

## Ski Athlete Project

Structure on Google Drive level

- Folder (“2025”)
  - sheet doc. (“Athlete Testing”)
    - contains:
      - list of all athletes
      - their exercise weight outcomes (flexibility in # exercises)
      - logic to determine the 1RM from each tested exercise (see **tables** attached)
      - dropdown per athlete to choose block structure (see rules)
      - contains dropdown to put athlete in a group
      - contains a button that, when clicked, creates a Google Sheet for each of them, puts the sheets in a group folder and makes a sheet that consists of:
        - a tab for each week of training (named week # based on calendar week #s)
        - for each training week (so each tab) there's a week overview (at the top) and 5 components:
          - A week plan
          - A core training plan
          - A jump training plan
          - A coordination training plan
          - A gym training plan
        - All formatted the same, in portrait mode only covering 1 full screen of Google Sheets.

**Formatting rules** (every trainingplan needs to fit on an A4 paper when printed out):

- Each row = 17 pixels tall → max 56 rows visible on portrait
- Each column = 96 pixels per inch
- 0.5" margins → total width should not exceed **720 pixels (7.5 inches)**
- Wider or taller sheets are allowed but will be scaled down and become less predictable on print

**Structure of “Athlete Testing” google sheet tab**

- Week overview shows:
  - weekplan (days in columns, morning/afternoon rows)
  - quickly readable which training is when (morning or afternoon)
  - Each training session in weekplan needs to be clickable → result is you get scrolled to that training in the that tab.
- **Top of the tab:**
  - Information: Athlete's name, coach's name and some space for ski team information
  - Logo of ski club & some other branding
- **Vertical (hierarchal) order of each tab:**  
 Week overview → gym training plan → core training plan → jump training plan → coordination trainingplan

#### **Format for each training plan in each tab:**

- column 1 (C1):
 

Row 1 (R1): exercise selection (dropdown or manual)  
 R2: show 1 repetition max (1RM) calculated or nothing (when R1 was manual input)  
 R3: % increase in 1RM for that block (can be dropdown or manual to input) → this is related to the calculation of the weights for each set (see calculation rules below).  
 R4: link to uploaded video (to drive?)
- column 2:
 

R1: reps  
 R2: weight  
 R3: reps  
 R4: weight  
 ...  
 R7: reps  
 R8: weight
- Column 3 through 9:  
 Are (for each row except 1, 4 and 7, which are showing reps: each cell represents a set for that exercise) either the calculated weights related to column 2 (see picture below for clarity) or empty when manual exercise selection happened.

<b>8</b>	<b>8</b>	<b>6</b>	<b>6</b>
42	44	46	
42	44	46	51
<b>4</b>	<b>4</b>	<b>2</b>	<b>2</b>
46	51	56	
46	51	56	61
<b>2</b>	<b>42</b>	<b>1</b>	<b>2</b>
56	61	66	

- C10 = rest times (filled in manually)
  - C11 = time under tension (filled in manually)
  - C12 & C13 = dates (logic → checkbox when checked = show date of at moment of click)
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## Ski Athlete Project

### The Rules

- Uneven weeks have  $N - 1$  sets
- Even weeks have 4–6 sets
- Amount of sets dictate the amount of columns each exercise has
- 1RM calculation = in “Athlete Testing” document → for each athlete: the back squat or front squat, deadlift and row are tested  
→ weights & reps of test are recorded and the 1RM is calculated for each exercise (weight / % of RM from table based on repetitions = 1RM calculated).
  - Front squat = 85% of back squat 1RM
  - Deadlift wide = 85% of back squat 1RM
  - Deadlift narrow = 105% of back squat 1RM
  - Row = still need to get the rule from Armando for this
  - ‘wide deadlift’ always paired with ‘back squat’

- ‘narrow deadlift’ always paired with ‘front squat’.
- For the whole training period (12–15 weeks)
  - an increase in 1RM is chosen by the coach: **5–20%** (see C1,R3)
  - this then evenly distributed over each week of the training period → needs to compounded:  $\text{End 1RM (n+1)} = \text{End1RM}(n) \times (1 + \% \text{ of block})$ .
- weeks are part of a **training block** which are part of the whole training period.  
Options for this need to be =  $2 \times 6$  wk,  $3 \times 4$  wk,  $3 \times 5$  wk.  
This should be selected already per athlete in the “Athlete Testing” document.
- The weight for each set of the week is determined based on backwards calculation from an anchor weight of each last set of the week, these are again determined based on the 1RM % increase over the block.

the rules for this are:

weight > 100kg = 7kg decrease per week & per set

50–100kg = 5kg decrease per week & per set

<50kg = 2.5kg decrease per week & per set

**Anchor weight logic** = end 1RM  $\times$  % (based on the weight and last reps) → using the 1RM table

# Explanation v2

## 1. Structure (Google Drive level)

### **Technical:**

We keep all athlete data in one “Athlete Testing” file.

