



7C Muscles and Bones

| 1. Muscles and Breathing | |
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| Breathing | The movement of muscles that allows us to take in and excrete gases. |
| Respiration | Process by which oxygen is used to release energy- produces carbon dioxide. |
| Gas Exchange | One gas is exchanged for another- oxygen goes into the blood, carbon dioxide leaves the blood. |
| Gas Exchange System | The organs that help with breathing / gas exchange- lungs, trachea, diaphragm |
| Inhale | Breathing in |
| Exhale | Breathing out |
| Ventilation | The movement of air into and out of the lungs |
| Breathing Rate | Number of times you inhale and exhale in one minute. |

2. Muscles and Blood

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| Pulse | The feeling of the heart beating that can be felt. |
| Pulse Rate | The number of pulse beats you feel in a minute. |
| Blood Vessels | A tube that carries blood around the body. |
| Arteries | Carry blood away from the heart to capillaries. |
| Capillaries | Tiny blood vessels connecting arteries & veins. |
| Veins | Carry blood from capillaries towards heart. |
| Plasma | Main part of blood- the liquid part. |
| Red Blood Cells | Carry oxygen in the blood- haemoglobin in cells carries the oxygen. |
| Red Blood Cell Adaptations | No nucleus (more room for haemoglobin). Curved shape increases surface area to take in oxygen quickly. |
| White Blood Cells | Fight infections and keep us healthy. |
| Bone Marrow | Where red and white blood cells are made. |

| 3. The Skeleton | |
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| Skeleton | Formed by the bones in the body- allows for support, protection and movement. |
| Backbone | Made up of smaller vertebrae- the bodies main support. |
| Skull | Made up of 22 bones- protects the brain. |
| Tendons | Connects muscle to bones. |
| Ligaments | Connects bones together. |
| Cartilage | Slippery tissue on the ends of bones. |
| Flexible Joint | Two or more bones meeting that can be moved. |

| 4. Muscles and Moving | |
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| Locomotor System | The system that allows you to move parts of the body- muscles and bones. |
| Movement | Muscles contract and pulls on bone it is attached to. |
| Antagonistic Pairs | Pairs of muscles that allow bones to move in two different directions. |
| Impulses | Messages sent from brain that tell muscles to contract. |

| 5. Drugs | |
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| Drug | Substances which changes the way the body works. |
| Medicine | Drugs used to help people with illness/injury. |
| Side-Effects | Harmful / unpleasant effects of using drugs. |
| Addictive | Feeling of not being able to cope without the drug. |
| Cannabis | Can cause memory loss and mental illness. |
| Ecstasy | Can cause mental illness, kidney damage and death. |
| Cocaine | Addictive and blocks arteries. |
| Heroin | Addictive, collapses veins, causes vomiting & headaches |
| Stimulants | Decrease your reaction time- impulse carried faster. e.g. caffeine |
| Depressants | Increase your reaction time- impulses carried slower. e.g. alcohol |