

1.1 - Skeletal and Muscular Systems	
Skeletal System	Allows movement , holds us upright and protects organs .
Muscular System	Muscles contract and pull on bones to allow movement .
Joint	Where two bones join together . The ends of the bones are covered in cartilage , and synovial fluid lubricates the joint.
Ligament	Elastic tissue that joins two bones together.
Tendon	Inelastic tissue that joins a muscle to a bone .
Antagonistic Muscles	Muscles that work in pairs . When one contracts (shortens), the other relaxes (lengthens).
1.2 - Food Groups	
Carbohydrate	Main source of energy .
Lipids (fats and oils)	Act as a store of energy . Body fat keeps us warm .
Proteins	For growth and repair .
Vitamins & Minerals	Needed in small amounts to maintain health . E.g. calcium for strong bones and teeth , iron for red blood cells .
Water	Needed for chemical reactions in cells and body fluids .
Fibre	Helps food move through the gut . Prevents constipation .
1.3 - Digestive System	
Enzymes	Chemicals that break down food into smaller soluble molecules so that they can be absorbed into the blood .
Mouth	Teeth chew food and mix it with saliva . Saliva contains enzymes that digest carbohydrates .
Oesophagus	Connects the mouth to the stomach .
Stomach	Food is churned in hydrochloric acid which kills bacteria. Enzymes digest proteins .
Small Intestine	Enzymes digest carbohydrates , lipid and proteins . Food is absorbed into the blood .
Large Intestine	Water is absorbed into the blood .
Rectum	Undigested food is compacted and stored as faeces then leaves the body through the anus .

1.4 - Respiratory System		
Trachea	Windpipe that carries air into the lungs. Splits into two tubes called the bronchi , then smaller tubes called bronchioles .	
Alveoli	Small air sacs where gas exchange occurs. Oxygen diffuses into the blood. Carbon dioxide diffuses into the alveoli.	
Adaptations of Alveoli for Gas Exchange	Many small alveoli -> give a large surface area .	
	Moist -> allows gases to dissolve .	
	Thin walls -> gases do not have far to travel .	
	Good blood supply -> maintains steep concentration gradient.	
Diaphragm	Sheet of muscle under the ribcage.	
Breathing In	Diaphragm contracts and moves down . Ribs move up and out . Lung volume increases , pressure decreases , air goes in .	
Breathing Out	Diaphragm relaxes and moves up . Ribs move in and down . Lung volume decreases , pressure increases , air goes out .	
1.5 - Circulatory System		
Heart	Pumps blood around the body.	
Double Circulatory System	One loop pumps blood from the heart to the lungs to be oxygenated .	
	Other loop pumps blood from the heart to the body cells where oxygen is used in respiration .	
Blood Vessels	Arteries	Carry blood away from the heart.
	Veins	Carry blood towards the heart.
	Capillaries	Connect arteries and veins . Allow substances to be exchanged between the blood and tissues . E.g. oxygen and glucose.
Parts of the Blood	Red blood cells	Carry oxygen .
	White blood cells	Fight infections . Kill micro-organisms .
	Platelets	Allow blood to clot and form scabs .
	Plasma	Liquid part of the blood.

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The Body

2.1 - Properties and Uses of Metals		
Copper	Used for electrical wiring -> good conductor of electricity and ductile .	
Gold	Used to make jewellery -> shiny and resistant to corrosion .	
Steel	Used for buildings , bridges and cars -> very strong . Steel is an alloy of iron.	
Aluminium	Used for aeroplanes and overhead cables -> has a low density so it is lightweight .	
Titanium	Used for hip replacements -> resistant to corrosion , strong and low density .	
2.2 - Reactivity Series (Practice writing metals in order of reactivity)		
<div>Most reactive</div> <div>↑</div> <div>Least reactive</div>	Potassium	Please
	Sodium	Send
	Calcium	Charlie's
	Magnesium	Monkeys
	Aluminium	And
	Carbon	
	Zinc	Zebras
	Iron	In
	Tin	The
	Lead	Lead
	Hydrogen	
	Copper	Cages
	Silver	Securely
	Gold	Guarded
	Platinum	Please

2.3 - Reactions of Metals	
Metal + Acid	metal + acid -> salt + hydrogen
	Metal will react if it is more reactive than hydrogen .
	Test for hydrogen gas using a lit splint . Listen for squeaky pop .
Metal + Oxygen	metal + oxygen -> metal oxide
	Oxidation reaction as metal gains oxygen .
Metal + Water	metal + water -> metal hydroxide + hydrogen
	Only very reactive metals e.g. group 1 alkali metals .
	Metal hydroxide produces alkaline solution. Turns universal indicator purple .
Displacement Reaction	A more reactive metal displaces a less reactive metal from its compound .
Rusting	Occurs when iron or steel reacts with both oxygen and water .
2.4 - Extraction and Recycling of Metals	
Ore	A rock that you can extract a metal from.
Extraction using Carbon	Use if the metal is less reactive than carbon .
	Heat metal oxide with carbon . Carbon displaces metal from its oxide.
	e.g. carbon + iron oxide -> iron + carbon dioxide.
Extraction using Electrolysis	Use if the metal is more reactive than carbon .
	Split up metal oxide using an electrical current .
	e.g. aluminium oxide -> aluminium + oxygen
Advantages of Recycling	Less waste sent to landfill . Less energy used as less mining and extraction required. Conserves ores which are limited resources .

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Metals