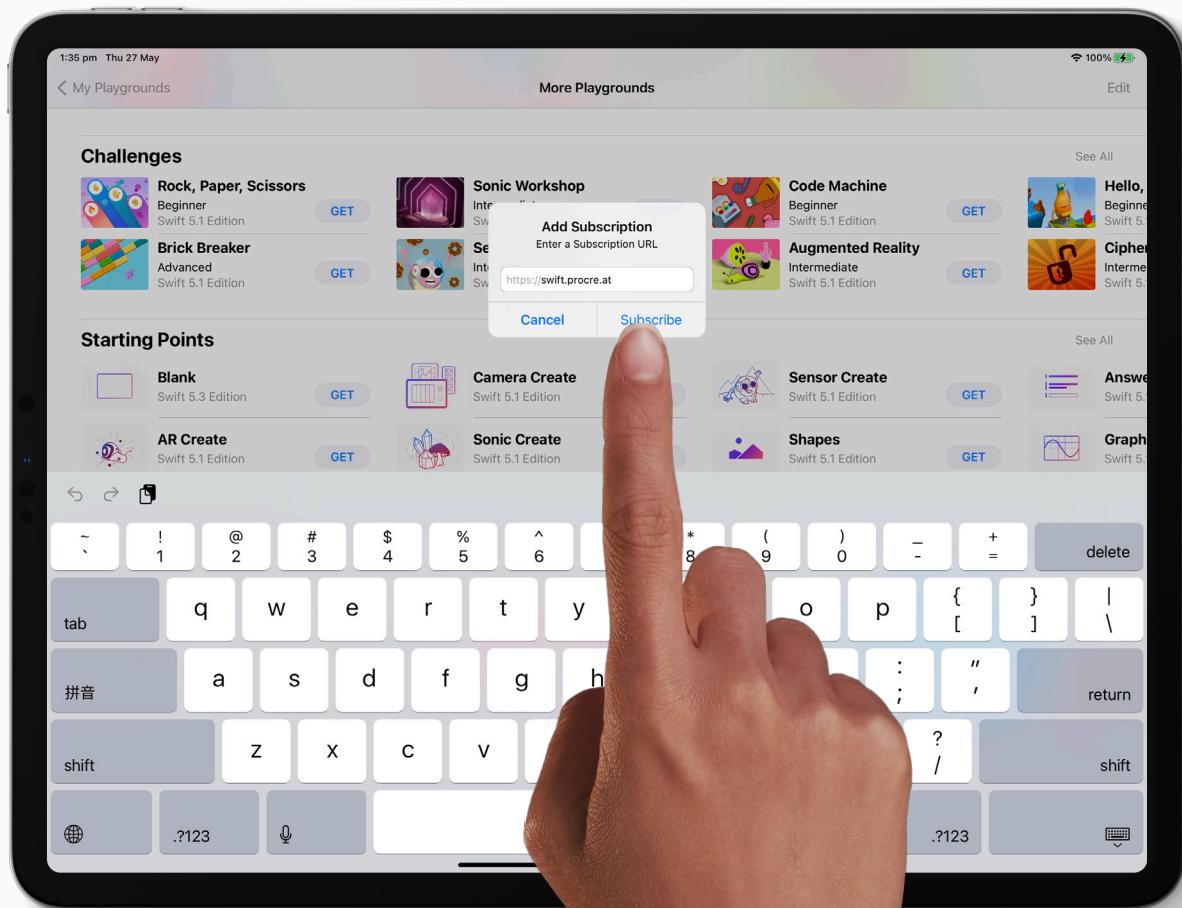
Import via Playground Book download

Alternatively, you can download the Playground Book file straight to your iPad or computer for distribution.

