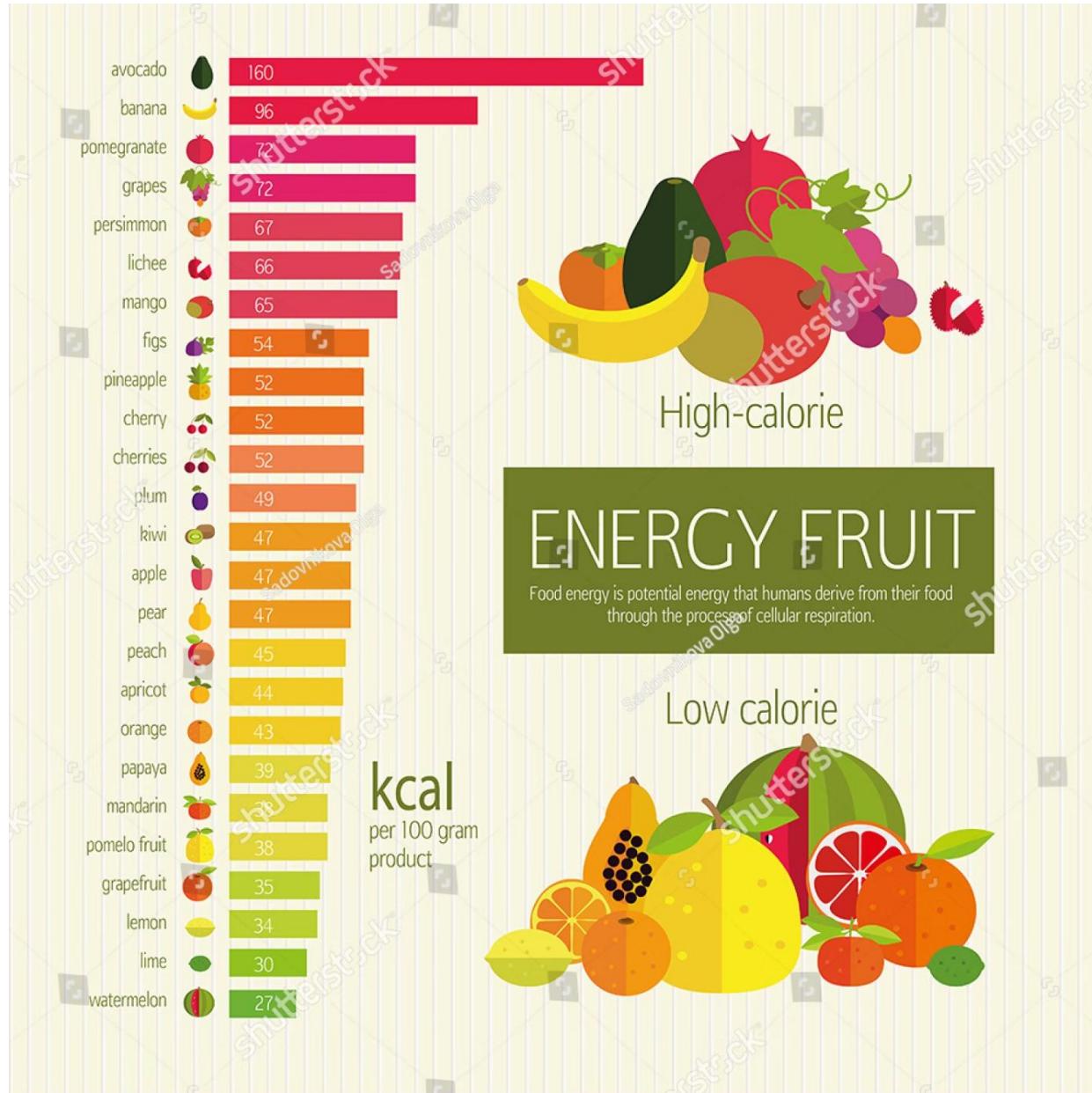


# How to Calculate Daily Caloric Intake for Maintaining, Losing, and Gaining Weight

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# What is a Calorie?



A calorie is a unit of measurement that quantifies the energy content in food and beverages. Your body relies on these calories to power everything from basic survival functions to intense physical activities.

Understanding calories is the foundation of effective weight management and optimal health.

# Energy Balance: The Key to Weight Control



## Maintenance

Calories in = Calories out

Your weight remains stable when energy intake matches energy expenditure.



## Weight Loss

Calories in < Calories out

Creating a deficit forces your body to use stored energy, resulting in weight reduction.