From there, a button creates one season-long training sheet per athlete, with a tab for each week.

Each tab contains the week overview plus 5 training plans (week plan, gym, core, jump, coordination).

### **Problem being solved:**

A coach works with many athletes at once.

Instead of writing a new plan for every athlete manually each week, we want one system where you enter the athlete’s info once, and it automatically (after a click on a button) produces their entire off-season plan, clearly organized by week and by type of training.

## 2. Formatting rules (for print)

### **Technical:**

All plans must fit on a portrait A4 page. This requires limiting the rows and columns to specific pixel values. Wider/taller is allowed but Google will (need to) scale it down.

Each training week is represented by a tab in the athlete’s sheet document.

### **Problem being solved:**

Athletes need to take their training plan with them into the gym. If the plan is too messy, too small to read or spread across multiple pages, it’s not practical. So we want every training plan (the week plan, the core plan, the jump plan, the coordination plan and the gym plan) to each fit separately onto one page that can be printed and used in training without confusion.

## 3. Week overview (per tab)

### **Technical:**

At the top of each weekly tab is a small calendar showing which sessions (gym, core, jump, coordination) happen on which days, split into morning/afternoon for that week. Each session is clickable to jump (scroll down automatically).

### **Problem being solved:**

An athlete needs to know, at a glance, what they are training on which day of the week.

The overview is a quick schedule so they don’t have to scroll through the whole document to find what’s planned.

## 4. Training plan format (per session)

### Technical:

Each training session lists its exercises in a fixed format: exercise name, calculated 1RM reference, percentage increase, video link, reps, weights, rest time, time under tension, and checkboxes with dates.

### Problem being solved:

When an athlete goes into a session, they need to know:

- what exercise to do,
- how much and how hard to do it (set/reps and weight),
- how long to rest,
- and how to perform it (video link).

This ensures the athlete can follow the session step by step without needing the coach right there.

## 5. The Rules

### Technical:

- Odd weeks have one set less than even weeks, even weeks have 4 to 6 sets.
- Each athlete's 1RM is estimated/calculated from testing and adjusted over time toward a coach-chosen improvement goal.
- Anchor weight = End1RM × % from reps table.
- Other sets are derived backwards from anchor weight with fixed step-downs.

### Problem being solved:

Training needs to get harder in a gradual, safe way.

If you start too heavy, you risk injury; if you never increase, you don't improve.

The rules here are just a structured way of saying:

- odd weeks are a bit lighter, even weeks are a bit heavier,

- each athlete's program starts at their individual current ability and gradually ramps up toward the improvement target,
- and the weights within each week are spread sensibly from lighter to heavier.

## 6. Output requirements

### **Technical:**

Each athlete's plan is a Google Sheet with weekly tabs, athlete info, a calendar overview, and training plans that include exercise name, 1RM reference, % increase, video link, reps, weights, rest, time under tension, and a date checkbox.

### **Problem being solved:**

In the end, the coach and the athlete both need a clear, easy-to-read plan. The athlete can see exactly what to do each week, and the coach knows the plan is consistent and follows the progression rules. The checkbox helps both athlete and coach track if the training was actually done and when it was done.

## 7. Grouping & automation

### **Technical:**

Athletes will be grouped. Groups affect programming logic (we'll add that later). A button generates an entire season for each athlete at once (their own sheet document). Regeneration creates new plans (so new documents).

### **Problem being solved:**

Coaches often work with whole teams or groups of athletes who follow similar schedules. Grouping makes it possible to manage them together instead of one by one. If something changes (like a new strength goal), the coach can quickly regenerate the plan and everyone's training stays up to date.

## 8. Edge cases

### **Technical:**

- If no test result exists, derive from another lift or leave blank.
- If no target % is set, default = 12.5%.
- If athlete starts mid-season, manual overrides are possible.

**Problem being solved:**

Sometimes tests are missing or an athlete joins the program late.

The system needs to handle those cases gracefully without breaking:

either by making a reasonable assumption (like a default %), or by letting the coach type things in manually and override calculations and formatted logic.

