STRETCHLEARN · WORKBOOK

Permaculture Design — Workbook

This workbook turns the course into a real design for your own land. Each section pairs with a course module and mixes guided observation exercises, fill-in worksheets, and field checklists you will use outside with a notebook in hand. Work through it on the actual site you want to design, ideally across more than one season, and keep the templates to log your observations, plan your guilds, build a planting list, and sequence the work. By the end you will have the raw material for a base map, a zone-and-sector overlay, and a phased implementation plan.

Ethics and the Twelve Principles

Ground your project in the three ethics and learn to apply the twelve principles to your own real design decisions.

Exercise: Name the Need Behind Every Element

List the things you imagine putting on your site (a pond, chickens, a lawn, a greenhouse). For each one, force yourself to state the underlying need rather than the object, then test it against all three ethics. The goal is to stop defaulting to features and start designing from needs.

• For each desired element, what is the real human need behind it (food, water, shelter, income, rest, beauty)?

• Does this element pass earth care, or does it cost more soil, water, and inputs than it returns?

• Does it pass people care, will it actually be used and maintained, or fall into neglect?

• Does it pass fair share, and have you planned what happens to any surplus it produces?

Worksheet: Apply Three Principles to One Decision

Pick one concrete design problem on your site (an eroding slope, a soggy corner, a windy patch). Choose the two or three of Holmgren's twelve principles that best apply, and write what each one tells you to do.

The design problem in one sentence

Principle 1 you chose and what it tells you to do here

Principle 2 you chose and what it tells you to do here

Principle 3 (optional) you chose and what it tells you to do here

The provisional decision these principles point toward

What you still need to observe before committing

Checklist: Project Foundation Check

[ ] The three ethics are written somewhere you will see them while designing
[ ] Holmgren's twelve principles are pinned where you work on the plan
[ ] Every major planned element has a stated need behind it, not just a want
[ ] You have committed to observe before making any large, hard-to-reverse change
[ ] You have identified at least one place to deliberately create more edge
[ ] You have planned, in principle, where surplus (food, seeds, knowledge) will go

Reading the Site: Sectors and Zones

Observe your site systematically, then map its wild energies as sectors and organise it into zones by frequency of use.

Exercise: Read the Weeds and the Water

Walk your site slowly and let it tell you about itself before you design anything. Note the volunteer plants already growing and what they indicate, and watch where water moves. Do this during or just after rain if you can.

• Which weeds dominate, and what might they indicate (dock and plantain for compaction, nettles for rich soil, rushes for wet ground)?

• Where does water enter the site, pool, and leave, and how fast does it move in a downpour?

• Where does frost linger longest in spring and snow pile up in winter?

• Which spots stay green in a dry spell and which brown first?

Worksheet: Sector Map Worksheet

For each wild energy that crosses your site from outside, record the direction it comes from and the design response it calls for. This becomes your sector overlay on the base map.

Sun: direction of best winter sun and where shade falls

Wind: direction of prevailing and harshest winds

Water: where runoff enters and exits, any flood-prone ground

Fire (if applicable): most likely approach direction

Views: pleasant views to open up, ugly ones to screen

Noise, pollution, privacy: which edges need buffering

Wildlife: where deer, rabbits, or others enter

Design response noted for each sector above

Worksheet: Zone Placement Worksheet

Assign your planned elements to zones zero through five by honestly estimating how many times a year you will visit each one. Daily-visit elements must end up closest to the house.

Zone 0 (house / hub): efficiency improvements planned

Zone 1 (daily): salad, herbs, seedlings, anything picked or watered constantly

Zone 2 (every few days): main veg beds, soft fruit, compost, chickens

Zone 3 (weekly to seasonal): orchard, main crops, larger livestock

Zone 4 (occasional): foraging, firewood, timber, grazing

Zone 5 (wild): the unmanaged patch you will leave for habitat and observation

Any element currently mis-zoned (e.g. daily veg placed far from the door)

Checklist: Site Analysis Complete

- [ ] Sun arc observed and noted at (or estimated for) both summer and winter
- [ ] Water entry, pooling, and exit points mapped during or after rain
- [ ] Drainage test dug, filled, and timed in three or more spots
- [ ] Jar test or feel test done to gauge sand-silt-clay balance
- [ ] Volunteer weeds recorded as soil indicators
- [ ] Sectors drawn as an overlay on the base map
- [ ] Zones assigned by visits per year, with daily items closest to the house

Water and Soil: The Foundations

Plan how to slow, spread, and sink your rainwater, and choose how you will build living soil without digging.

Exercise: Build and Calibrate an A-Frame Level

Make a simple A-frame level from three sticks and a weighted string, calibrate it on a known flat surface, and use it to peg one contour line across a slope on your site. This is the core skill for laying out a swale.

• Did the string settle on the same crossbar mark when you reversed the legs end-for-end (proving true level)?

• Walking the A-frame across the slope, how straight and smooth does your line of contour pegs look?

