

LESSON IDEA

# 3D Product Design

ART & DESIGN



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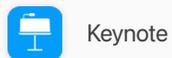
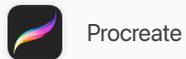
# Lesson ideas

Use these Lesson Ideas to spark your imagination for using Procreate in the classroom. Feel free to take them further and make them your own.

# 3D Product Design

Introduce students to a whole new dimension of creativity with 3D Painting, as they create their own product designs.

All you need is an iPad and the following apps:



## Educational Value

- ✓ Students will experiment with visual arts conventions and techniques to plan and design a product that resonates with their intended audience.
- ✓ Students will understand the key principles of painting texture onto three-dimensional models using digital technologies.
- ✓ Students will summarize and communicate the ideas used to form their artworks.



# In this guide

1 Download a model

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3 Ideate

---

4 3D Painting Basics

---

7 Create

---

11 Adjust your lighting

---

12 Share

---

13 Take it further

---

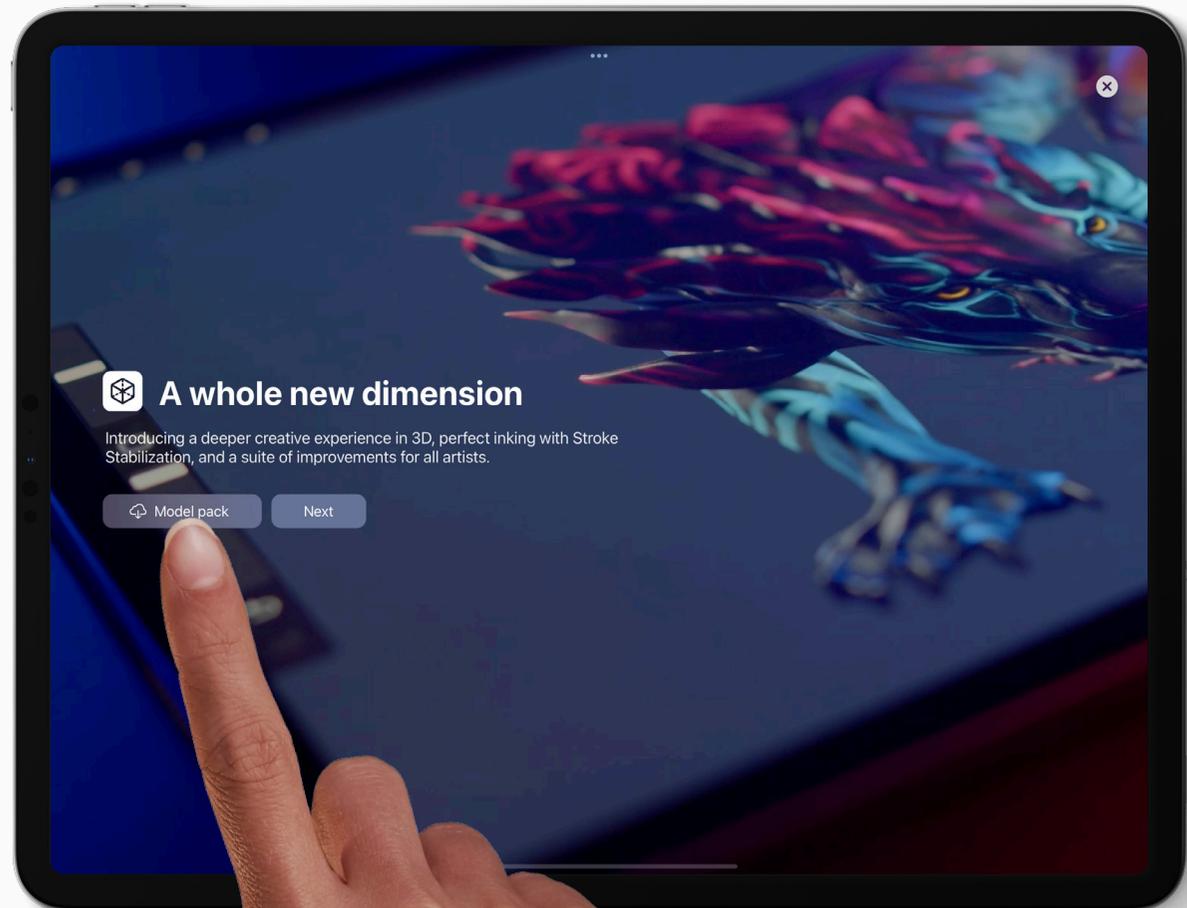
# Download a model

1.

## What's new?

Procreate 5.2 includes a model pack full of 3D objects ready for you to paint on.

- 1 To access *What's New?* at any time tap *Actions > Help > What's New?*
- 2 In *What's New?* you'll find a *Model pack* download button. Tap this to download the model pack and access the 3D files from your Gallery.

