STRETCHLEARN · WORKBOOK

BBQ & Smoking — Workbook

This workbook accompanies the BBQ & Smoking course with hands-on exercises, cook-log worksheets, and checklists designed for real cooks at the fire. Complete each section after the corresponding module to cement the techniques before your next cook.

Fire, Heat, and Smoke Science

Practice reading smoke quality, mapping your cooker, and logging temperature data from your first dry run.

Exercise: Smoke Colour Observation Exercise

During your next fire-lighting session (can be a dry run), observe the smoke colour at 5-minute intervals for the first 30 minutes and record what you see and what caused any changes.

• Describe the smoke colour at minutes 5, 10, 20, and 30 after lighting. What changed and why?

• What vent adjustments produced a shift from white to blue smoke? How long did the transition take?

• At what point did the smoke become nearly invisible? What was the grate temperature at that moment?

• What would you do differently to reach thin blue smoke faster on your next light?

Worksheet: Dry Run Temperature Log

Run your cooker empty for 2 hours at 225°F target. Record readings every 15 minutes. Use this sheet to build your personal cooker heat map.

Cooker type and model

Date and ambient outdoor temperature

Fuel type and quantity used

Time 0:00 — grate probe left / grate probe right (offset) or ambient (kettle)

Time 0:15 — grate temp / vent positions

Time 0:30 — grate temp / any adjustments made

Time 0:45 — grate temp / fuel additions

Time 1:00 — grate temp / notes

Time 1:15 — grate temp / notes

Time 1:30 — grate temp / notes

Time 1:45 — grate temp / notes

Time 2:00 — grate temp / notes

Temperature range (high/low observed)

Hot zone location on grate

Cool zone location on grate

Vent position that held steadiest temp

Checklist: Before Every Cook — Equipment and Safety Checklist

[ ] Probe thermometer batteries checked and probes calibrated in ice water (32°F) and boiling water (212°F at sea level)
[ ] Cooking grate scrubbed clean and oiled
[ ] Ash from previous cook emptied from ash pan
[ ] Water pan filled and positioned under indirect cooking zone
[ ] Chimney starter and fire starters ready
[ ] Sufficient fuel (charcoal or wood splits) stocked for the cook duration
[ ] Wood chunks selected and positioned near firebox
[ ] Meat removed from fridge and rub applied (or timing confirmed)
[ ] Timer or alarm set for first temperature check
[ ] Fire extinguisher or water source within reach

Wood Selection and Flavour Pairing

Document your wood pairing decisions and develop a personal flavour log across multiple cooks.

Exercise: Side-by-Side Wood Comparison

Cook two identical cuts (chicken thighs work well) simultaneously using different wood species — one apple, one hickory. Keep all other variables identical and compare the results.

• Describe the colour difference in bark or skin between the two cuts. Which was darker?

• Taste each cut on its own without sauce. How would you describe the smoke flavour of each in 3–5 words?

• Which wood would you choose for this protein going forward, and why?

• How might you use both woods in a single cook — for example, which phase would you use each?

Worksheet: Cook Flavour Journal

Complete one row per BBQ cook. Over 5–10 cooks, patterns will emerge about your palate preferences and wood performance on your specific cooker.

Cook date

Protein and cut (e.g., pork spare ribs, St. Louis style)

Wood species used

Number of chunks added and timing

Smoke colour observed during cook

Bark colour at finish (describe: mahogany / dark brown / near-black)

Smoke flavour intensity (mild / medium / strong / too strong)

Smoke flavour character (sweet / earthy / bacon / bitter / other)

Would you use the same wood again for this protein? (Y/N)

Adjustment for next cook

Checklist: Wood Selection Decision Checklist

[ ] Identified the protein being cooked (beef / pork / poultry / fish)
[ ] Selected primary wood species appropriate for that protein from the pairing reference
[ ] Confirmed wood is hardwood — no softwood, no pressure-treated, no painted wood
[ ] Wood chunks (not chips) selected for charcoal cook lasting more than 2 hours
[ ] Limited total chunks to 3 maximum for a full cook
[ ] First chunk placed at start; additional chunk planned for 3-hour mark only if needed
[ ] Noted any remaining wood stock and labelled species clearly for storage

Brisket, Pork Shoulder, and Ribs

Track each flagship cook with a detailed cook sheet and practise diagnosing problems after each session.

Exercise: The Stall Observation Journal

During your first brisket or pork shoulder cook, record internal temperature at 30-minute intervals from the start. You will observe the stall — document when it begins, how long it lasts, and when temperature resumes climbing.

• At what internal temperature did the stall begin, and how many hours into the cook?

• How many hours did the stall last before temperature began rising again?

• Did you wrap during the stall or ride it out? What effect did your choice have on cook time?

• How did the probe feel at 195°F vs at 203°F when you tested for tenderness?

Worksheet: Full Cook Log — Brisket / Pork Shoulder / Ribs

Fill in one sheet per major cook. Attach this to your flavour journal entry for a complete cook record.

