STRETCHLEARN · WORKBOOK

Beekeeping — Workbook

This workbook turns the course into hands-on practice at your own hive. Each section pairs with a course module and mixes guided exercises, fill-in worksheets, and checklists you will use beside the colony, smoker in hand. Work through it with a hive, smoker, and hive tool ready, ideally a mentor or local club on call, and keep the templates to log inspections, track mite counts, plan your season, and record harvests. Always check and follow your local beekeeping regulations, registration requirements, and notifiable-disease rules before you begin.

Bees, Hives, and Getting Started

Decide what colony life is, choose between a Langstroth and top-bar hive, gather gear, and plan your install.

Exercise: Choose Your Hive Type

Weigh the Langstroth against the horizontal top-bar hive for your situation. The goal is to pick the design that matches your honey goals, budget, physical limits, and local support, then commit to it so all your equipment and learning point one way.

• Is your priority maximum honey and standard, well-supported equipment (Langstroth), or low cost and no heavy lifting (top-bar)?

• Can you comfortably lift a full super of roughly 40 kg, or does that rule out standard Langstroth deeps and point you to all-mediums or top-bar?

• What hive type does your local club or mentor use, and how much does matching them matter for getting help?

• Will you start with one colony or two, and why are two often safer for a beginner?

Worksheet: Starter Equipment and Bee Source Plan

List exactly what you will buy and how you will get bees, so you start with the essentials and nothing wasted. Keep it lean: hive, smoker, hive tool, protection, feeder, and a bee source are enough for a first season.

Hive type and box configuration chosen

Protective gear (full suit / jacket+veil / gloves type)

Smoker and fuel source you will use

Hive tool and any frame grip or bee brush

Feeder type and sugar-syrup ratio for install (1:1)

Bee source: package or nuc, and supplier / pickup date

Estimated total startup cost

Checklist: Install-Day Readiness

[ ] Hive assembled and sited level, in morning sun with afternoon shade if possible, entrance clear of foot traffic
[ ] Smoker lit and producing steady cool smoke before opening anything
[ ] Sugar syrup (1:1) mixed and feeder ready to go on at install
[ ] Queen cage located and queen confirmed alive before release method chosen
[ ] Plan to suspend queen cage with candy plug exposed (package) or transfer nuc frames in order
[ ] Committed to leaving the colony closed for several days after install, checking queen release at about day 3

Reading the Colony: Roles and the Bee Year

Learn to recognise the three castes, follow the brood cycle, and map your tasks across the seasons.

Exercise: Identify the Castes on the Comb

On your next inspection, find and tell apart the queen, workers, and drones, and confirm the colony is queenright. The aim is to read who is who and what their presence means, not just to look at bees.
• Could you spot the queen by her long tapering abdomen and unhurried movement, or did you confirm queenrightness another way?

• Did you find fresh upright eggs, proving a queen laid within about the last 3 days?

• Could you pick out drones by their large stocky bodies, wraparound eyes, and blunt rear?

• What did the ratio of brood, drones, and stores suggest about the colony's stage and health?

Worksheet: Brood Cycle Decoder

Use the fixed brood timings to interpret what you see and predict what happens next. Fill this in from a real frame to practise turning brood stages into useful dates.
Eggs seen? (upright = laid within ~3 days)

Youngest larvae seen and rough age

Capped worker brood present? (flat caps, ~21-day cycle)

Capped drone brood present? (bullet/domed caps, ~24-day cycle)

Any queen cells? (peanut-shaped, ~16-day queen cycle)

If a queen cell, estimated date a new queen emerges

Conclusion about queen status and timing

Exercise: Map Your Season

Lay out the year's tasks against your local climate and nectar flow so you act in the right season. Talk to a local club to learn your area's spring build-up, main flow, and first-frost dates.

• When does spring build-up and swarm season start in your area, and when will you begin weekly inspections?

• When is your main honey flow, and roughly when will you harvest?

• When will you do your decisive late-summer Varroa treatment, before the winter bees are reared?

• When does cold weather arrive, setting your deadline to finish autumn feeding?

Checklist: Seasonal Task Triggers

[ ] Spring: adding space ahead of the colony and inspecting every 7 to 10 days for swarm cells
[ ] Summer: keeping supers ahead of the bees and watching for late swarming and disease
[ ] Late summer: mite-tested and treated before winter bees are reared
[ ] Autumn: stores checked and topped up with 2:1 syrup, entrance reduced, mouse guard fitted
[ ] Winter: hive left closed, weight hefted, entrance kept clear, no inspections
[ ] Drones being evicted noted as the normal sign of the colony preparing for winter

Inspections, the Queen, and Swarm Control

Run a calm structured inspection, read brood and find the queen, and catch and manage swarming.

Exercise: Run a Calm Inspection

Carry out a full inspection slowly and deliberately, using smoke well and handling frames without crushing bees. Record what you find in the Inspection Log template. The goal is a focused, gentle visit that answers your questions and closes up.

• Did you smoke the entrance, wait, then smoke the top bars before opening, and work from the side not the front?

• Could you lift and rotate frames vertically (like a page) without rolling bees or dripping nectar?