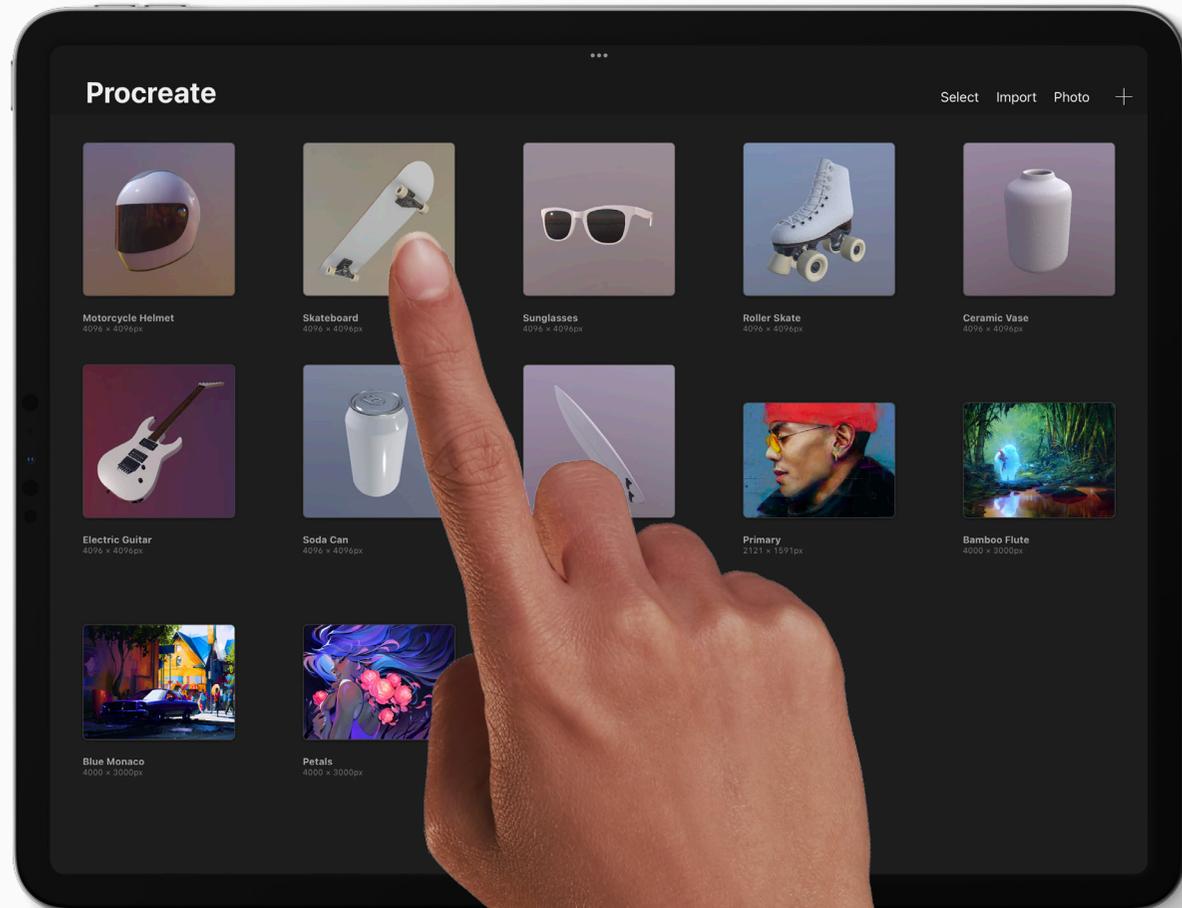


## Pick a product

Tap the 3D model you'd like to use to open it and activate 3D Painting.

### WORKING WITH IMPORTED MODELS

You can choose to work with any of the models in the model pack, or on one that you sculpted yourself in other software. Just make sure that any imported models have a UV unwrap. Read more about model requirements on the [3D Basics page](#) of the Handbook.

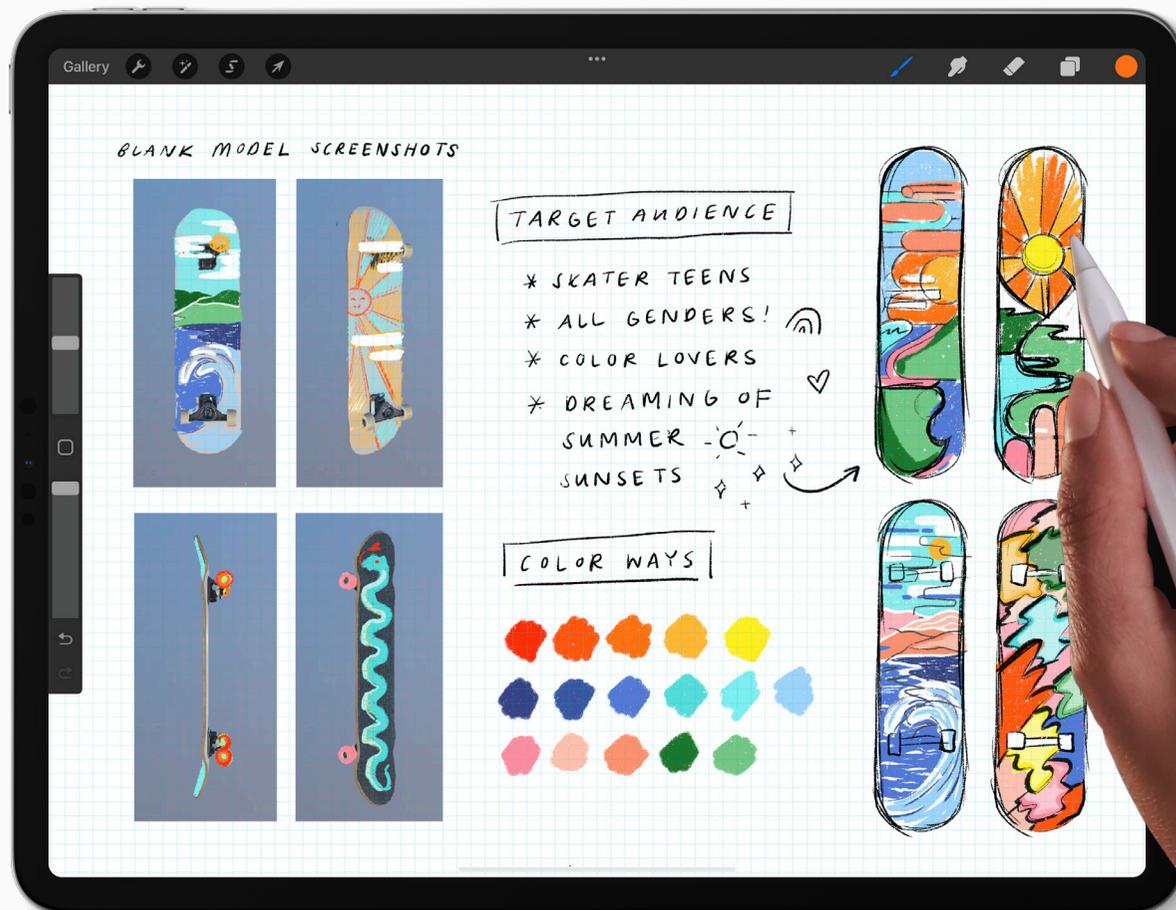


# Ideate

## Consider your audience

In a screen-sized 2D canvas, brainstorm the potential audience for your product, and the kind of design that will best suit it.

