

8Ca – Aerobic respiration

Word	Pronunciation	Meaning
aerobic respiration	<i>air-O-bick</i>	A type of respiration in which oxygen is used to release energy from substances, such as glucose.
carbohydrate	<i>car-bO-high-drate</i>	A nutrient that is used as the main source of energy. Examples include starch and sugars.
combustion		Burning, usually in air. The reaction usually gives out energy by heating the surroundings or by light.
glucose		An important sugar that is used as a reactant in respiration.
word equation	<i>eck-way-shun</i>	An equation in which the names of the reactant(s) are written on the left side, there is an arrow pointing from left to right and the names of the product(s) are written on the right side.

8Cb – The gas exchange system

Word	Pronunciation	Meaning
alveolus	<i>al-vee-O-lus</i>	A small pocket in the lungs in which gases are exchanged between the air and the blood. Plural is alveoli.
breathing		The movement of muscles that makes the lungs expand and contract.
bronchus	<i>bron-kus</i>	The trachea splits into two tubes; one bronchus goes into the left lung and the other goes into the right lung. Plural is bronchi.
capillary		A thin-walled blood vessel that carries blood from arteries to veins.
cilium	<i>sill-ee-um</i>	A small hair-like structure on the surface of some cells. Plural is cilia.
ciliated epithelial cell	<i>sill-ee-ate-ted ep-ith-ee-lee-al</i>	A cell in the tubes leading to and from the lungs that has cilia growing on its surface.
diaphragm (biology)	<i>dye-a-gram</i>	An organ containing a lot of muscle tissue, which diaphragm contracts and moves downwards to increase the volume of the chest when inhaling. This then causes the lungs to expand.
diffusion	<i>diff-you-zshun</i>	When particles spread and mix with each other without anything moving them.
gas exchange		When one gas is swapped for another. In the lungs, oxygen leaves the air and goes into the blood. At the same time, carbon dioxide leaves the blood and goes into the air in the lungs.
mucus	<i>mew-kus</i>	A sticky liquid produced by certain cells in the body, including some cells found in the tubes leading to and from the lungs.
surface area		The total area of all the surfaces of a three-dimensional object.
trachea	<i>track-ee-a</i>	An organ in the shape of a tube that takes air to and from your lungs. Also called the 'windpipe'.
ventilation	<i>vent-ill-ay-shun</i>	The movement of air in and out of your lungs.

8Cb WS – Means and ranges

Word	Pronunciation	Meaning
anomalous result (outlier)	<i>uh-nom-uh-luh s</i>	A measurement that does not fit the same pattern as other measurements from the same experiment.
estimate		An approximate answer, often calculated from a sample or using rounded values.
mean		An average calculated by adding up the values of a set of measurements and dividing the total by the number of measurements in the set.
outlier		Another term for 'anomalous result'.
range		The difference between the highest and lowest values in a set of data (usually ignoring any anomalous results).

8Cc – Getting enough oxygen

Word	Pronunciation	Meaning
artery		A blood vessel that carries blood away from the heart.
asthma		A condition in which the tiny tubes leading to the alveoli become narrow and start to fill with mucus.
blood vessel		A tube that carries blood around the body.
carbon monoxide		A poisonous gas produced by carbon burning without enough oxygen. Found in cigarette smoke.
emphysema	<i>em-fee-see-ma</i>	A disease in which the lungs cannot take much oxygen out of the air because the walls of the alveoli have broken down.
haemoglobin	<i>hee-mow-glow-bin</i>	The substance that carries oxygen in red blood cells.
heart attack		When heart muscle cells start to die.
heart disease		A disease caused by narrowing of the arteries carrying blood to the muscles of the heart, so the heart muscles do not receive enough oxygen.
mitochondrion	<i>my-tow-kon-dree-on</i>	A small structure (organelle) in the cytoplasm of cells where aerobic respiration occurs. Plural is mitochondria.
plasma	<i>plaz-ma</i>	The liquid part of the blood.
red blood cell		A blood cell that carries oxygen.
tissue fluid		The liquid formed when plasma leaks out of capillaries, carrying oxygen and food to cells.
vein	<i>vane</i>	A blood vessel that carries blood towards the heart.

8Cd – Other forms of gas exchange

Word	Pronunciation	Meaning
gills		A series of flaps of tissue with a good blood supply just behind the head of an organism and used to take oxygen out of water. Fish have gills.
hydrogen carbonate indicator		An indicator that is pink in water but turns yellow as carbon dioxide is added and the pH drops.
indicator	<i>in-dee-kay-ter</i>	A substance that changes colour in solutions of different acidity and alkalinity.
limewater		A solution of calcium hydroxide. It is clear and colourless but turns 'milky' in contact with carbon dioxide.
pH		A numerical scale from 1 to 14 showing how acidic or alkaline a substance is. Acids have a pH below 7, neutral substances have a pH of 7 and alkalis have a pH greater than 7.
photosynthesis	<i>fO-tow-sinth-e-sis</i>	A process that plants use to make their own food. It needs light to work.
stoma	<i>stO-ma</i>	A tiny hole in a leaf through which gases can diffuse into and out of the leaf. Plural is stomata.
tar		A sticky substance found in cigarette smoke, which contains harmful compounds including some that can cause cancer.

8Ce – Anaerobic respiration

Word	Pronunciation	Meaning
aerobic exercise	<i>air-O-bick</i>	An exercise in which all the energy needed can be supplied by aerobic respiration.
anaerobic respiration	<i>an-air-O-bick</i>	A type of respiration that does not need oxygen.
contract		To get smaller.
excess post-exercise oxygen consumption (EPOC)		The need for extra oxygen after exercise to break down lactic acid and replace the oxygen lost from blood and muscle cells.
oxygen debt		An older term for EPOC.