## Weight Gain

Calories in > Calories out

Surplus calories are stored, leading to increased body mass and muscle growth when combined with training.

# Energy Balance Determines Your Weight

This fundamental principle governs all weight changes. Visualising the balance between intake and expenditure helps you understand and control your body composition effectively.



# What is BMR?

## Definition

Basal Metabolic Rate represents the energy your body requires at complete rest to maintain vital functions such as breathing, circulation, cell production, and temperature regulation.

## Significance

BMR accounts for approximately 60-75% of your total daily calorie expenditure, making it the largest component of your energy needs.

## Foundation

Understanding your BMR is essential as it forms the baseline for calculating your complete daily caloric requirements.

# The Most Accurate Formula: Mifflin-St Jeor Equation

## For Men

$$BMR = 10 \times \text{weight(kg)} + 6.25 \times \text{height(cm)} - 5 \times \text{age} + 5$$

This formula accounts for the typically higher muscle mass in men.

## For Women

$$BMR = 10 \times \text{weight(kg)} + 6.25 \times \text{height(cm)} - 5 \times \text{age} - 161$$

The adjustment reflects physiological differences in body composition.



# Example: Calculating BMR for a 35-year-old Woman

## Given Information

- Age: 35 years
- Weight: 65 kg
- Height: 165 cm
- Gender: Female

## Step-by-Step Calculation

$$\begin{aligned} \text{BMR} &= 10 \times 65 + 6.25 \times 165 - 5 \times 35 - 161 \\ &= 650 + 1031.25 - 175 - 161 \\ &= \mathbf{1345.25 \text{ calories per day}} \end{aligned}$$

- ❑ This woman's body requires approximately 1,345 calories daily just to maintain basic physiological functions at rest.

# Adjusting for Activity Level to Find TDEE

Total Daily Energy Expenditure (TDEE) accounts for all your daily activities beyond basic metabolic functions.



# Activity Multipliers for TDEE



## Sedentary

BMR × 1.2

Little to no exercise, desk job



## Lightly Active

BMR × 1.375

Light exercise 1-3 days per week



## Moderately Active

BMR × 1.55

Moderate exercise 3-5 days per week



## Very Active

BMR × 1.725

Hard exercise 6-7 days per week



## Extra Active

BMR × 1.9

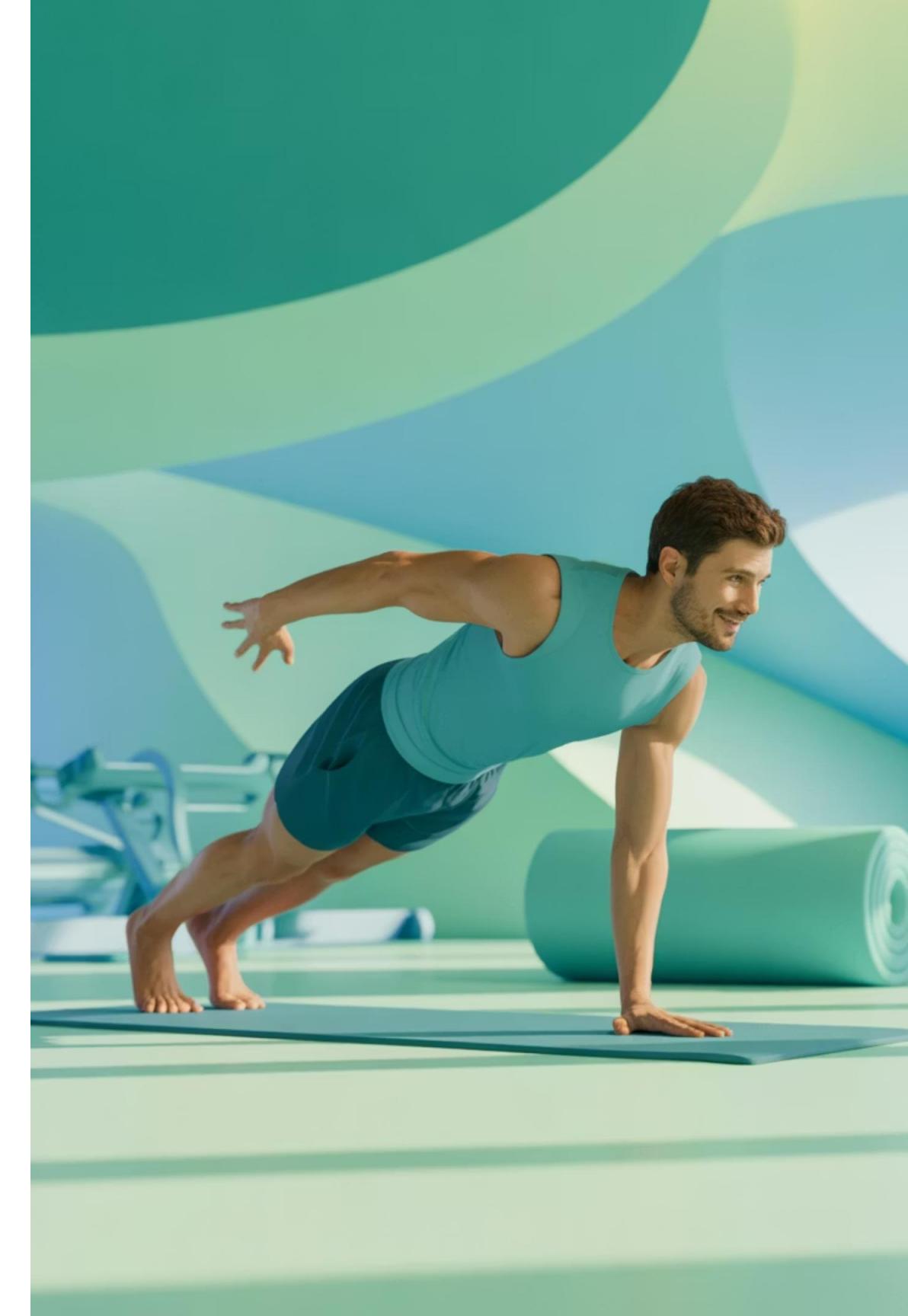
Very hard exercise or physical job daily