- \* Who do you think will use your product?
- \* What look and feel do you think will be appealing to that person?
- \* Would you like to send a message, tell a story, or achieve a particular design aesthetic through your design?



# 3D Painting Basics

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## Gestures

3D Painting has different gestures for some of Procreate's familiar actions. It also adds new gestures exclusive to 3D for rotating and mesh selection. Undo, Redo and Quick-Pinch still all work as normal. You can read more about 3D gestures on [this page](#) of the Handbook.

### DON'T HAVE AN APPLE PENCIL?

If you don't have an Apple Pencil, or can't use one, you can activate one finger painting by tapping *Actions > Prefs > Gesture Controls > General > Enable 3D painting with finger*.

If you turn this on, you will need to tap-and-hold the *Modify* button on the brush slider to rotate your model.

### GESTURES TOO TRICKY?

Turn on the *Single Touch Gestures Companion* in Procreate settings in the *iPadOS Settings App* on your iPad, so you can use a single touch to undo, redo, zoom, move and rotate.

### PAINT, SMUDGE, ERASE

Use an Apple Pencil to get painting on a 3D model, it works just like regular 2D painting.



### MOVE + ZOOM

Tap and drag in a direction with two fingers make your 3D model move, pinch to zoom in and out.



### ROTATE

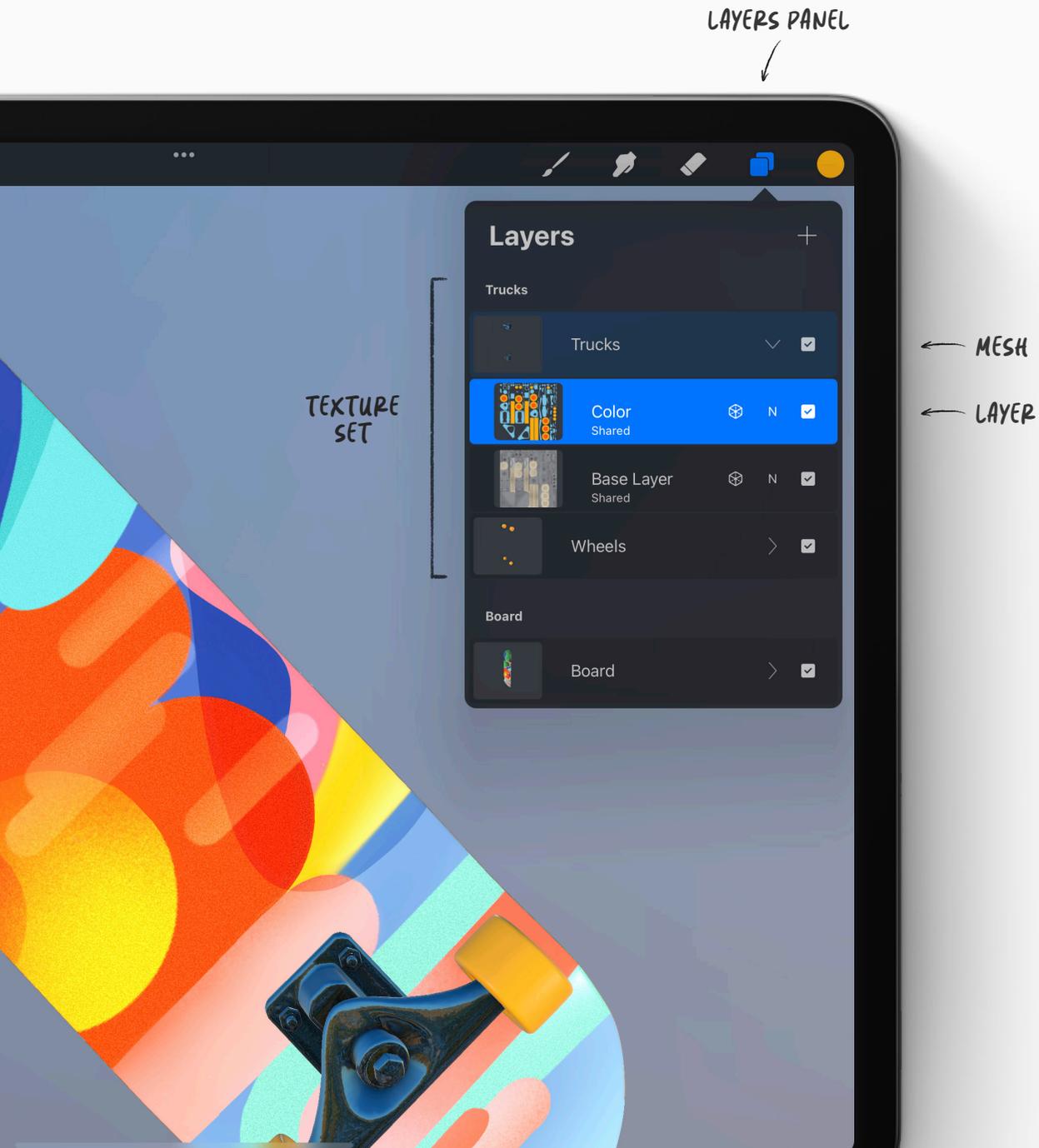
Tap and drag with one finger to access all angles of a 3D model.



### SELECT MESH

Tap to select an isolated part of a 3D object you want to paint – the area will flash blue.





## Layers Panel

The *Layers Panel* also looks a little different in 3D artworks. Each model is broken down into a series of 'texture sets', and each texture set contains both 'meshes' and layers. Layers are shared between all meshes in a texture set.

Simple models may only have one texture set with one mesh, and complex models may have many.

- \* The skateboard example shown here has two texture sets shown in the Layers Panel: 'Trucks' and 'Board'.
- \* The Trucks texture set has two meshes attached, 'Trucks' and 'Wheels', and two layers, called 'Base Layer' and 'Color'.
- \* The 'Board' texture set has one mesh attached, also called 'Board'.

Models with multiple meshes can be easier to paint, because you can select an isolated area to focus on – kind of like a Clipping Mask.

