

# Mosaic Art — Workbook

This workbook turns the course into reps at the bench. Each section pairs a course module with hands-on cutting and laying exercises, fill-in worksheets, and checklists so you build real, durable mosaics as you learn. Work through it with your nippers, tesserae, and substrate in front of you, and keep your material and grout notes in the templates at the end so every piece you make is repeatable.

## Materials, Tools, and a Safe Workspace

Set up a safe bench, choose your first tools and tesserae, and lock in cutting safety before you make a single cut.

### Exercise: Match the Material to the Project

Pick three small projects you actually want to make (for example a coaster, a wall panel, and a garden stepping stone). For each, decide which tesserae family fits the setting and why, then list the cutting tool it requires. Resist choosing by color; choose by setting and durability first.

- For each project, will it ever be outdoors or get wet, and what does that rule out?

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- Which tesserae family did you pick for each, and is it frost-proof if needed?

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- What cutting tool does each material require, and do you own it yet?

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- Where could you start with cheap vitreous glass instead of expensive smalti to practice?

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### Worksheet: Tool and Material Shopping List

Fill this in before buying anything so you spend on the right starter kit instead of accumulating the wrong tools. Aim for one good pair of wheeled nippers and a small mixed selection of tesserae to start.

Primary cutting tool chosen (wheeled nippers / tile nippers / hammer-and-hardie)

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Brand, price, and where to buy it

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Tesserae types and quantities for the first project

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Substrate (MDF / cement board / mesh / glass) and size

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Adhesive chosen for the first project

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Grout type and color, sealer, and safety kit items still needed

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## Checklist: Cutting-Safety Setup Check

- [ ] Wraparound safety glasses or goggles are on the bench and worn for every cut
- [ ] I cut inside a tub, bag, or behind a shield so shards are contained
- [ ] An N95-or-better dust mask is available for cutting stone or porcelain
- [ ] A dedicated, food-free work surface I can wipe with a damp cloth is set up
- [ ] A lidded offcut container and a tweezers-and-bandages first-aid kit are within reach

## Cutting Tesserae and Laying Andamento

Drill accurate cuts, then practice andamento and the opus styles until laying flow becomes second nature.

### Exercise: Ten Clean Cuts in a Row

Using cheap vitreous glass and your wheeled nippers, cut ten halves in a row that each land on your intended line. Then cut ten quarters, ten triangles, and round one square into a circle by nibbling. Save the good pieces in a sorting tray; this is practice that feeds real projects.

- How many cuts in a row landed where you intended on your first attempt?

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• When pieces shattered, were you biting too deep or are your wheels worn flat?

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• How many nibbles did a clean rough circle take, and can you reduce it next time?

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• Did rotating the nipper wheels a quarter turn improve ragged cuts?

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### Exercise: Opus Sampler Board

Divide a 15cm square backing into four quadrants. Lay each quadrant in a different opus style (regulatum, tessellatum, vermiculatum or palladianum, and musivum) using the same color tiles. Compare how the laying pattern alone changes the feel, with no color change involved.

- Which opus style felt calmest, and which felt most full of movement?

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• Where would you use opus vermiculatum to separate a subject from its background?

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• Which style best hid your imperfect cutting?

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• How would you combine two or three of these in a single finished piece?

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### Worksheet: Andamento Plan for One Design

Before laying a real piece, sketch its andamento. Decide the flow lines first, the way a painter decides brush direction, then record the plan here so you lay with intention rather than improvising.

Subject of the piece and its main contour shape

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How many contour (vermiculatum) rows will hug the subject

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Background andamento direction and how it echoes the subject

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Opus style for the subject fill, the background, and the border

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Target joint gap in millimetres and chosen grout color

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Where smaller cuts go for detail versus larger pieces for open areas

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## Checklist: Before-You-Lay Check

- Andamento and contour lines are sketched on the substrate in pencil
- Tesserae are pre-sorted by color and rough size into trays
- A consistent joint gap of about 1 to 2mm is established with a test row
- No long straight grout lines run across unrelated areas of the design
- Border opus is chosen and will frame the flowing center

## Adhesives, Substrates, and Setting Methods

Pick the correct adhesive and substrate for the setting, then run both the direct and indirect methods so you can choose the right workflow per piece.

### Worksheet: Adhesive Decision Sheet

Complete this for each project before you glue. It forces the one question that prevents most failures: will this ever be outdoors or wet? Use it alongside the adhesive tracker template.

Project name and where it will live (indoor dry / indoor wet / outdoor)

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Substrate being bonded to

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Will it ever be outdoors or get wet? (Yes / No)

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Adhesive chosen (PVA / thinset / silicone / epoxy) and why

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Cure time required before grouting

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Mixing ratio or open time notes for the chosen adhesive

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### Exercise: Direct vs Indirect, Side by Side

Make two small test tiles of the same simple pattern: one with the direct method (gluing face-up onto the substrate) and one with the indirect method (laying face-down on paper, then bedding in thinset and flipping). Compare the flatness of the two finished surfaces.

- Which method gave the flatter front surface, and why does that matter for a floor?

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- Which felt more intuitive, and where did you struggle with the reverse layout?

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- For which of your planned projects is each method the better choice?

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- How did peeling the temporary backing go, and what would you change?

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### Checklist: Substrate Preparation Check

- Substrate is correct for the setting (wood indoor-dry only; cement board for wet or outdoor)
- Surface is clean, dry, and lightly textured so adhesive can grip
- Wood panels are sealed on the back and edges as well as the face to prevent warping
- Hanging hardware or stepping-stone form is chosen and sized to the finished weight
- Edge treatment or frame is planned so the rim tesserae have something to butt against

## Grouting, Finishing, and Outdoor Durability

Grout cleanly, finish and seal the piece, and build one frost-proof outdoor mosaic using only durable materials and methods.

### Exercise: Grout One Piece End to End

Grout a finished test piece following the sequence exactly: mix to a peanut-butter consistency, slake, spread from several directions, wait until matte, wipe with a barely damp sponge, then buff the haze. Note your timings so you can repeat the result.

- How many minutes until the grout went matte and firm enough to wipe?

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- Did wiping too soon or with too wet a sponge pull grout out of any joints?

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- How did your chosen grout color change how the tesserae read?

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- Was unsanded or sanded grout correct for your joint width?

### Worksheet: Outdoor Build Spec

Plan a frost-proof outdoor piece, such as a garden stepping stone, before you start. Every material and method here is chosen to keep water out and survive freeze-thaw.

Piece and substrate (concrete round / cement board / stepping-stone form)

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Frost-proof tesserae chosen (vitreous glass / smalti / unglazed porcelain / marble / pebbles)

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Adhesive (exterior thinset) and grout (polymer-modified or epoxy, exterior-rated)

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How the surface sheds water (slope or crown) and how backs are buttered to avoid voids

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Sealer chosen and the annual reseal date

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Winter plan: left out, brought under cover, or stored

### Checklist: Finishing and Sealing Check

All grout haze is buffed off with a clean dry cloth

Penetrating sealer is applied after full cure (48 to 72 hours) and wiped off the tile faces

Edges are framed, trimmed, or grouted for a clean rim

Felt or cork feet are on coasters and trivets, or rated hanging hardware is fitted

The piece is signed, dated, photographed, and (if outdoor) sealed for exterior use

## Your Action Plan

1. Buy one good pair of wheeled glass nippers and a small mixed selection of vitreous glass and unglazed porcelain to practice on.
2. Set up a contained, food-free cutting station with safety glasses, a shard tub, a dust mask, and an offcut container.
3. Drill the five fundamental cuts on scrap glass until ten cuts in a row land on the line.
4. Make an opus sampler board to feel how laying pattern alone changes the look.
5. Sketch andamento before laying, then build a first direct-method coaster on sealed MDF with PVA.
6. Grout the coaster following the full sequence and time each stage; buff the haze and add cork

feet.

7. Build a second piece on cement board with thinset to practice a wet-rated, durable construction.
8. Try the indirect method on a small flat tile to get a dead-flat surface.
9. Build one frost-proof outdoor stepping stone using only dense materials, exterior thinset, and exterior grout.
10. Seal every finished piece with a penetrating sealer, sign and date each, and set an annual reseal reminder for outdoor work.