# Example Continued: Woman with Moderate Activity

Our 35-year-old woman exercises moderately 3-5 days per week, placing her in the "moderately active" category.

- 1 BMR Calculated  
1345.25 calories/day
- 2 Activity Multiplier  
 $\times 1.55$
- 3 TDEE Result  
2085 calories/day

This is the number of calories she needs daily to **maintain her current weight**.





# Calculating Calories for Weight Loss and Gain

# Weight Loss: Creating a Calorie Deficit

## The 3,500 Calorie Rule

One pound (0.45 kg) of body fat contains approximately 3,500 calories of stored energy.

## Weekly Target

To lose 1 lb per week, create a daily deficit of approximately 500 calories.

## Safe Rate

Aim for 0.5 to 1 kg (1 to 2 lbs) per week for sustainable, healthy weight loss.

**Critical Safety Note:** Never reduce intake below 1,200 calories daily for women or 1,500 for men without medical supervision to prevent nutritional deficiencies and metabolic damage.

# Weight Gain: Creating a Calorie Surplus



## Caloric Surplus

To gain 1 lb per week, increase your daily intake by approximately 500 calories above your TDEE.



## Quality Matters

Focus on nutrient-dense whole foods rather than empty calories to support healthy weight gain.



## Strength Training

Combine your surplus with resistance training to ensure weight gain comes from muscle rather than fat.



# Example: Calorie Targets for Our 35-Year-Old Woman

Starting with her TDEE of 2,085 calories per day, we can calculate specific targets for different goals:

**2085 1585 2585**

**Maintenance**

Current weight remains stable

**Weight Loss**

Lose approximately 1 lb per week (2085 - 500)