## Materials

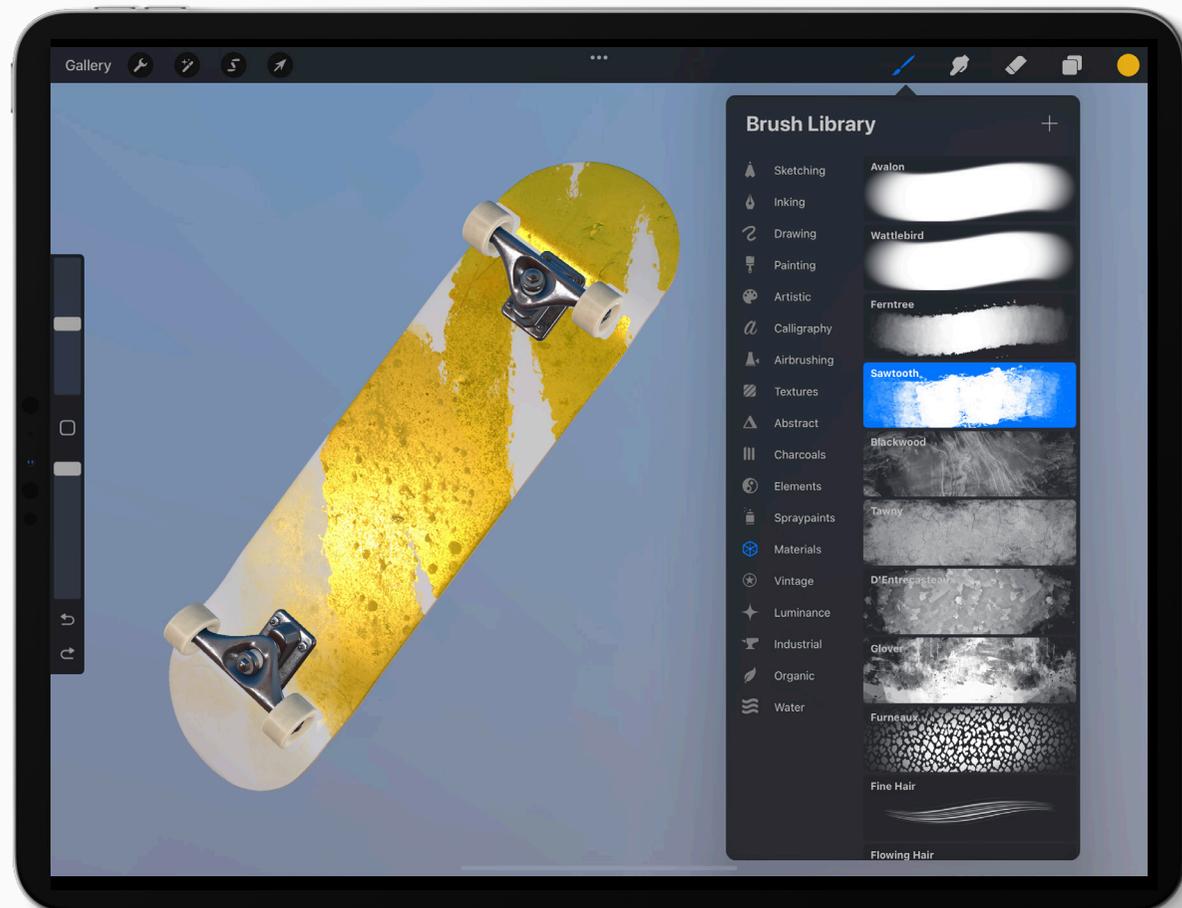
In addition to painting with color, you can also paint 3D models with two extra materials: *Metallic* and *Roughness*.

You can add Metallic and Roughness properties to any brush in your Brush Studio, but Procreate comes with some inbuilt Material brushes to get you started.

- \* Tap the *Brush* icon to open the *Brush Library*. Open the *Materials* brush set.
- \* Have a play with the brushes in this set, and think about how you can use different material effects in your design.

### MAKE IT SHINY

Select a golden yellow color and draw with *Avalon* or *Sawtooth* brushes in the *Materials* set, to paint your object with gold. Rotate to see the shiny effects!



# Create

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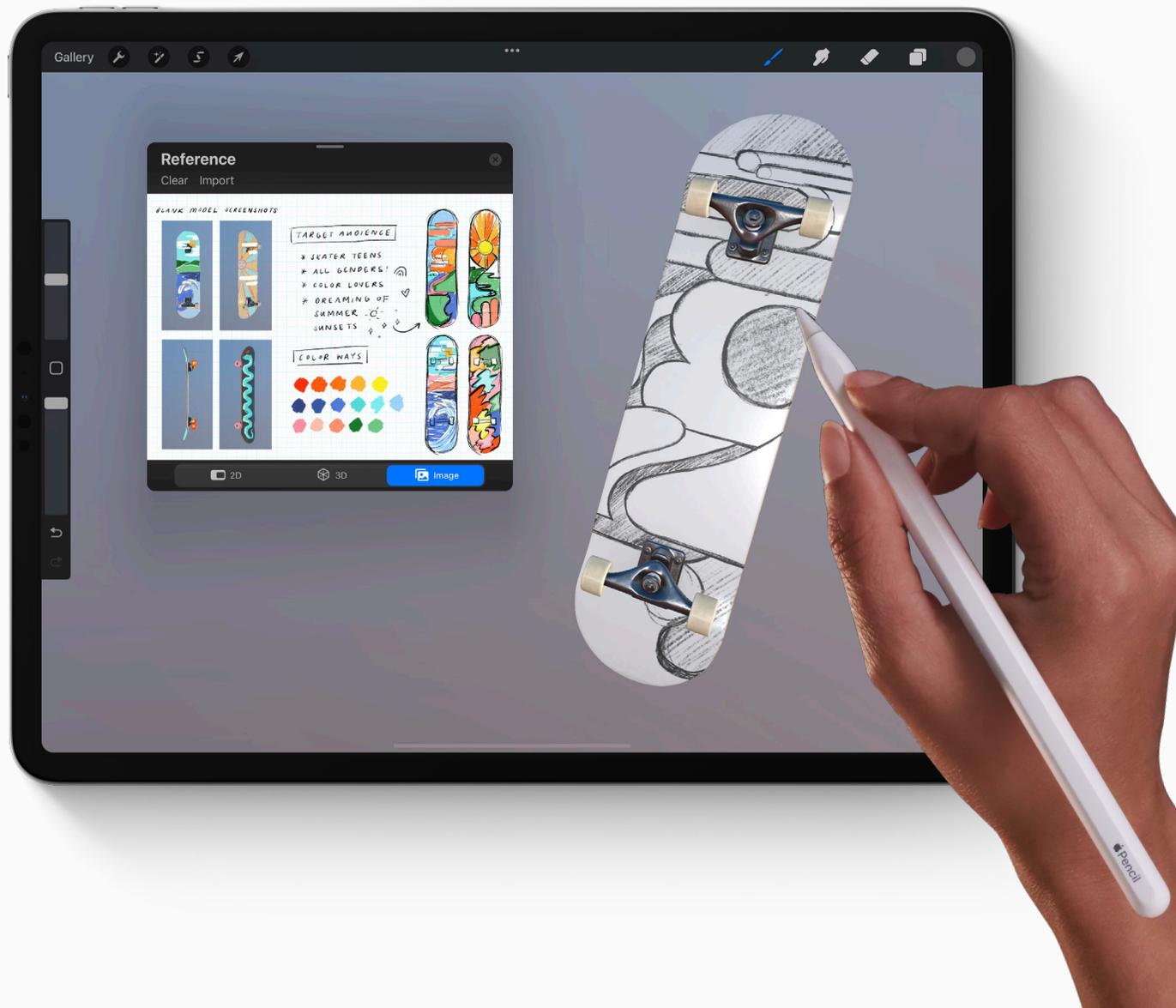
## Sketching in 3D

Now you've settled on a design direction, open your 3D model and start blocking in your design with a brush from the *Sketching* set.

### USING REFERENCE WINDOW

To turn on the Reference companion tap *Actions* > *Canvas* > toggle on *Reference*.

In 3D mode, the Reference companion has three different views to help you as you work. If you save your ideation page to your *Photos* app, you can import it to your Reference companion in *Image* mode, and refer to your initial sketch as you map it onto the model.



## Adding color

Just as you would on a regular 2D canvas, it's time to create a new layer, and add some color.

You can use all the brushes and painting techniques that you would usually use in your 2D artworks.



## View in 2D

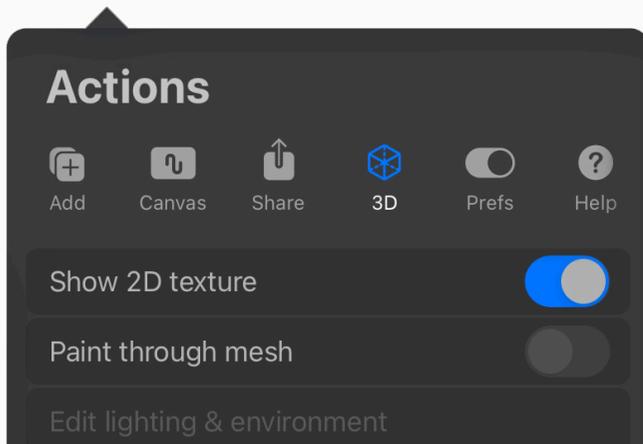
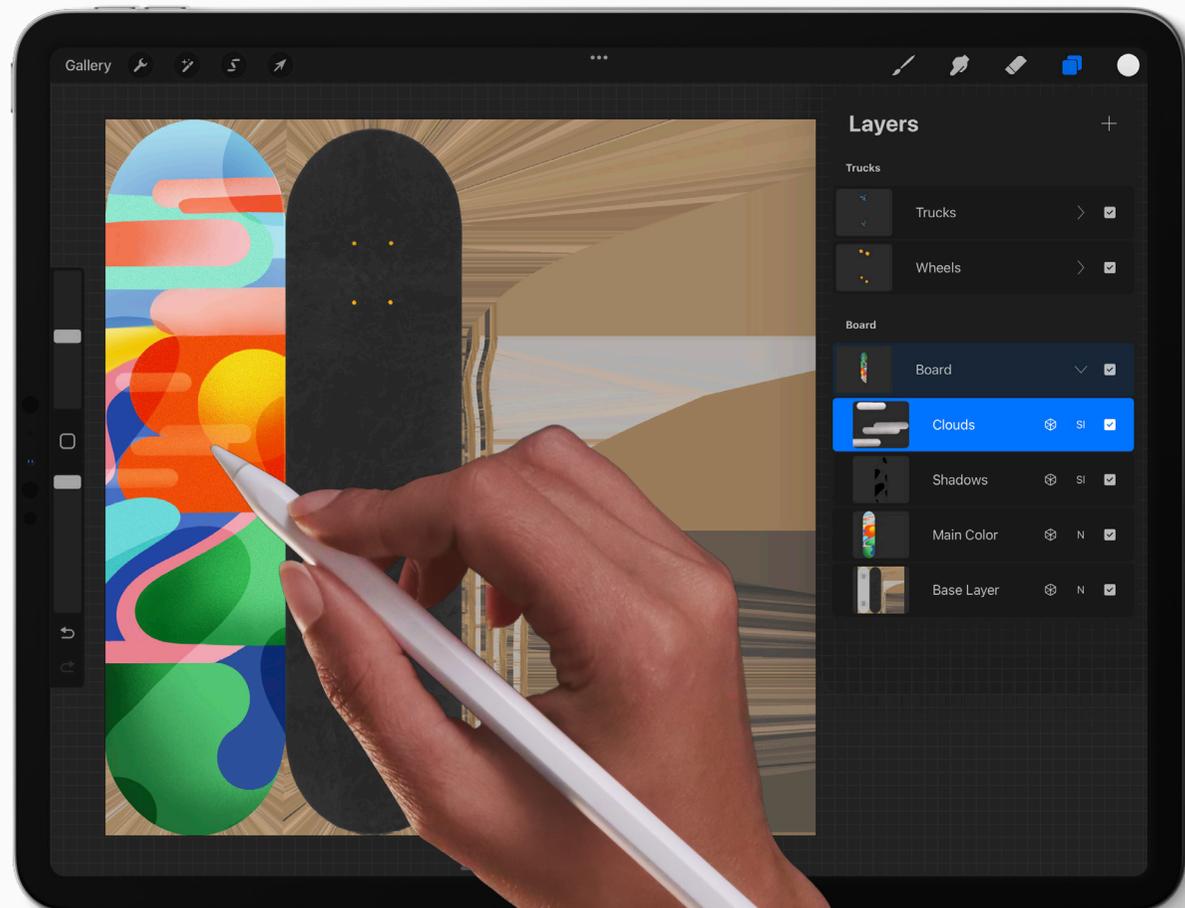
Tap the wrench icon to open the *Actions* menu, then tap *3D*, and *Show 2D Texture*.

