

Biology is marked on precision of language more than any other science: the same idea written loosely scores nothing. Each error below is one an examiner can see at a glance. 生物按用词精确度给分, 写得含糊就不得分。

Language that loses marks

Writing that an organism does something ‘in order to’ survive. Evolution has no purpose – say that individuals with the feature were more likely to survive and reproduce, so the allele became more frequent.

Saying an enzyme is ‘killed’ or ‘destroyed’. It is DENATURED: the tertiary structure changes and the active site no longer fits the substrate.

Writing ‘the enzyme changes shape’ without saying WHICH shape. The active site is what matters.

Saying water moves from ‘high to low concentration’ in osmosis. Water moves from higher to LOWER WATER POTENTIAL – the solute concentration runs the other way, which is why the loose version is marked wrong.

Using ‘amount’ where you mean concentration, or ‘speed’ where you mean rate.

Saying a cell ‘wants’ or ‘decides’. Cells respond; they do not intend.

Writing ‘it’ in a two-clause answer. If two structures are in play the examiner cannot tell which you mean, and an ambiguous answer is not credited.

Cells, membranes and transport

Confusing magnification with resolution. Magnification is how much bigger the image is; resolution is the ability to distinguish two points as separate, and it is limited by wavelength.

Forgetting the unit conversion in a magnification calculation. $1\text{ mm} = 1000\text{ }\mu\text{m}$, and most lost marks here are factors of a thousand.

Calling diffusion and facilitated diffusion different in energy terms. Both are passive; facilitated diffusion simply uses a protein.

Saying active transport works ‘against the gradient using energy’ without naming ATP and a carrier protein.

Describing a plasmolysed cell as ‘dead’. It has lost water and the membrane has pulled away from the wall; it can recover.

Enzymes and biochemistry

Explaining a rate curve’s plateau as ‘the enzyme is denatured’ when the limiting factor is substrate. At high substrate concentration the plateau means all active sites are occupied.

Saying a competitive inhibitor is overcome by more enzyme. It is overcome by more SUBSTRATE; a non-competitive inhibitor is overcome by neither.

Reading a low K_m as low affinity. A LOW K_m means the enzyme reaches half its maximum rate at a low substrate concentration, so its affinity is HIGH.

Writing that an enzyme ‘makes’ a reaction happen. It lowers the activation energy of a reaction that was already thermodynamically possible.

Confusing the induced-fit and lock-and-key models. Induced fit says the active site **CHANGES** shape slightly as the substrate binds.

Genetics and inheritance

Confusing a gene with an allele, or a chromosome with a chromatid. A gene is a length of DNA coding for a polypeptide; an allele is one version of it.

Saying meiosis produces four identical cells. That is mitosis; meiosis produces four genetically **DIFFERENT** haploid cells.

Attributing all genetic variation from meiosis to crossing over. Independent assortment in metaphase I contributes at least as much, and random fertilisation adds more.

Drawing a genetic cross without a key for the alleles and without labelling the parental phenotypes, gametes and offspring. Each is a separate mark.

Writing a ratio without saying it is expected rather than observed, or forgetting that a small sample rarely matches the ratio exactly.

Confusing codominance with incomplete dominance. In codominance **BOTH** alleles are fully expressed; in incomplete dominance the phenotype is intermediate.

Physiology

Saying an impulse ‘travels along the neurone as electricity’. It is a wave of depolarisation caused by sodium ions entering through voltage-gated channels.

Forgetting that an action potential is all-or-none, so a stronger stimulus increases **FREQUENCY**, not size.

Confusing the refractory period’s role. It ensures the impulse travels in one direction and limits the maximum frequency.

Explaining transpiration as the plant ‘pulling water up’. Water evaporates from the mesophyll, creating tension transmitted down a continuous column held together by hydrogen bonding – cohesion-tension.

Saying the heart ‘pumps blood to the lungs to get oxygen’ without naming the vessels or the sides. Name them: right ventricle, pulmonary artery.

Describing negative feedback without both halves – the detection of the change **AND** the response that reverses it.

Ecology, statistics and practical answers

Concluding causation from a correlation. Say ‘there is a positive correlation’, then name a possible third variable.

Running a chi-squared test on percentages or means. It requires raw **FREQUENCIES**.

Omitting the null hypothesis. The test is performed on it, and stating it is a mark.

Writing ‘significant’ without the probability level and without saying what it means biologically.

Confusing a control experiment with a controlled variable – a distinction examiners report as misunderstood every session.

Describing an anomaly as ‘human error’. Name the step where the error occurs and what it does to the reading.

Using the word ‘average’ in a data answer where the question asked for the mean, median or mode.