META-META Club

WORKBOOK · MODULE 4 OF 6

Drawing set

Agent-Built 3D. Have the agent produce drawings from the model.

Pro studios | 1 lessons | 75 min | 4-question practice quiz | Notes pages

IN THIS MODULE

Drawing set

Have the agent produce drawings from the model.

#	LESSON	TYPE	TIME	DONE
4.1	Generate a drawing set	LAB	75 min	☐

How to use this workbook

- Work through each lesson on metametaclub.com/learn, or listen to its narration, then use the page here to take notes.
- Tick the steps as you go, and write your answers under **Check yourself** before you look anything up.
- Do the practice quiz at the end, then mark it with the answer key on the last pages.
- Keep every **Ship it** piece. Together they become what you show.

Before you start

What do you already know about this, and what do you want to be able to make by the end?

LESSON 4.1 · LAB · 75 MIN

Generate a drawing set

Turn your 3D model into a set of 2D drawings: a plan, two elevations and a section. A script sets up the cameras and renders them all.

Key points

Why drawings still matter

Clients, builders and councils read drawings. A model you can spin is great; a plan you can print is what gets signed.

How it works

- **Orthographic cameras.** No perspective, so lines stay parallel and things keep their true proportions. That is what makes a drawing.
- **Freestyle.** Blender's line renderer. It draws edges and outlines over the render.
- **Clipping for sections.** An orthographic camera only shows what lies past its clip start. Move the clip start into the building and you cut it open: a section.

The script

Save as `drawings.py` and run `blender -b room.blend -P drawings.py`.

The section camera sits 20 metres away but starts seeing at 19.5 metres, so it slices the room half a metre in from the origin plane facing it. Adjust to cut where it matters.

Steps checklist

- [ ] Run the script and open the `drawings` folder.
- [ ] Check each view. If the building is cropped, raise `ortho_scale`.
- [ ] Move the section cut so it passes through the window.
- [ ] Ask your agent for one upgrade: white materials for a clean look, thicker outer lines, or a title block added in an image editor.
- [ ] Lay the four images on one sheet with labels: Plan, South elevation, East elevation, Section A.

This lesson has code samples. They are printed in full in the lab handout (agent-built-3d-lab-4-1.pdf) and in the lesson on metametaclub.com/learn.

SHIP IT

One sheet with four labelled drawings from your model.

- [ ] Shipped. Link or file: _____

Check yourself

1. Why must drawing cameras be orthographic?

2. How does `clip_start` make a section?

3. What would you change to draw the north elevation?

PRACTICE QUIZ

Check your module

Circle one answer for each question. The answer key is on the next page.

1. Why use orthographic cameras for a drawing set?

(A) They render faster
(B) They have no perspective, so lines stay parallel and true to scale
(C) They add colour
(D) Freestyle only works with them

2. How does the script make a section view?

(A) It deletes half the model
(B) It sets the camera's clip start inside the building, cutting it open
(C) It uses a Boolean modifier
(D) It renders with a transparent material

3. What does Freestyle add to the render?

(A) Lines along edges and outlines
(B) Shadows only
(C) Higher resolution
(D) Text labels

4. Why produce drawings and 3D from one model?

(A) It saves disk space
(B) So the drawings and the model always agree
(C) Agents cannot draw otherwise
(D) Councils only accept Blender files

ANSWER KEY

Answers and why

1 · B They have no perspective, so lines stay parallel and true to scale

Drawings need true proportions and parallel lines, which orthographic projection gives.

2 · B It sets the camera's clip start inside the building, cutting it open

Nothing nearer than clip_start is drawn, so a clip start inside the building slices it.

3 · A Lines along edges and outlines

Freestyle is Blender's line renderer; it draws edges over the image.

4 · B So the drawings and the model always agree

One source of truth means a change in the model shows up in every drawing.

NOTES

Build log and notes

SESSION	WHAT I MADE OR LEARNED	NEXT STEP