Here you can add a few final details onto your design, and easily touch up hard to reach areas that are blocked by other meshes on your 3D model. You can also perform adjustments here that don't work in 3D mode, such as Liquify.

### NOTE

Only the currently selected texture set is displayed in 2D mode. In this model, if you tap into the top texture set by selecting either the 'Trucks' or 'Wheels' meshes, the 2D view will change.

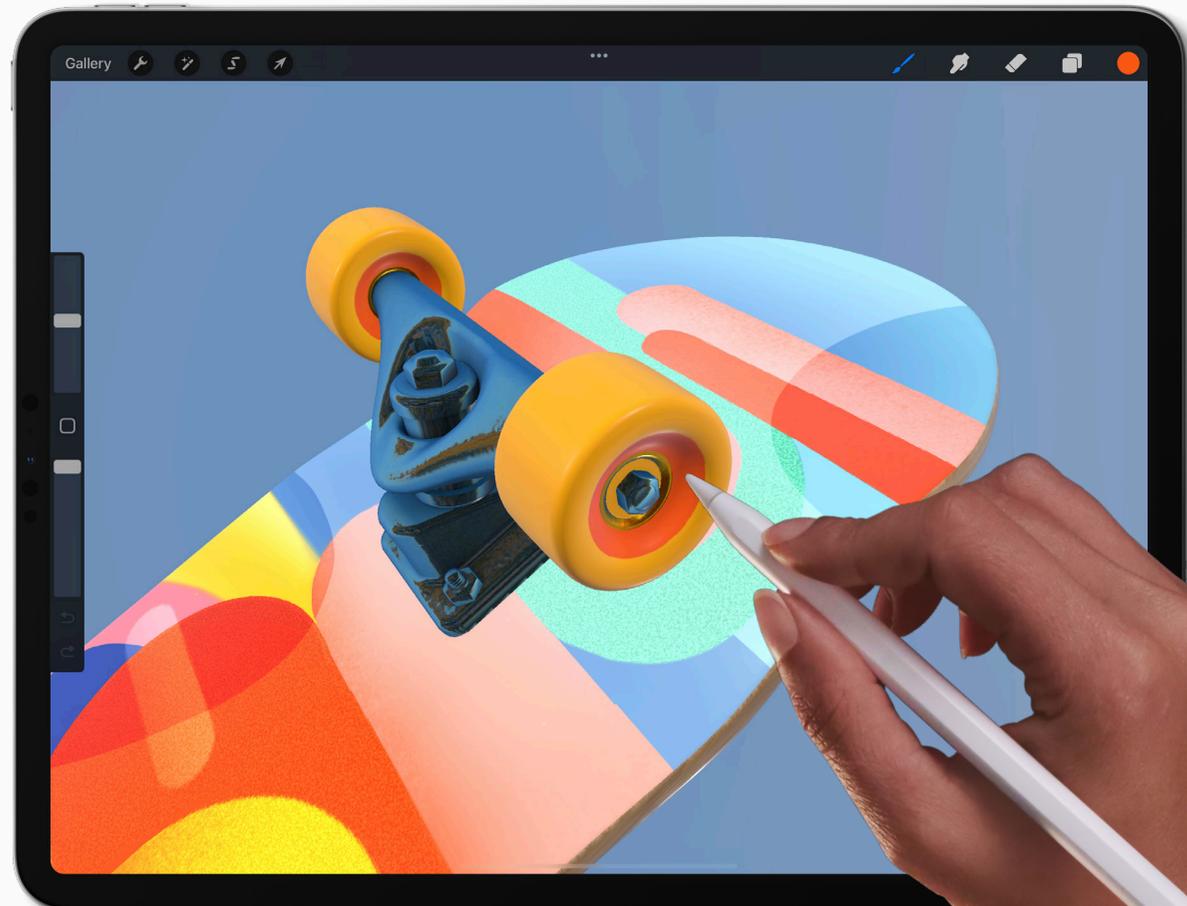
ACTIONS



## Final details

Take some time to add different textures and final details to all of the meshes contained within your object.

- \* Think about the thoughtful touches that would make your product stand out from others in a store, and make your audience feel like it is for them.
- \* How can you use *Materials* brushes to help your object feel realistic?



