



8A Food and Nutrition

1. Nutrients

Diet	The food that you eat- provides the raw materials your body needs for energy.
Nutrients	Food substances that provide the raw materials- carbohydrates, fats, proteins, vitamins, minerals
Carbohydrates	Starch and sugars
Fats	Liquid fats are oils. Fats and oils are called lipids.
Fibre	Made of plant cell walls- not used by the body. Helps food move through the intestines and stops them getting blocked.
Uses of Water	<ul style="list-style-type: none"> • a lubricant • dissolves substances to be carried around body • fills up cells, holding shape • sweat to cool you down
Food Labels	Show the amounts of different nutrients in food.
Starch Food Test	Add 2 drops of iodine. If it turns blue-black starch is present.
Protein Food Test	Add 5 drops of biuret solution. If it turns purple protein is present.
Fat Food Test	Rub on some white paper and hold up to the light. fats will leave a greasy mark

2. Uses of Nutrients

Uses of Carbohydrates	The body's main source of energy. <i>Bread, potatoes, pasta</i>
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Uses of Fats	Another source of energy that is stored in your body. Some is stored under the skin to insulate the body. <i>Dairy products, fried food</i>
Maintaining Mass	The amount of fuel you use needs to be balanced by the amount you eat.
Kilojoules (kJ)	The units for measuring the energy in food.
Respiration	The process that releases energy from food.
Energy Needs	Depends on age, sex and how active you are.
Uses of Proteins	Make new cells allowing us to grow and repair our bodies. <i>Meat, fish, cheese, beans, milk</i>
Uses of Vitamins and Minerals	Used in small amounts to maintain health.
Vitamin A	Needed for healthy skin and eyes.
Vitamin C	Helps cells in tissues stick together properly.
Calcium	Needed to make bones.
Iron	Makes red blood cells.

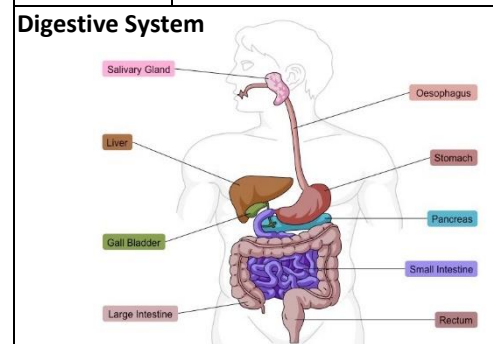
3. Balanced Diets

Balanced Diets	Eating a range of foods in the right amounts.
Malnutrition	Having too much / too little of a nutrient in your diet.
Deficiency Disease	Caused by lacking certain nutrients for a long time.
Kwashiorkor	Lack of protein causing a 'pot belly'.
Night Blindness	Lack of vitamin A.
Scurvy	Lack of vitamin C causing painful joints and bleeding gums.

Rickets	Lack of calcium / vitamin D causing bones not to form properly.
Anaemia	Lack of iron causing tiredness and shortness of breath.
Starvation	Lacking nearly all nutrients needed.
Obesity	Caused by eating food containing more energy than you need.
Heart Attack	Fat clogs arteries so little blood reaches the heart.
Reference Intakes	How much of each nutrient should be eaten in a day.

4. Digestion

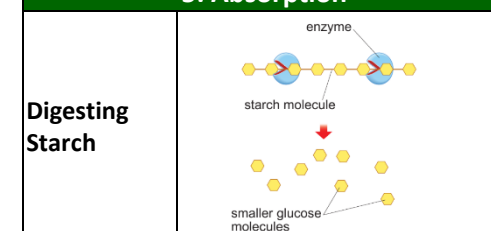
Digestion	Turning large insoluble molecules into small soluble ones.
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Mouth	Teeth grind food and saliva helps digest food.
Gullet	(oesophagus / food pipe) Muscles contract pushing the food down.
Stomach	Food churned with acid.
Small Intestine	More digestive juices added- small digested molecules absorbed into body.
Large Intestine	Water is removed from undigested food- faeces formed.
Rectum	Stores faeces

Anus	Faeces pushed out body- egestion.
Gut Bacteria	Microorganisms needed to help digest food.
Enzymes	Substances that speed up the breaking down of large molecules- biological catalysts.

5. Absorption



Digesting Starch	
Blood	Digested nutrients dissolve in the blood plasma and are carried around the body to cells.
Diffusion	Movement of particles from an area of high concentration to low concentration.
Small Intestine Adaptations.	Has lots of tiny finger-shaped villi to increase surface area. Each villus has a folded top that forms microvilli. Villi walls are one cell thick for easier diffusion.
Alcohol	Causes fewer digestive enzymes to be released and can damage villi.

Lesson	Memorised?
1. Nutrients	
2. Uses of Nutrients	
3. Balanced Diets	
4. Digestion	
5. Absorption	