

# Sprouts Game Complexity — Field Checklist

1. Board Setup
  - Number all spots and write total lives in the margin.
  - Reserve space for dashed boxes to mark new lands.
  - Keep one pen style per line type to avoid confusion.
2. Turn Routine
  - Before drawing, scan for regions with spare lives and clean paths.
  - After drawing, update the life ledger and circle dead vertices.
  - If a self-loop splits the board, outline both lands immediately.
3. Midgame Control
  - Compare lives to the  $2n$  floor and the  $3n-1$  ceiling; pace choices.
  - Prefer lines that create safe pockets over flashy closures.
  - Delay risky self-loops when lives are thin in nearby lands.
4. Decomposition & Notes
  - Label each land and jot a tiny value or status next to it.
  - If lands are independent, plan them separately before recombining.
  - Record forks with a short branch log (A/B) to enable quick backtracking.
5. Endgame Focus
  - Identify the two most open pockets; fight to claim at least one.
  - Avoid moves that exhaust lives without gaining control of a region.
  - Recheck ledger math before committing to a final loop.
6. Review & Learning
  - Photograph final boards and save life counts plus move totals.
  - Note which heuristics prevented wasted lines; keep a top-3 list.
  - Convert good sequences into small drills for future practice.
7. Data & Benchmarking
  - Track start size, final move count, surviving lands, and outcome.
  - Use consistent naming for encodings to compare results across sessions.
  - Log player performance metrics for objective progress tracking.

## Footer

- Keep this sheet near the board; rehearse the routine for five minutes before play.
- Update the sheet when you add new heuristics or encounter edge cases.