# Adjust your lighting

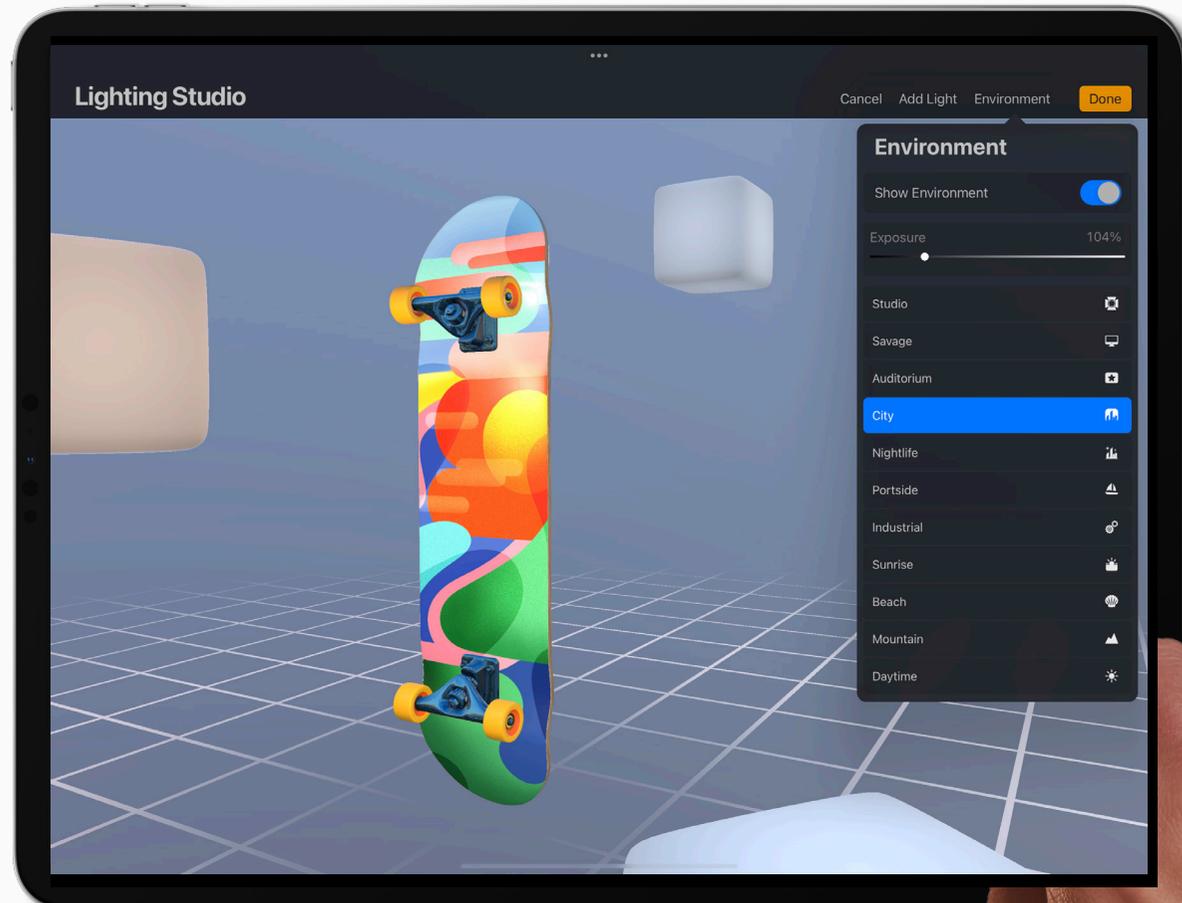
11.

## Lighting studio

How colors and materials appear on your object depends on the lighting in your environment. You can change environments and add different lights.

- 1 Tap *Actions > 3D > Edit lighting & environment* to enter the Lighting Studio.
- 2 Tap *Environment* to access the Environment panel and light the scene your 3D Painting appears in. You can access 11 different indoor and outdoor preset environments, plus adjust their brightness or remove the background completely.
- 3 Tap *Add Light* to add up to four light sources. Tap to adjust the *Hue*, *Saturation* and *Intensity* of each of your lights.

The lighting will export with your object in some export settings, making lighting design an important part of your product design to consider.



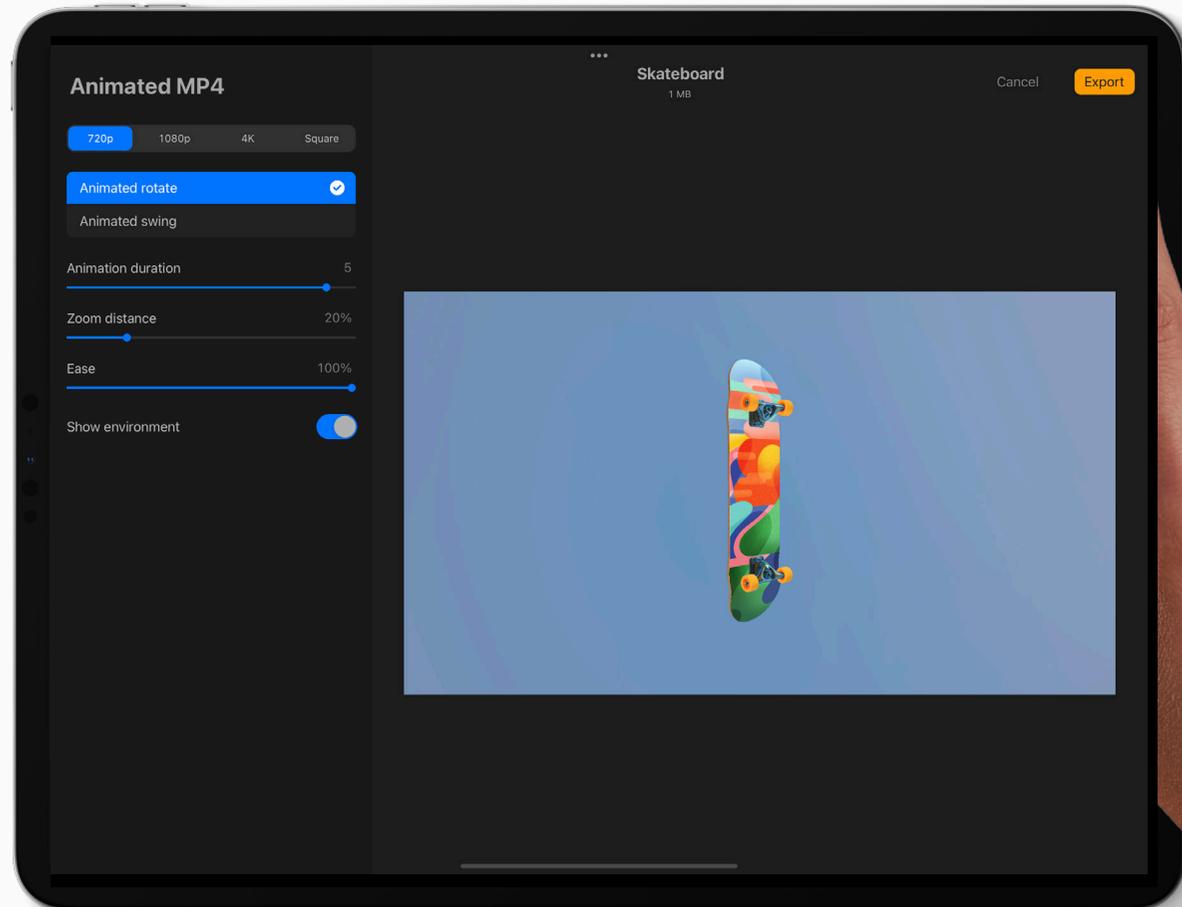
# Share

12.

