WORKSHEET 05 · TOPIC 5

RenderClass: *materials* & stickers

Turn a grey CAD model into a product. You will load a STEP file, paint every part with a real material and add a sticker (decal).

⏱ 50 MIN · COMPUTER + CHROME/EDGE · N5-REN_STUDIOPRO_FILES.ZIP · DETSCOTLAND.CO.UK/RENDERCLASS

Name

Class Date

LEARNING INTENTION

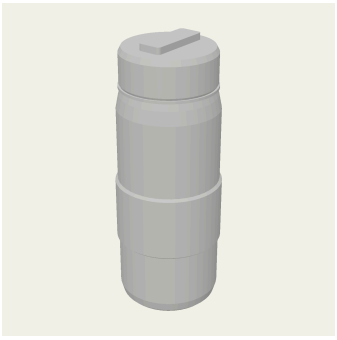
To apply materials and a decal to a 3D CAD model and describe the 3D CAD illustration techniques used.

SUCCESS CRITERIA — I CAN…

- load a STEP file and set it the right way up
- apply a suitable material to every part
- add and adjust a sticker
- name the 3D CAD illustration techniques correctly

TASK 1 Know the stages

3 marks



STAGE 1



STAGE 2



STAGE 3

1 Name the 3D CAD illustration technique used to go from stage 1 to stage 2. 1 mark

2 Name the 3D CAD illustration technique used to go from stage 2 to stage 3. 1 mark

3 Explain one effect that the technique in question 2 has on the final image. 1 mark

EXAM TIP

When a question asks you to **name the 3D CAD illustration techniques**, the accepted answers are **material**, **texture** and **light source / lighting**. "Colour", "highlights" and "shadows" on their own get no marks.

IN THE ZIP FILE

- Pulse_Speaker.step + Pulse_Decal_Logo.png
- Brew_Flask.step + Brew_Decal_Logo.png
- Beam_Torch.step + Beam_Decal_Logo.png

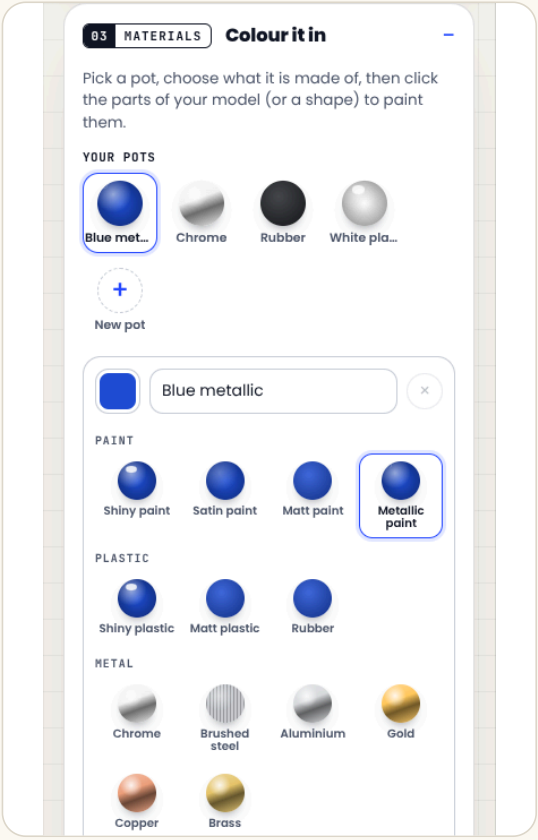
Each part is a separate body, so "A whole part" paints it in one click.

TASK 2

Client brief — Brew travel flask

BREW LTD WANT…

Model	**Brew_Flask.step**
Body	Metal · **Brushed steel**
Grip band	Plastic · **Rubber**, black
Lid	Plastic · **Shiny plastic**, black
Lid seal	**Rubber**, black
Flip tab	Plastic · **Matt plastic**, red
Sticker	**Brew_Decal_Logo.png** on the front of the body, above the grip band · Finish: **Matt**
View	3D pictorial view, slightly from above



STEPS

1. Unzip **N5-REN_StudioPro_Files.zip**. Open **detscotland.co.uk/RenderClass** and drop in **Brew_Flask.step**.
2. **01 Start** — check it stands upright. If not, use **Tip forward 90°**.
3. **03 Materials** — rename Pot 1 "Steel", choose **Brushed steel**, select **A whole part**, click **Paint: click the model**, then click the body.
4. Click **+ New pot** for each other material in the brief. Paint each part.
5. **04 Stickers** — **+ Add a sticker (PNG)**, choose the Brew logo, click the front of the body. Set **Size** and **Finish: Matt**.
6. Click **Save project** (.dcstudio) into your OneDrive so you can carry on next lesson.
7. **08 Save** — Quality **Good**, then **Save picture (PNG)**. Print it or paste it on the next page.

IF SOMETHING GOES WRONG

PROBLEM	FIX
Model is lying on its side	01 Start → **Tip forward 90°** or **Roll sideways 90°**
Painted the wrong part	**Undo** (Ctrl+Z), or choose the right pot and click the part again
Sticker is upside down / too big	04 Stickers → **Turn** and **Size** sliders, or **Move**
Picture goes white or very slow	Click **Fast** while setting up; tell your teacher (there is an **Information for IT** button)

PASTE OR PRINT YOUR RENDER HERE

Type-in version: print this box, or render digitally and hand it in with this sheet.

CHECKLIST

- [ ] Every part has a material from the brief
- [ ] No part is still the default blue paint
- [ ] Logo is the right way up, on the front, above the grip
- [ ] Sticker finish is Matt
- [ ] 3D pictorial view
- [ ] Project saved (.dcstudio)

TASK 3 Explain your choices

6 marks

4 State which **painting** option you used to paint the whole lid in one click. 1 mark

5 Explain why the logo was saved as a PNG with a transparent background. 1 mark

6 Explain why **rubber** is a suitable material for the grip band, and how the render shows this. 2 marks

7 Describe the difference between a **material** and a **texture** in 3D CAD rendering, using the flask as an example. 2 marks

TASK 4 Extension — your own colourway (Pulse speaker)

Load **Pulse_Speaker.step**. Create a new colourway for a target market of your choice. Choose materials that could really be **manufactured**. Add **Pulse_Decal_Logo.png**.

PART	MATERIAL CHOSEN	REASON
Body		
Top ring		
Top cap		
Foot		
Button		

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Target market:

Why your colourway suits this market:

Total for knowledge questions _____ / 9

SELF-ASSESSMENT — TICK ONE BOX PER LINE (✓)

I CAN…	NOT YET	NEARLY	GOT IT
load a STEP file and stand it the right way up	☐	☐	☐
apply a suitable material to every part	☐	☐	☐
add and adjust a sticker	☐	☐	☐
name the 3D CAD illustration techniques	☐	☐	☐

One thing I will do to improve: