STRETCHLEARN · WORKBOOK

Pottery & Ceramics Basics — Workbook

This workbook accompanies each module of Pottery & Ceramics Basics with hands-on exercises, structured observation worksheets, and actionable checklists. Work through each section alongside the lessons to reinforce technique, build a record of your studio sessions, and track progress from first pinch pot to glaze firing.

Clay Bodies, Studio Setup, and Wedging

Establish your studio foundation by selecting and testing your clay, setting up a safe workspace, and logging your wedging practice.

Exercise: Clay Body Comparison Test

Obtain a small sample (100 g) of earthenware, stoneware, and porcelain from your studio supplier or local clay shop. Wedge and form a 50 mm pinch pot from each. Air-dry all three together under identical conditions. Measure shrinkage at leather-hard and bone-dry stages using a ruler marked at 50 mm.

• Which body showed the most cracking during drying, and what does that suggest about its grog content or plasticity?

• Which clay felt easiest to wedge and work — what physical property do you think caused that difference?

• Record the measured shrinkage percentage for each body at bone-dry stage. How does this compare to the manufacturer data sheet?

• Which clay body will you use for your first hand-building project and why?

Worksheet: Studio Safety Audit

Walk through your studio or work area and complete each field. If you work in a shared community studio, ask the studio coordinator for the ventilation and dust-control information.

Studio type (home/community/college studio):

Ventilation method (open window / fan / HVAC exhaust rate in ACH):

Floor cleaning method currently used (sweep / mop / HEPA vacuum):

Respirator type available (none / dust mask / N95 / P100):

Location of nearest eyewash station or water source:

Kiln type in use (electric / gas / wood) and venting method:

Notes on changes needed to meet safe studio standards:

Checklist: Wedging Practice Checklist

[ ] Complete 5 ram's-head wedging sessions on 500 g blocks and wire-cut each to inspect cross-section
[ ] Photograph or describe the cross-section — no visible bubbles or streaks
[ ] Attempt spiral wedging on 500 g of medium-soft clay for the first time
[ ] Keep wrists straight and drive from core body weight during both methods
[ ] Note the feel difference between over-wet and correctly conditioned clay
[ ] Store wedged clay wrapped in plastic to prevent surface drying

Hand-Building: Pinch, Coil, and Slab

Document your hand-building projects from each of the three methods, recording wall thickness measurements and join quality.

Exercise: Wall Thickness Audit

After completing a pinch pot, a coil-built cylinder, and a slab box, use a needle tool to measure wall thickness at three points on each piece: near the base, at mid-height, and near the rim. Record below and calculate the variance. Target variance is under 2 mm — anything over 3 mm will cause drying cracks.

• Which method produced the most consistent wall thickness across three measurement points? Why do you think that was?

• Where on your coil cylinder was the wall thickest, and what technique adjustment would address that?

• Describe how the clay felt at the join between your two slab walls — firm, soft, or mixed? What does that mean for drying speed?

Worksheet: Hand-Building Project Log

Complete one row for each hand-built piece you make. Use this as an ongoing record through the course.

Project number:

Method used (pinch / coil / slab):

Clay body and batch date:

Date built:

Intended form (bowl / cup / box / sculpture / other):

Wall thickness measurement (base / mid / rim in mm):

Drying method (slow-covered / open-air):

Cracks or faults observed at leather-hard stage:

Actions taken to repair or prevent fault on next piece:

Checklist: Hand-Building Technique Checklist

[ ] Pinch pot: walls taper from base to rim with no cracks at the rim
[ ] Pinch pot: base compressed with a wooden rib before drying
[ ] Coil cylinder: no visible coil ridges on the exterior surface
[ ] Coil cylinder: every interior join blended and smooth to touch
[ ] Slab box: all joins scored and slipped before assembly
[ ] Slab box: interior corners reinforced with a soft coil
[ ] All pieces dried slowly under plastic for minimum 24 hours

Exercise: Score-and-Slip Strength Test

Make two pairs of joins on a scrap clay piece: one pair scored-and-slipped correctly, one pair pressed together without scoring or slip. Allow both to dry to bone-dry. Try to pull them apart by hand and note the force required.

• Describe the difference in bond strength between the two join methods.

• What would happen to an unscored join during bisque firing when the clay undergoes thermal expansion?

Wheel Throwing Introduction

Track your centring and cylinder-pulling progress session by session with measurable targets.

Worksheet: Throwing Session Log

Record each wheel session. Consistency across sessions matters more than any single result — use this log to identify patterns in your faults.