• Where does the contour line run higher or lower than you expected across the slope?

• Where on this contour would a swale safely overflow in an extreme storm, and is that point armoured?

Worksheet: Catchment and Rain Garden Sizing

Estimate how much water a roof or paved area sheds in a typical heavy storm, using roughly one litre per square metre per millimetre of rain, then plan where that water will go. Leave the runoff figure for you to calculate.

Catchment area draining to this downspout (square metres)

Design storm depth you are planning for (millimetres)

Estimated runoff per storm in litres (you calculate: area x depth)

Storage planned (rain barrel or tank size in litres)

Rain garden or basin location (distance downslope from foundations)

Overflow route for water beyond capacity

Worksheet: Soil-Building Plan

Choose how you will build soil in each area you intend to plant, matching the method to whether you are converting lawn, filling a gap, or feeding established trees.

Area to be planted and its current state (lawn, weeds, bare, established)

Soil-building method chosen (sheet mulch, cover crop, chop-and-drop, compost)

Browns you can source for mulch and layers (cardboard, leaves, straw)

Greens or nitrogen source (compost, grass clippings, manure, legumes)

Cover crop species for any gaps or winter ground

Where you will plant comfrey as an on-site fertiliser source

Checklist: Water and Soil Foundations Set

[ ] Contour found with an A-frame (or other) level before any swale is dug
[ ] Every water-harvesting earthwork has a planned, armoured overflow
[ ] Earthworks kept small and away from buildings and septic until proven over a wet season
[ ] Each planting area has a chosen no-dig soil-building method
[ ] Bare soil is slated to be kept covered with mulch or living plants
[ ] A cover crop is planned for gaps and over winter
[ ] Comfrey or another dynamic accumulator is sited as a renewable feed source

Guilds, Food Forests, and the Design Process

Assemble supporting guilds, stack a layered food forest, and run the full process into a finished, phased plan.

Exercise: Design a Fruit-Tree Guild by Function

Choose one central fruit tree suited to your climate and build a guild around it by function. List the jobs the guild must do, then pick a plant suited to your region for each job rather than copying a generic list.

• What is your central tree, and what is its mature spacing requirement?

• Which nitrogen fixer and which dynamic accumulator will feed it?

• Which pest-confusing alliums and which pollinator-attracting flowers will you include?

• Which ground cover will suppress grass and hold moisture around the trunk?

Worksheet: Seven-Layer Food Forest Plan

Plan a food forest area (any size, even a single dwarf tree underplanted) by filling each of the seven vertical layers with a species suited to your site and light.

Canopy layer (tall fruit or nut trees) and mature spacing

Sub-canopy layer (small or dwarf fruit trees)

Shrub layer (berry bushes)

Herbaceous layer (perennial herbs and vegetables)

Ground-cover layer (low spreading plants)

Root layer (edible roots and tubers)

Vine layer (climbers using trees as trellis)

Support species to plant early and thin out later

Worksheet: OBREDIMET Design Run-Through

Work your whole project through the OBREDIMET process and capture the key output of each stage. This becomes the backbone of your written design.

Observation: the most important things the site told you across seasons

Boundaries: physical, legal, budget, time, and skill limits

Resources: water, materials, plants, structures, tools, labour, knowledge on hand

Evaluation: what your sector and zone analysis revealed

Design: the headline placements on your base map

Implementation: the phase order (water, access, soil, plantings)

Maintenance and Tweak: how you will review and refine over time

Checklist: Design Ready to Implement

[ ] At least one guild designed by function around a central plant
[ ] A food forest area planned across all seven layers at mature spacing
[ ] A scaled base map drawn with fixed features marked
[ ] Sector and zone overlays placed over the base map
[ ] Water and access strategies decided before any planting
[ ] Implementation sequenced water first, then access, then soil, then plants
[ ] A review-and-tweak habit set so the design keeps improving with feedback

Your Action Plan

1. Spend dedicated time observing your site across as many seasons as you can, recording sun, water, wind, soil, and existing life in the observation log.
2. Draw a scaled base map of your site showing the house, boundaries, slope, access, and existing trees.
3. Add a sector overlay marking sun, wind, water, views, and any fire or wildlife energies, with a design response for each.
4. Add a zone overlay, assigning every planned element to a zone by how many times a year you will visit it.
5. Plan your water first: peg contours with an A-frame level, size catchment and rain gardens, and design every overflow.
6. Choose and start a no-dig soil-building method (sheet mulch, cover crops, chop-and-drop) for each planting area.
7. Design at least one fruit-tree guild by function, then expand it into a seven-layer food forest plan at mature spacing.
8. Build a phased planting and species list, sequencing slow trees first and filling early gaps with support species.
9. Implement in order, water, then access, then soil, then plantings, starting small with the area you can establish well.
10. Schedule seasonal reviews to observe how the young system behaves, accept the feedback, and tweak the design each year.