# Ski Athlete Project – Technical Overview

## 1. Structure (Google Drive level)

- Folder: “**2025**” (**folder does not exist yet, description**)
- Main control file: “**Athlete Testing**” Google Sheet
  - Contains:
    - List of all athletes
    - Baseline test results (exercise, test weight, reps, date)
    - Logic to estimate 1RM from test results (using reps→% table)
    - Mappings for non-tested lifts (front squat, deadlift variants, row)
    - Dropdown per athlete to choose **block structure** (2×6, 3×4, 3×5)
    - Field per athlete for **strength gain target** (5–20% over the whole period, default 12.5%)
  - Applies across the whole period, but can be overridden per block
    - Dropdown for **group assignment**
    - Button → generates **one Google Sheet per athlete**, placed in a group folder.

Generated athlete sheets contain:

- One tab per training week (named after the **calendar week number**, based on the athlete's start week)
- Each tab has a **week overview** at the top, followed by 5 training plans:
  - Week plan
  - Gym training plan
  - Core training plan
  - Jump training plan
  - Coordination training plan
- All formatted to fit **1 page (portrait, A4)** when printed.

## 2. Formatting rules (for print)

- Each row = **17 px tall** → max **56 rows visible** in portrait

- Each column = **96 px = 1 inch**
- With 0.5" margins, total width should not exceed **720 px (7.5 inches)**
- Wider/taller is possible but will be scaled down automatically by Google Sheets
- Rounding of weights = **0.5 kg** increments

### **3. Week overview (per tab)**

- Shows **days × morning/afternoon** in a calendar format
- Quick readability: which session is when
- Each session clickable → jumps to that training section lower in the tab
- Top of tab also includes:
  - Athlete's name
  - Coach's name
  - Team/club info
  - Ski club logo / branding

**Vertical order of content in each tab:**

Week overview → Gym → Core → Jump → Coordination

### **4. Training plan format (per session)**

**Column 1 (exercise meta-data):**

- Row 1: Exercise selection (dropdown/manual input)
- Row 2: 1RM reference (calculated if dropdown, blank if manual)
- Row 3: % increase in 1RM for that block (dropdown/manual)
- Row 4: Video link

**Column 2 (rep/weight guide):**

- R1: Reps (planned)

- R2: Anchor weight (calculated)
- R3: Reps
- R4: Weight
- ... continues (up to 6 sets possible)

**Columns 3–9 (set details):**

- Contain either calculated weights (based on anchor weight logic)
- Or blank if manual exercise selection

**Extra rows:**

- Row 10: Rest time (manual input)
- Row 11: Time under tension (manual input)
- Row 12–13: Checkboxes → when checked, date auto-stamps

## 5. The Rules

### Sets per week

- **Odd weeks** =  $(N-1)$  sets
- **Even weeks** = 4–6 sets (coach decides exact N)

### 1RM calculation

- Each tested lift stores: exercise, test weight, reps, date
- 1RM estimated using reps→% table
- Priority: if tested 1RM exists → use it. If not, apply mappings:
  - Front squat = 85% of back squat 1RM

- Deadlift wide = 85% of back squat 1RM
- Deadlift narrow = 105% of front squat 1RM
- Row = TBD

## **End 1RM progression**

- Coach sets target increase (5–20%) across **entire period**
- Weekly growth = evenly distributed and compounded
- Example: +15% over 15 weeks = ~1% growth per week

Formula:

$$\text{End1RM (week t+1)} = \text{End1RM (week t)} \times (1 + \text{weekly growth rate})$$

## **Anchor weight**

- **AnchorWeight = End1RM × % (from reps table, based on last-set reps)**

## **Other sets (step-down logic)**

Calculated backwards from the anchor weight:

- 100kg → -7 kg per step
- 50–100kg → -5 kg per step
- <50kg → -2.5 kg per step

## **6. Output requirements**

Each athlete's sheet should contain:

- Tabs for each training week (named by calendar week #)
- Per tab:

- Athlete info, logo, weekly calendar
  - Training plans (week, gym, core, jump, coordination)
- Each exercise row shows:
  - Exercise name
  - 1RM reference (if applicable)
  - % increase (per block)
  - Video link
  - Planned reps & calculated weights
  - Rest time
  - Time under tension
  - Checkbox + auto date stamp

## 7. Grouping & automation

- Athletes can be assigned to groups (affects program logic later).
- Button generates **entire season in one go**.
- On regeneration → **replaces** old data (not versioned).

## 8. Edge cases

- If no test result exists:
  - Derive from related lift if possible
  - Otherwise leave blank
- If no goal % set: use default **12.5%**
- If an athlete starts mid-season:
  - All logic can be overridden manually (format stays fixed)