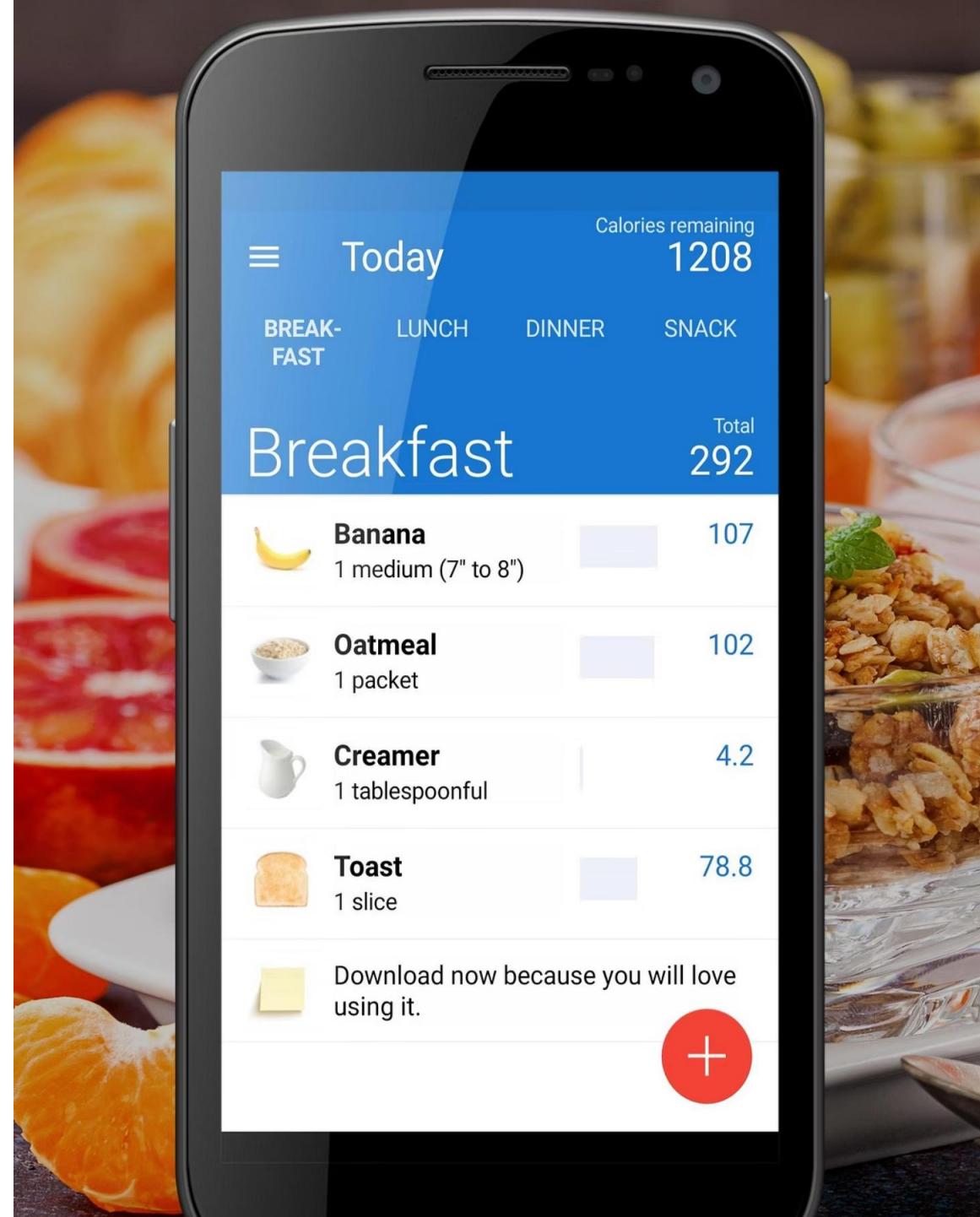
**Weight Gain**

Gain approximately 1 lb per week (2085 + 500)



# Practical Tips for Managing Caloric Intake

Track what you  
eat, the easy way.





# Tracking Calories Effectively



## Use Technology

Leverage nutrition labels and mobile apps to accurately log your food intake throughout the day.



## Plan Ahead

Prepare meals and snacks in advance to meet your specific calorie goals without guesswork.



## Prioritise Protein

Emphasise protein-rich foods to support muscle maintenance, enhance satiety, and boost metabolism.

# Avoiding Common Pitfalls

## Don't Slash Calories Drastically

Extreme calorie restriction leads to muscle loss, metabolic slowdown, and unsustainable results. Be patient and moderate.

## Combine Diet with Exercise

Regular physical activity enhances weight management, preserves muscle mass, and improves overall health outcomes.

## Maintain Balance

Stay properly hydrated and ensure balanced nutrition with adequate vitamins, minerals, and macronutrients for optimal health.

# 9. Case Studies (For Student Discussion)

## Case 1: Weight Loss

Female, 80 kg, sedentary. Calculate BMR → TDEE → deficit 300 kcal.

## Case 2: Weight Gain

Male, 60 kg, active. Calculate BMR → add surplus +400 kcal.

## Case 3: Aesthetic Client

Planning liposuction or body contouring: Calculate TDEE to determine postoperative meal plan.

# Conclusion: Your Caloric Blueprint for Healthy Weight Management



## Calculate Your BMR

Use the Mifflin-St Jeor equation to determine your baseline metabolic rate based on age, weight, height, and gender.



## Adjust for Activity

Multiply your BMR by the appropriate activity factor to find your Total Daily Energy Expenditure (TDEE) for maintenance.



## Set Your Goals

Create sensible 500-calorie deficits or surpluses from your TDEE to achieve weight loss or gain at a healthy, sustainable pace.



## Monitor and Adjust

Track your progress, prioritise balanced nutrition, and remember that consistency and patience are the true keys to long-term success.