• Did you answer the core questions: queenright, brood pattern, stores, space, queen cells, disease/pests?

• Did you keep the visit short to avoid chilling brood, and return every frame in order and orientation?

Worksheet: Colony Health Read-Out

Assess one colony against the key health signals and reach a verdict. Use this each visit to force a clear judgement rather than a vague look.

Eggs present? (upright = queenright within ~3 days)

Brood pattern (tight solid slab vs spotty shotgun)

Queen seen and marked colour / age (if found)

Honey stores (arcs of capped honey present?)

Pollen stores (bands of packed pollen present?)

Any queen cells, disease signs, or Varroa noted

Verdict and any action needed before next visit

Exercise: Catch Swarm Signs Early

Inspect specifically for swarm preparations and decide on a response before the colony leaves. The aim is to find queen cells while there is still time to act, and to tell swarm cells from supersedure cells.

• Did you check the bottom and edges of brood frames for peanut-shaped swarm cells?

• Is the colony congested with no room for the queen to lay, the main swarm trigger?

• Are any queen cells on the comb face (supersedure) rather than the edges (swarm)?

• If swarm cells are present, will you perform a split / artificial swarm, and how?

Checklist: Swarm Prevention Routine

[ ] Space added ahead of need so the brood nest is never congested
[ ] Inspecting every 7 to 10 days through spring for queen cells
[ ] Brood nest opened up / relieved when crowded
[ ] Young, well-pheromoned queen kept where possible
[ ] If swarm cells found, a planned split or artificial swarm rather than just cutting cells
[ ] Swarm-catching kit (box, sheet) ready in case a swarm issues anyway

Health, Harvest, and Winter

Monitor and treat mites to a threshold, harvest honey responsibly, and prepare the colony to overwinter.

Exercise: Run a Mite Count

Sample about 300 bees from brood frames and measure your Varroa infestation, then decide whether to treat. Record the result in the Varroa Log template. The point is to put a number on the mites and act on a threshold, not a hunch. Never include the queen in your sample.

• Did you take a ~300-bee (half-cup) sample from brood frames, keeping the queen out?

• Which method did you use, alcohol wash (most accurate) or sugar roll (non-lethal)?

• What was your mite count as a percentage (mites per 100 bees)?

• Are you above the action threshold (around 3 percent), and which season-appropriate treatment will you use?

Worksheet: Harvest Readiness and Stores Math

Decide how much honey you can take while leaving the bees enough to winter. Remember honey is the colony's winter food first; in a poor year, take nothing. Leave the calculated totals blank and work them out yourself for your own hive and climate.

Frames at least ~80 percent capped and ready to harvest

Honey moisture if measured (target below ~18 to 20 percent)

Winter stores your climate needs (e.g. ~18 to 27 kg)

Estimated current stores on the hive

Surplus you judge safe to remove (stores minus winter need)

Extraction method (spin in extractor vs crush-and-strain)

Decision: harvest amount or leave all (first-year colonies often make none)

Exercise: Prepare the Colony for Winter

Work through the autumn winter-prep tasks for each colony so the bees go in strong, heavy, healthy, and dry. The aim is to win winter in autumn by fixing population, stores, mites, and moisture before the cold.

• Is the colony populous enough to cluster, or should it be combined with a stronger one?

• Is the hive heavy with stores, or do you need to feed thick 2:1 syrup before the cold stops them storing it?

• Did you complete the late-summer mite treatment so healthy winter bees were reared?

• Have you managed moisture (upper vent / insulation) and reduced the entrance with a mouse guard?

Checklist: Overwintering Final Check

[ ] Each colony assessed for population, stores weight, and mite load; weak ones combined
[ ] Varroa treatment completed in late summer before winter bees reared
[ ] Stores topped up with 2:1 syrup until the hive is heavy, finished before cold weather
[ ] Moisture managed with upper ventilation, moisture board, or lid insulation so condensation cannot drip on the cluster
[ ] Entrance reduced and mouse guard fitted while keeping airflow
[ ] Plan set to leave the hive closed in winter, only hefting for weight and clearing the entrance
[ ] Emergency solid feed (fondant) on hand in case a colony goes alarmingly light

Your Action Plan

1. Choose your hive type (Langstroth or top-bar) and commit your equipment and learning to it.
2. Buy only the essentials: hive, smoker, hive tool, protective gear, feeder, and a source of bees.
3. Install your package or nuc correctly, feed 1:1 syrup, and leave the colony alone to accept the queen.
4. Learn to recognise the three castes and confirm queenrightness by finding fresh eggs each visit.
5. Inspect every 7 to 10 days in the active season, working calmly with smoke and reading every frame.
6. Watch for swarm cells in spring and respond with space and a split before the colony leaves.
7. Monitor Varroa with an alcohol wash or sugar roll and treat to a threshold, especially in late summer.
8. Harvest only capped, ripe surplus honey, leaving the bees ample winter stores; in a poor year take none.
9. Extract, settle, and bottle honey into clean dry jars; never feed honey to infants under one year.
10. Prepare the colony for winter strong, heavy, mite-free, and dry, then leave it closed and trust the bees.