Key Stage 3 Cells & Respiration Key Words

Key Word	Definition
Organism	A living thing e.g. animals and plants
Cells	All organisms (living things) are made of tiny building blocks called cells. They are so small you need a microscope to see them
Microscope	A piece of equipment used for looking at objects too small to see with the naked eye e.g. cells. A microscope magnifies objects
Light microscope	The microscopes you use in school. They use lenses to magnify objects. You look through the eye piece lens and there are also objective lenses
Dye/Stain	Dyes and stains are used to see different parts of cells more clearly under a microscope. E.g. iodine solution and methylene blue are common stains
Cell structures	Cells have lots of structures within them called cell structures or organelles e.g. nucleus, cell membrane, mitochondria, cytoplasm
Nucleus	This controls what the cell does (as it contains DNA)
Cytoplasm	Jelly-like substance where most chemical reactions happen
Cell membrane	It holds the cell together and controls what goes into and out of the cell
Mitochondria	Tiny structures within the cell where respiration happens. Respiration releases energy for the cell
Cell wall	Part of a plant cell. A strong outer layer made of cellulose which give support to the cell
Vacuole	Part of a plant cell. A fluid-filled sac which helps to support the cell
Chloroplasts	Part of a plant cell. These contain chlorophyll (a pigment that can absorb light energy) for photosynthesis
Photosynthesis	How the plant makes its own food (called sugar or glucose) using energy from the sun
Animal cells	Animal cells contain a cell membrane, nucleus, cytoplasm and mitochondria
Plant cells	Plant cells contain a cell membrane, nucleus, cytoplasm, mitochondria as well as a cell wall, vacuole and chloroplasts
Multicellular	Animals and plants are made of lots of cells (multicellular)
Unicellular	Some living things are only one cell big (unicellular) e.g. bacteria, euglena and amoeba
Tissue	A group of similar cells come together to make a tissue e.g. muscle tissue
Organ	A group of different tissues work together to make an organ e.g the heart
Organ system	A group of organs working together e.g. the circulatory system. An organism is usually made of several organ systems
Diffusion	When a substance moves from an area of high concentration (lots of it) to an area of lower concentration (less of it). Oxygen and carbon dioxide move across cell membranes by diffusion
Chemical reaction	When one or more substances (called reactants) get changed into something new (called products)
Respiration	A chemical reaction that happens in every cell of

	every organism. Respiration releases energy from glucose. The energy is needed to keep organisms alive
Aerobic respiration	The most common type of respiration when plenty of oxygen is available. Glucose + oxygen → carbon dioxide + water (+ ENERGY)
Anaerobic respiration	Respiration when there's not enough oxygen e.g. during hard exercise. Anaerobic respiration releases less energy than aerobic respiration. In humans = glucose → lactic acid In yeast = glucose → carbon dioxide + ethanol
Lactic acid	Produced during anaerobic respiration in humans. It builds up in your muscles during exercise and can be painful (cramp)
Fermentation	When anaerobic respiration produces ethanol. Ethanol is a type of alcohol so fermentation is the process used to make beer