Absorption definition	The movement of digested food molecules through the wall of the intestine into the blood or lymph
Active transport	The movement of ions out of a cell from regions of lower concentration to regions of higher concentration, against concentration gradients.
Aerobic respiration definition	The release of relatively large amounts of energy in cells by the breakdown of the food substances in the presence of oxygen
Anaerobic respiration definition	The relatively small production of energy by the breakdown of food substance in the absence of oxygen
Animal Cell features	Has a cell membrane, cytoplasm, nucleus, more mitochondria.
Assimilation definition	The movement of digested food molecules into the cells of the body where they are used, becoming part of the cells.
Balanced diet definition	A balanced diet provides all the nutrients, in the correct amounts, needed to carry out the life processes. 1/7 fat, 1/7 protein, 5/7 carbohydrates
Catalyst	Something that speeds up a reaction without in itself being used up.
Causes for coronary heart disease and how to prevent it?	Causes: diet, stress and smoking, preventive measures: drink wine, take an aspirin, quit smoking, eat healthy
Chemical elements of Carbohydrate and what is it broken down to?	Made up of carbon, hydrogen, and oxygen. Simple sugars and long chain polymers

Chemical elements of Lypid/ fat and what is it broken down to?	Made up of carbon, hydrogen, and oxygen. Fatty acids and Glycerol
Chemical elements of Protein, and what are is it broken down to?	Made up of carbon, hydrogen, oxygen, and nitrogen. Amino Acids
Ciliated cells: structure related to function?	In respiratory tract, these cells are used to clean dust and bacteria from lungs. It has tiny hair like extensions called cilia that move to remove dust and bacteria, as well as a flattened shape and interlocking edges.
Circulatory system definition	A system of tubes with a pump and valves to ensure a one way flow of blood.
Components of blood	Red blood cells, white blood cells, platelets, and blood plasma
Deamination Definition	The removal of the nitrogen containing part of amino acids to form urea, followed by the release of energy from the remainder of the amino acid.
Define chyme	Partially digested food
Define Ingestion	Taking substances into the body through the mouth
Define limiting factor in plants	Something present in the environment in such short demand that it restricts life processes.
Define Villus	Small, finger like tissues in the small intestine that greatly increase the surface area and can thus increase diffusion. They also have capillaries to increase diffusion further.

Diffusion	A net movement of molecules from a region of higher concentration to a region of lower concentration due to their random movement.
Digestion	The break-down of large, insoluble food molecules into small, water-soluble molecules using mechanical and chemical processes.
Double circulation	The blood passes through the hart twice to complete one circuit: once on a low pressure route to the lungs and back, and then a high pressure route throughout the body.
Egestion	The passing out of food that has not been digested, as faeces, through the anus.
Enzyme	A biological catalyst made of protein
Equation for aerobic respiration (word)	Glucose+Oxygen--->Carbon dioxide+water
How do you find what something needs to have to be alive, and what are these necessitaties?	MRS GREN: Movement, Respiration, sensitivity, Growth+repair, Reproduction, Excretion, Nutrition
How does temperature and pH affect enzymes?	Higher temperatures=more efficiency up to a point, where enzymes become denatured, and are no longer usable. Enzymes have to be within a specific pH, or it will be deactivated and what work until it is put back to its optimum pH.
How does water pass from the root to the leaf?	It passes from the root hair to the root cortex cells to the xylem to the mesophyll cells.
How is carbon dioxide taken into plants?	Through the stomata.

How much water does the small intestine and colon a day?	Small intestine: 5-10 dm3 Colon: 0.3-0.5 dm3
Muscle cells: Structure related to function?	To contract and relax to allow movement. Has an elongated cell shape made up of long filaments that can contract and relax. Also has lots of mitochondria, cause needs energy for contraction.
Name the vessels to the heart, lungs, liver, and kidney.	Heart: Aorta and Vena Cave, lungs: pulmonary artery/vein, liver: hepatic artery/vein, kidney: renal artery/ vein.
Nutrition Definition	The taking in of nutrients which are organic substance and mineral ions, containing raw materials or energy for growth and tissue repair, absorbing or assimilating them.
Organ Definition	A structure made up of a group of tissues working together to perform a function
Organ system	A group of organs with related functions, working together to perform body functions
Osmosis	The diffusion of water through a partially permeable membrane
Photosynthesis Definition	The process by which plants manufacture raw materials using energy from sunlight.
Plant Cell features	Has a cell wall, some mitochondria, chloroplasts containing chlorophyll, large vacuole, nucleus, cytoplasm, and cell membrane.
Red blood cells: Structure related to function?	To transport oxygen around the body. It has no nucleus and a bi concave shape to allow maximum surface are for more oxygen to be absorbed. It is full of haemoglobin.

