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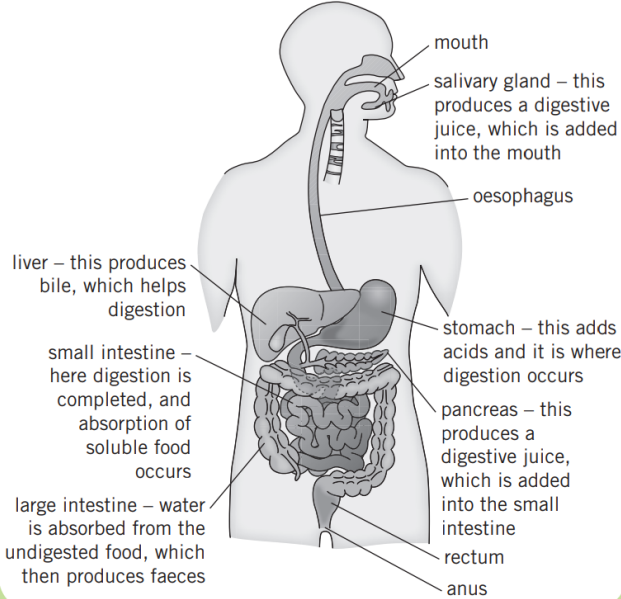
Digestion

1	I can list the contents of a healthy human diet and describe why each part is needed
2	I can make calculations of energy requirements in a healthy daily diet
3	I can name and describe the functions of some tissues and organs in the human digestive system
4	I can explain how digestion happens, with reference to enzymes
5	I can discuss the benefits of bacteria in the human digestive system
6	I can test for sugar and starch in food

	Keyword	Definition
1	anus	Muscular ring through which faeces pass out of the body.
2	balanced diet	Eating food containing the right nutrients in the correct amounts.
3	deficiency	A lack of minerals that causes poor growth.
4	dietary fibre	Parts of plants that cannot be digested. It helps the body to eliminate waste by providing bulk to keep food moving through the digestive system.
5	digestion	Process in which large molecules are broken down into smaller molecules.
6	enzyme	Substances that speed up the chemical reactions of digestion resulting in large molecules being broken into small molecules.
7	oesophagus	Tube that food travels down into the stomach.
8	large intestine	Lower part of the intestine from which water is absorbed and where faeces (solid waste of undigested food) are formed.
9	lipid	Nutrient that provides a store of energy and insulate the body. Found in butter, milk, eggs, nuts.

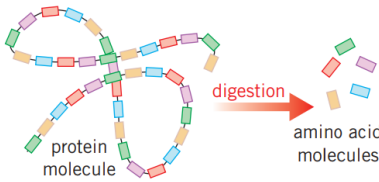
Prior Knowledge From KS2: At KS2 You should have also recognised the impact of diet, exercise, drugs and lifestyle on the way their body functions and describes the ways in which nutrients and water are transported within animals, including humans.

The digestive system



Enzymes

- Enzymes are biological catalysts, they speed up the digestion of nutrients
- Each enzyme is specific to each nutrient
- The way the enzyme and nutrient bind with each other is called a lock and key model
- Carbohydrases break carbohydrates down into simple sugars
- Proteases break proteins down into amino acids
- Lipase breaks lipids (fats) down into fatty acids and glycerol



Careers: Nutritionist Doctor Nurse Chemist Surgeon Dietician

Nutrients

- A balanced diet involves eating the right amount of nutrients for your body to function
- Not eating enough of a nutrient means you have an unbalanced diet, and this can lead to a deficiency

Nutrient	Role in your body
carbohydrates	main source of energy
lipids	fats and oils provide energy
proteins	growth and repair of cells and tissues
vitamins and minerals	essential in small amounts to keep you healthy
water	needed in all cells and body fluids
fibre	provides bulk to food to keep it moving through the gut

Why? Damage to any of these systems can be debilitating if not fatal. Although there has been huge progress in surgical techniques many interventions would not be necessary if individuals reduced their risks through improved diet and lifestyle.

Future Learning: At GCSE you will learn about the human digestive system which provides the body with nutrients You will learn how it provides dissolved materials that need to be moved quickly around the body in the blood by the circulatory system.

Homework Menu Grid

Topic	1 Point	2 Points	4 Points	6 Points	10 Points
The digestive system	Draw or print out a picture of the digestive system and label the main parts.	Give an example of a cell, a tissue, and an organ within the digestive system	Describe the function of two organs within the digestive system.	Draw a flow diagram that shows the organs a cheese sandwich would pass through once eaten.	Create a model of the digestive system, include details of why you have chosen each material to make each part.
Bacteria and enzymes	Name all the enzymes involved in digestion.	Where in the digestive system do you find each enzyme?	Produce revision notes to describe the functions of enzymes within the digestive system.	Write three multiple choice and three true or false questions about the digestive system and enzymes.	For each enzyme, write down the name of the enzyme, the food group it breaks down, and the products of the breakdown.
Healthy diet	Write a definition for a balanced diet.	Describe what can happen to a person if they eat: Too much food Too little food	Write a poem that describes why it is unhealthy to be underweight and overweight. Include risks to a person's health.	Produce a menu for a person looking to eat more of a balanced diet.	With permission from your parent/guardian, cook a 'balanced meal', take a picture.
utrients	List as many nutrients as you can.	Give an example of a type of food rich in each type of nutrients.	Produce an information poster for your local doctors. Include information about the key nutrients we need, and foods that are high in these nutrients.	Suggest and explain the advice a doctor might give to a patient who is constipated.	Pick a nutrient deficiency, draw a comic strip showing the effects on a person and how they are treated for it. It can be serious or funny.
Food tests	Name all the food groups.	What is the name of each chemical used in the food tests?	Pick three foods that you would like to test What do you think you would observe if you did?	Draw a comic strip of the food tests practical you have completed in class.	Write a scientific method describing how you would test a gingerbread biscuit for the presence of starch, lipids, and proteins. Include what observations you would make if a food group was present.

