

CALCULATING CALORIES AND NUTRIENTS

1. Calculate Resting Metabolic Rate (RMR)

Age	Men	Women
10-18	$(\text{kg body weight} \times 17.5) + 651$	$(\text{kg body weight} \times 12.2) + 746$
19-30	$(\text{kg body weight} \times 15.3) + 679$	$(\text{kg body weight} \times 14.7) + 496$
31-70	$(\text{kg body weight} \times 11.6) + 879$	$(\text{kg body weight} \times 8.7) + 829$

2. Calculate daily energy needs

Daily activity level	Energy needs
Sedentary (e.g., office worker)	RMR x 1.4
Moderately active (e.g., shop worker)	RMR x 1.7
Active all day (e.g., builder, gardener)	RMR x 2

3. Calculate daily exercise needs

Calculate your weekly calorie expenditure during exercise:

Exercise Level	Calories per hour (Men)	Calories per hour (Women)
Easy	400	400
Moderate	600	550
Hard	800	700

Divide your weekly total by 7 to get your daily requirement.

4. Calculate your TOTAL daily calorie requirement

Add to the result of step 2 to the result of step 3.

5. Calculate your nutrient requirements

Nutrient	Grams
Protein	= Kg body weight (e.g., 70kg body weight, 70g protein)
Fat	= Kg body weight
Carbohydrate	Result of Step 4 Minus calories from protein (Protein x 4) Minus calories from fat (Fat x 9) Divided by 4

Example:

A 60kg 40-year-old female office worker who runs 2 hours per week at a moderate pace, plus a 1 hour hard aerobics class:

1. RMR: $(60 \times 8.7) + 829 = \mathbf{1351}$
2. Daily energy needs: $1351 \times 1.4 = \mathbf{1891}$ calories (kcal)
3. Daily exercise needs: $(2 \times 550) + 700 = 1800$ per week, divided by 7 = **257** kcal per day.
4. Total daily calorie requirement: $1891 + 257 = \mathbf{2148}$ kcal.
5. Grams of each nutrient required daily:
 - Protein: 60g** (240 kcal)
 - Fat: 60g** (540 kcal)
 - Total daily calorie requirement (**2148**) minus calories from protein and fat (**240+540**) = **1368** calories required from carbohydrates.
 - Grams of **carbohydrate** required: $1368 / 4 = \mathbf{342g}$.

Notes:

Carbohydrate and protein provide 4 calories per gram. Fat provides 9 calories per gram. Calorie expenditure for light, moderate and intense exercise is approximate, but close enough.