Respiration definition	The chemical reactions that break down nutrient molecules in living cells to release energy.
Root hair cells: structure related to function?	These absorb water from the soil. It has a projection that massively increases surface area for more efficient uptake of water and minerals. It also has thin walls so water can be more easily absorbed.
Test for fats	Ethanol, white emulsifier
Test for protein	Biuret's test, from blue to purple
Test for Reducing sugars (Glucose)	Benedict's solution from blue to brick red with heat
Test for starch	Iodine solution from brown to blue black
The function of the phloem in plants	To transport nutrients around the plant.
The functions of a red blood cell	Haemoglobin and oxygen transport
The functions of plasma	Transport of blood cells, ions, soluble nutrients, hormones, carbon dioxide, urea, and plasma.
The functions of platelets	Clotting though the process of fibrinogen to fibrin

The functions of White blood cells	Phagocytosis and antibody formation
The uses of energy in humans	Muscel contraction, protein synthesis, cell division, active transport, growth, the passage of nerve impulses, and the maintenance of a constant body temperature.
The word equation for anaerobic respiration in humans and yeast	Humans: Glucose--->lactic acid Yeast: glucose--->alcohol+carbon dioxide
Tissue Definition	A group of cells with similar structures that work together to perform a function
Translocation definition	The movement of sucrose and amino acids in the phloem.
Transpiration definition	The evaporation of water at the surfaces of the mesophyll cells followed by water vapour from the plant leaves, through the stomata.
What are all living organisms made of?	Cells
What are Bacterium used for in the food industry?	Bacteriums are used to make single cell proteins, a cattle feed. They are made by growing bacteria on waste products like whey, and then dried up. The bacteria are now a dry, white powder rich in protein, which can be added to cattle feed.
What are both the stomata and mesophyll cells used for?	Gas exchange
What are enzymes used for outside of our bodies?	Biological washing powders using lipase, Fruit juice using pectinase, penicilium in penicillin

What are magnesium ions used for in plants?	Chlorophyll synthesis
What are nitrate ions used for in plants?	Protein synthesis
What are some types of carbohydrates?	Simple sugars:Glucose and Fructose Long chain polymers: Starch, glycogen, cellulose
What are symptoms of deficiency for Calcium?	Rickets: Calcium is not deposited properly in bones, causng rickets in children- the bones are soft and become deformed by the ass of the body. Adults may develop osteomalacia- fragile bones
What are symptoms of deficiency for Iron?	Anaemia: The person may feel weak or tired, as not enough haemoglobin is produced and so oxygen is not carried around the body efficiently.
What are symptoms of deficiency for Vitamin C?	Scurvy: bleeding gums, swollen joints, slow healing. This occurs because fibres in skin and blood vessel tissue do not form properly.
What are symptoms of deficiency for Vitamin D?	Rickets: Calcium is not properly absorbed. See symptoms of deficiency of calcium for rickets symptoms.
What are the benefits of food additives?	Preservatives: keep food fresh Flavourings: Makes food taste better Colouring: Makes food look better
What are the main regions of the alimentary canal?	The mouth, salivary glands, oesophagus, stomach, small intestine: duodenum and ileum, pancreas, liver, gall bladder, large intestine: colon and rectum, and anus.
What are the problems with food additives?	They can cause hyperactivity, cancer, headaches, asthma, and may destroy vitamins in food.