Date and cut (e.g., whole packer brisket)

Raw weight (lbs)

Rub used and application time before cook

Injection used (Y/N) and recipe

Cooker temperature target

Actual average cooker temperature (from log)

Cook start time

Internal temperature at hour 2 / hour 4 / hour 6

Stall start temperature and time

Stall end temperature and time

Wrap decision: wrapped or unwrapped — at what temperature and time

Wrap material (foil / butcher paper) and any liquid added

Probe-tender temperature achieved

Cook end time

Total cook time (hours)

Rest duration and method (cooler / Cambro / counter)

Final yield weight after slicing/pulling (lbs)

Yield percentage

Overall quality rating (1–5)

Key lesson for next cook

Checklist: Rib Cook Day Checklist

[ ] Membrane removed from bone side of rack
[ ] Rub applied minimum 2 hours before cook (12 hours preferred)
[ ] Cooker at stable 225–250°F before ribs go on
[ ] Ribs placed bone-side down (or bone-side up in foil phase)
[ ] Lid not opened for first 2 hours
[ ] Foil wrap prepared with apple juice or butter for braise phase
[ ] Sauce selected and ready for final phase
[ ] Grill temperature increased to 260–275°F for sauce application
[ ] Bend test performed before removing from cooker
[ ] Ribs rested 10–15 minutes before cutting between bones

Exercise: BBQ Troubleshooting Diagnostic

After each cook, identify any problems you encountered and apply the diagnostic framework below.

• Did the meat taste bitter or acrid? If yes, describe your smoke management and what you would change.

• Was the bark soft, wet, or non-existent? List the factors that could have caused this (humidity, wrap timing, sugar content, temperature).

• Was the meat dry? Identify where moisture was lost (pre-cook, during cook, during rest, wrap timing).

• Did the cooker spike or crash in temperature? Map exactly what caused the change and how you recovered.

Rubs, Sauces, and Food Safety

Develop and document your own rub and sauce formulas, and verify your food safety practices with a safety checklist.

Exercise: Custom Rub Development

Design your own signature dry rub for your favourite protein. Use the four-component framework (salt, sugar, aromatics, heat) and test it on at least two cooks before finalising the formula.

• What protein and style are you targeting? (e.g., Kansas City spare ribs, Texas-style brisket, competition chicken)

• Write out your starting formula with percentages by volume for each component. Does it follow the framework of salt + sugar + aromatics + heat?

• After your first test cook, what did you want more of and less of in the flavour profile?

• What is your revised formula after cook two, and what will you name it?

Worksheet: Rub and Sauce Formula Card

Document each rub and sauce formula you develop so you can reproduce results consistently.

Formula name

Target protein and cook style

Salt component and quantity

Sugar component and quantity

Aromatic spice 1 and quantity

Aromatic spice 2 and quantity

Aromatic spice 3 and quantity

Heat component and quantity

Total batch size (cups or grams)

Application rate (tbsp per lb of meat)

Application timing (immediately / 12 hours ahead)

Notes on performance — bark colour, flavour profile

Version number and date

Checklist: Food Safety Verification Checklist

[ ] Leave-in probe thermometer verified accurate within ±2°F before cook
[ ] Meat was stored at 40°F or below before cooking
[ ] Probe inserted into thickest part of meat, not touching bone or fat
[ ] Poultry reached minimum 165°F internal temperature
[ ] Pork reached minimum 145°F (or target 200–205°F for pulled pork)
[ ] Beef reached minimum 145°F for whole muscle (brisket targets 200–205°F)
[ ] Ground meat (sausage, burgers) reached 160°F
[ ] Cooked meat rested on clean surface, not the raw meat board
[ ] Leftovers cooled to below 40°F within 2 hours
[ ] Leftovers stored in shallow containers and labelled with date
[ ] Reheated leftovers reached 165°F before serving

Your Action Plan

1. Complete a dry run on your cooker with three probes positioned to map the heat gradient before cooking any meat
2. Cook a side-by-side wood comparison using two different species on the same protein to build personal wood preference knowledge
3. Execute one full brisket cook from raw to slice, logging internal temperature every 30 minutes through the stall and recording total cook time
4. Cook a rack of St. Louis spare ribs using the 3-2-1 method and perform the bend test and toothpick test before removing from the cooker
5. Cook a bone-in Boston butt for pulled pork using injection, and practise the bone-wiggle

doneness test
6. Develop a custom dry rub formula for your primary protein using the four-component framework and test it across two consecutive cooks
7. Prepare one regional sauce from scratch (vinegar-based or mustard-based) and practise layered application in the final 45 minutes of a rib cook
8. Complete the Food Safety Verification Checklist for every cook until the steps are habitual and automatic
9. Review your Cook Flavour Journal after 5 entries and identify patterns in wood preference, temperature management, and bark quality
10. Plan and execute a full BBQ session feeding guests — choose two proteins, stagger start times to finish simultaneously, and practise holding in a Cambro above 140°F