## Export options

Procreate has three options for sharing 3D painting models:

- \* *Share Model* for sharing your work in 3D formats.
- \* *Share Image* for sharing your work in image and video formats. (This is the best option for incorporating your 3D work into other native iPad apps such as *Keynote* and *Pages*.)
- \* *Share Textures* for sharing your work in 3D formats as a flattened image.



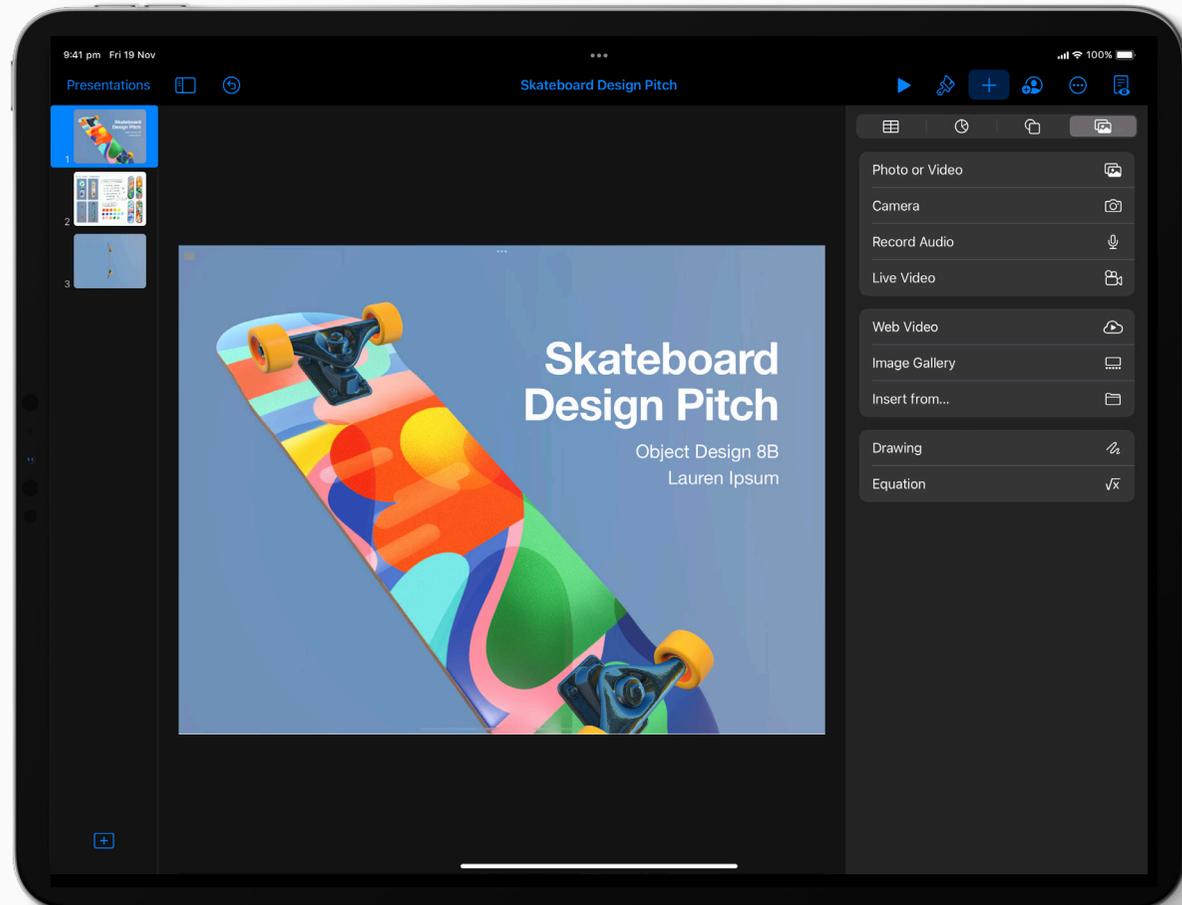
# Take it further

13.

## Design a pitch document

Present your design to your classmates and see if they have any feedback.

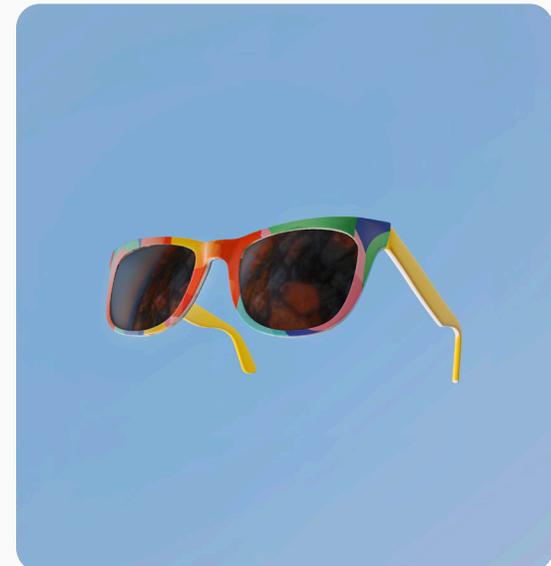
- \* Collate your initial research, a selection of sketches and your exported 3D design into a *Keynote* presentation.
- \* Be sure to include your ideation process as a part of your pitch, so your classmates understand who the intended audience for your product is.
- \* Make note of the feedback your peers offer, so you can consider afterwards what refinements you'd like to make.



## Develop a product line

Take your design and adapt it to suit a small range of products, using other objects in the 3D model pack.

- \* How can you help the designs in your line to feel cohesive?
- \* What objects from the product pack make the most sense to be grouped together in a product line?



# Create

Artistic expression helps make education meaningful, memorable and fun. Find more creative lesson ideas at [education.procreate.art](https://education.procreate.art)

To dive deeper into the full creative potential of Procreate, see our Handbook at [procreate.art/handbook](https://procreate.art/handbook)



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TOM BOOTH