

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

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

## Y8 Science Cycle 1 - Sheet 1

### The Body