Session date:

Clay body and starting weight (g):

Number of centring attempts before clay ran true:

Did you achieve a stable centre (Y/N):

Number of pulls completed before wall collapsed or fatigued:

Final wall height achieved (mm):

Average wall thickness at mid-height (mm):

Main fault observed (off-centre / spiral tear / collapsed wall / uneven floor / other):

Adjustment to try next session:

Exercise: The Ten-Cylinder Benchmark

Throw ten consecutive cylinders from identical 500 g balls of clay. Measure height and wall thickness at the rim for each. Do not stop to correct technique mid-sequence — allow errors to accumulate so you can see patterns across the set.

• Plot height (mm) for cylinders 1 through 10 — do you see an upward trend as your body learns the motion?

• Which cylinder had the most consistent wall thickness? What did you do differently on that throw?

• Identify the one technique fault that appeared in the most cylinders and write a one-sentence correction cue you will repeat internally during your next session.

Checklist: Wheel Readiness Checklist

[ ] Can centre 500 g of clay to run true within five passes without assistance
[ ] Can open a floor to within 10 mm of the bat without piercing through
[ ] Can pull walls to 80 mm height with 6–8 mm consistency
[ ] Rim is compressed after each pull — no cracking or irregular edge
[ ] Wire-cut executed cleanly at the base without distorting the cylinder
[ ] Piece removed from bat and placed on a ware board without warping

Drying, Bisque Firing, Glazing, and Glaze Firing

Document your firing results, glaze tests, and fault diagnosis to build a personal reference for future studio work.

Worksheet: Glaze Test Log

For each glaze or glaze combination you try, complete one row. This log becomes your personal glaze reference library over time.

Glaze name and manufacturer (or recipe source):

Target cone:

Application method (dip / pour / brush):

Number of coats applied:

Specific gravity of glaze at application (if measured):

Firing atmosphere (oxidation / reduction):

Kiln hold time at peak temperature (minutes):

Result description (colour, surface, texture, crawling, pinholing):

Food-safe confirmed by manufacturer (Y/N):

Would use again (Y/N) and notes:

Exercise: Fault Diagnosis Drill

After your first glaze firing, examine each piece and record any faults. Use the descriptions below to identify the cause and write a correction for the next firing. Common faults: crawling (glaze beads up and retreats from the surface), pinholes (small craters), crazing (fine crack network in the glaze surface), shivering (glaze flakes off), bare patches.

• List every piece with a fault and identify which fault type it shows.

• For each fault, identify the most likely cause from the following: glaze too thick, glaze too thin, under-fired, bisque was dusty before glazing, glaze over glaze applied to damp surface, or cooling too fast.

• What one change to your process would prevent the most common fault you observed across your firing?

Checklist: Complete Firing Checklist

[ ] All pieces confirmed bone-dry (cheek-test — no cool sensation) before loading bisque kiln
[ ] Kiln shelves coated with fresh kiln wash before each firing
[ ] Bisque ramp rate slowed to 80 °C/hour below 600 °C
[ ] Kiln cooled to below 100 °C before opening
[ ] All bisqueware wiped clean of dust before glazing
[ ] Bottom 10 mm of every piece kept glaze-free
[ ] Glaze specific gravity checked and stirred from the base before each use
[ ] No pieces touching in the glaze kiln
[ ] Foot rings inspected for stray glaze drips before kiln door closes
[ ] Fault log completed for every piece after unloading

Your Action Plan

1. Visit a local clay supplier or order a starter pack: one 10 kg bag of cone-6 stoneware, one loop tool, one needle tool, one wooden rib, and a wire cutter
2. Set up your workspace with a canvas-covered board, a mop for cleanup, and a source of running water; install a HEPA vacuum or commit to wet-mopping the floor after every session
3. Wedge a 500 g ball using ram's-head method, wire-cut the result, and examine the cross-section — repeat daily until no air pockets are visible
4. Complete one pinch pot per day for seven days; measure wall thickness and photograph each piece; identify and correct your most common fault before moving to coil building
5. Build a coil cylinder at least 150 mm tall; blend every interior join and use a paddle on the exterior; let dry slowly for 48 hours before assessing for cracks
6. Roll three slabs at 8 mm thickness and assemble a slab box; reinforce every interior corner with a coil and dry under plastic for 72 hours
7. Book one session on a potter's wheel at a community studio or recreation centre; focus exclusively on centring for the full session — do not rush to opening
8. Complete ten consecutive cylinders on the wheel and log height and wall thickness for each; compare results to your first session and identify one measurable improvement
9. Load and fire your first bisque kiln (or arrange for a community studio to fire your work); record the firing schedule and inspect results carefully against your drying log
10. Test a minimum of three commercial glazes on tile samples before applying to finished work; log results in your Glaze Test Log and select your working palette for the first glaze firing