What are the purposes of Calcium	Bone structure
What are the purposes of carbohydrates?	Immediate source of energy
What are the purposes of fats?	Long term energy source, insulation, fabrication of steroid component, part of cell membrane, buoncy, protections
What are the purposes of Fibre?	Helps digestion, encourages peristalsis, keeps colon healthy.
What are the purposes of Iron?	Oxygen transport through haemoglobin, good red blood cell production
What are the purposes of proteins?	Muscle creation (structural component), hormones, enzymes, growth and repair
What are the purposes of vitamin C?	Protects cells from ageing, prevents scurvy, metabolic reactions
What are the purposes of vitamin D?	Absorption of calcium linked to good bones
What are the purposes of water?	Used for transport in body, chemical reactions, excretion and the removal of toxins.
What do villi do?	They increase the surface area of the small intestine.

What does chlorophyll do?	It traps light energy and converts it into chemical energy for the formation of carbohydrates
What is Lactobillus used for in the food industry?	Lactobcillus, a bacterium, is used in yoghurt production. It feeds on soluable sugars in milk, producing lactic acid as waste. The lactic acid seperates the semi-solid curds of the milk from the liquid whey, producing yoghurt
What is movement, respiration, and excretion?	Movement: An action that causes a change in place Respiration: A chemical release of energy Excretion: The removal of waste and toxic material
What is reproduction and nutrition?	Reproduction: a process that makes more of the organism Nutrition: The uptake of nutrients for growth, repair, and storage
What is Sensitivity and Growth+repair?	Sensitivity: awareness of surrounding environments Growth:A permanent increase of the size and mass of the plant, by increasing cell count
What is the hepatic portal vein?	A vein where food is taken into the blood stream through diffusion.
What is the main method of classification?	Binomial classification: a name that shows its genus and species.
What is the role of bile?	Bile emulsifies fats to increase their surface areas for the action of enzymes. It also contains hydrogencarbonates to neutralize stomach acids
What is the role of the liver in the metabolism of glucose and amino acids?	The liver metabolizes glucose into glycogen, and amino acids into proteins.
What is yeast used for in the food industry?	Yeast, a type of fungus, is used in bread production. It metabolizes sugar to produce energy. Waste products are ethanol and carbon dioxide gas. The bubbles of gas make the dough rise and the ethanol evaporates when the bread is baked.

What larger molecules are synthesized from amino acids?	Proteins
What larger molecules are synthesized from fatty acids and glycerol?	Fats and oils
What larger molecules are synthesized from simple sugars?	Starch and glycerol
What microorganisms are used in the food industry?	Yeast, Lactobcillus, Bacterium
Where are carbohydrates found?	Starch: Rice, potatoes, pasta, cereals Sucrose: Sweetners, cake Glucose: Sweets, desert.
Where are fats found?	Olive oil, butter, sweets, dairy, eggs
Where are proteins found?	Meat, eggs, nuts, soybeans
Where is alchohol and toxins broken down?	The liver.
Where is amylase produced and what does it do?	It is produced in the salivary glands and pancreas. It is used to break down starches to maltose
Where is Calcium found?	Milk, other dairy products

Where is Fibre eg Cellulose found?	In Wheats and vegetables.
Where is Iron found?	Spinach, red meat, dark green vegetables
Where is lipase produced and what does it do?	It is produced in the pancreas and breaks down fats to fatty acids.
Where is maltase found and what does it do?	It breaks maltose and down to glucose.
Where is pepsin produced and what does it do?	It breaks down proteins to peptides.
Where is protease produced and what does it do?	It is produced in the pancreas and breaks down peptides to amino acids..
Where is the region for the absorption of digested food?	The small intestine
Where is vitamin C found?	Citrus fruits, green vegetables.
Where is vitamin D found?	The sun, liver, beans, dairy products
Why is fat a good energy storage?	It can hold a lot of energy for its size and it is insoluble in water.

Word equation of Photosynthesis	Carbon dioxide + water ----with light and chlorophyll catalyst----> Oxygen + Glucose
Xylem vessels: structure related to function?	To transport water and to support the plant. They are made up of dead hollow cells with no end walls, to create a tube. It also has rings of licrin to strengthen the walls, as pressure from flowing water is quite high.