1   Go to procre.at/layersofreality, and tap *Part 2* to download the .zip file.

2   Save to your *Files* App and tap to unzip.

3   Open the unzipped file in Swift Playgrounds, or use Airdrop to distribute to the class.

CREATIVITY AND CODE

Layers of Reality

Download Lesson

PART ONE   PART TWO

You must have Swift Playgrounds installed on your ... part two of this lesson.
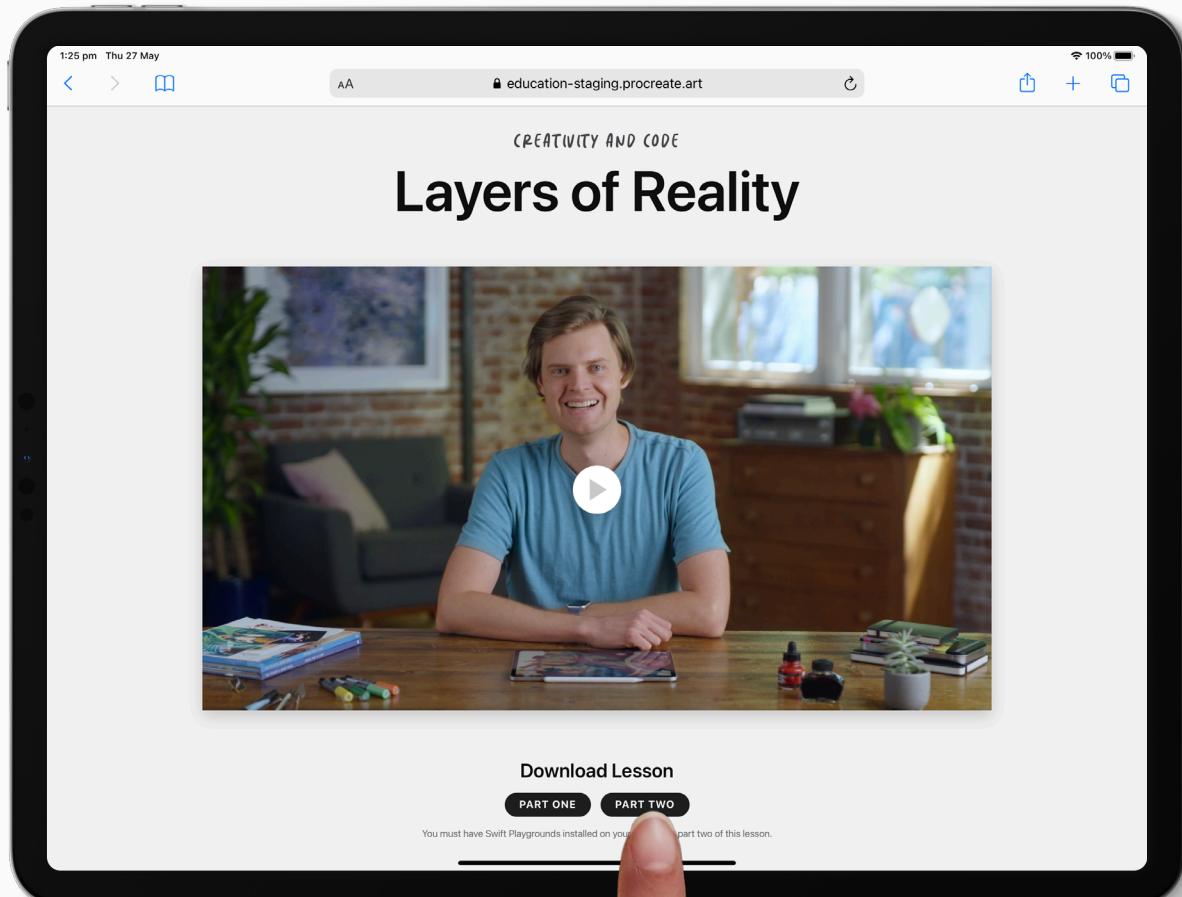
Create

Artistic expression helps make education meaningful, memorable and fun. Find more creative lesson ideas at education.procreate.art

To dive deeper into the full creative potential of Procreate, see our Handbook at procreate.art/handbook

Learn with
Procreate®