

Paper 2: Energy use, diet, nutrition and hydration

Balanced diet

- Eating the right foods in the right amounts. This will allow us to exercise and work properly
- Insufficient nutrients can cause ill health such as anaemia, rickets and scurvy
- No single food contains all of the nutrients the body needs, so you need to eat a variety of foods in the correct proportions



Reasons for a balanced diet

- Any unused energy is stored as fat, which could cause obesity (particularly saturated fat)
- To provide suitable energy that can be used for activity
- To provide the nutrients needed for energy, growth and hydration

Energy use

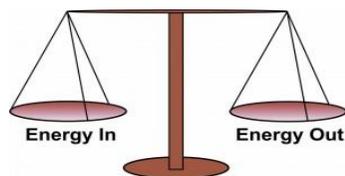
- Energy is measured in calories (Kcal) and is obtained from the food we eat
- The average adult male requires 2500 Kcal per day
- The average adult female requires 2000 Kcal per day

The number of calories is dependent on

- Age
- Gender
- Height
- Energy expenditure (exercise)

The energy balance

- If we eat too much in relation to the amount of activity we do, we will become overweight
- If we eat too little in relation to the amount of activity we do, we will become underweight



Variety as well as balance

You need a balance of food from the different groups and a variety from within each group.

In our diet we require:

- Carbohydrates
- Fats
- Proteins
- Vitamins and minerals

Nutrition	Explanation	Foods
Carbohydrates 	Carbohydrates are the main preferred energy source for all types of exercise of all intensities (aerobic and anaerobic) A balanced diet should contain 55% - 60% carbohydrate	<ul style="list-style-type: none"> • Bread • Pasta • Rice • Potatoes
Fats 	Fats are an energy source; they provide more energy than carbohydrates but only at low intensity. It is easily stored in the body and can lead to weight gain A balanced diet should contain 25% - 30% fat	<ul style="list-style-type: none"> • Butter • Oil • Fatty meats • Fried food
Protein 	Protein are for growth and repair of muscle tissue. It is used by performers such as sprinters to aid muscle growth (hypertrophy) A balanced diet should contain 15% - 20 % protein	<ul style="list-style-type: none"> • Cheese • Milk • Eggs • Fish • Meat
Vitamins and minerals 	Vitamin and minerals are for maintaining the efficient working of the body systems and general health this includes keeping our bones strong and our immune system working	Vitamins: <ul style="list-style-type: none"> • Fresh fruit • Vegetables Minerals: <ul style="list-style-type: none"> • Meat • Vegetables

Reasons for maintaining water balance (hydration)

Dehydration: excessive loss of body water, such that it interrupts the function of the body

Hydration: having enough water to enable normal functioning of the body

Rehydration: Consuming water to restore hydration

Water balance: taking in water (hydrating) to prevent dehydration due to loss of fluids

Effects of dehydration

Blood thickening (increased viscosity)	Slows blood flow which preventing the delivery of oxygen
Increase in heart rate causing irregular rhythm	The heart has to work harder to deliver oxygen to the working muscles
Increase in body temperature	Causes overheating, leading to heat exhaustion
Slowing of reactions	Increases reaction time, which can slow the time to make important decisions
Muscle fatigue	Causes cramp in muscles