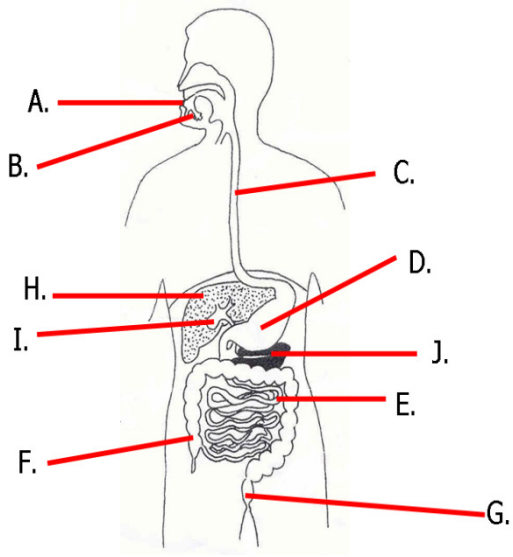


Fact Sheet - enzymes

Question	Answer
List the four functions of protein (4)	<ul style="list-style-type: none"> a. structural protein b. Hormones c. Antibodies d. Catalysts
Define these key words... Chromosome Gene Enzyme DNA fingerprinting	Chromosome – large molecule of DNA in the nucleus Gene – a small section of DNA which codes for a specific protein Enzyme – a biological catalyst DNA fingerprinting – a method of identifying individuals using DNA
Why does the rate of reaction increase between 0°C and 40°C when using enzymes? (2)	<ol style="list-style-type: none"> 1. As it heats up the particles have more kinetic energy 2. so there are more successful collisions between the substrates and enzymes active site.
Why does the rate of reaction decrease between 40°C and 60°C when using enzymes? (2)	<ol style="list-style-type: none"> 1. The enzyme denatures 2. so the substrate no longer fits into the enzymes active site.
Name the organs of the digestive system (10) 	<ul style="list-style-type: none"> A. Mouth B. Salivary gland C. Oesophagus D. Stomach E. Small intestine F. Large intestine G. Rectum H. Liver I. Gall bladder J. Pancreas

Give the functions of the organs

Organ	Function
Mouth	Chew the food to increase its surface area
Salivary glands	Produces amylase and releases saliva
Oesophagus	Takes food from the mouth to the stomach
Stomach	Produces acid & protease, churns the food digests protein
Small intestine	Produces protease, lipase & amylase Digests and absorbs the food
Large intestine	Absorbs water
rectum	Stores faeces
Liver & gall bladder	Produces and releases bile
Pancreas	Produces protease, lipase & amylase

Name three digestive enzymes; state their substrates and products (9)

Name of enzyme	Substrate	Product
Protease	Protein	Amino acids
Amylase	Starch	Sugars
Lipase	Lipids / fats	Fatty acids & glycerol

State the three tissues of the stomach and their function (6)

Tissue	Function
Muscular	Contracts to churn the food
Glandular	Produces digestive juices
Epithelial	Covers outside and inside of stomach

Using enzymes can make industrial processes cheaper. How do they do this? (3)

1. Lowers the temperature
2. and pressure needed,
3. so less energy is used

Some microorganisms produce enzymes that pass out of the cell. These enzymes can be used in the home and in industry. Complete the table with the use, name of enzyme and how it works. (9)

Use	Enzyme	How
Detergents	Protease & Lipase	Digests protein and fats on clothes and lowers temperature of wash
Baby food	Protease	Predigests the protein in the food
Slimming foods	Isomerase	Converts glucose to fructose which is sweeter so food needs less sugar.