These are the errors that appear year after year in examiner reports. Knowing *what not to write* is just as important as knowing what to write. ★ marks Higher Tier only. Every mistake here has cost students marks in real exams.

Cell Division and Reproduction

■ **Students often write:**	*"Meiosis is used for growth and repair."*
✓ **Correct answer:**	MITOSIS is used for growth and repair — producing identical cells. MEIOSIS produces gametes (sperm and eggs) for sexual reproduction. Meiosis produces 4 haploid cells that are genetically different.
■ **Examiner insight:**	Meiosis = sex cells (gametes). Mitosis = body cells (growth, repair). If a question asks what type of division produces gametes: always meiosis. This confusion costs marks on virtually every paper.

Genetic Inheritance

■ **Students often write:**	*"Dominant means common; recessive means rare."*
✓ **Correct answer:**	Dominant and recessive refer to HOW alleles are expressed, NOT how common they are. A dominant allele is expressed when only one copy is present. A recessive allele requires two copies to be expressed. A recessive allele can be very common in a population.
■ **Examiner insight:**	Polydactyly (dominant) is actually quite rare. Blue eyes (recessive) are common in some populations. Dominance describes expression, not frequency. This distinction gains marks in genetics questions.

■ **Students often write:**	*Drawing a Punnett square WITHOUT showing the parental gametes.*
✓ **Correct answer:**	Always write the parental gametes along the top and left side of the Punnett square BEFORE filling in the grid. If you just fill in the boxes without showing gametes, you may lose a mark even if the boxes are correct.
■ **Examiner insight:**	Examiners award marks for: (1) correct parental gametes shown, (2) correct offspring genotypes in the grid. Missing step 1 loses a mark. Always show your working fully.

■ **Students often write:**	*"Cystic fibrosis is caused by a dominant allele."*
✓ **Correct answer:**	Cystic fibrosis is caused by a RECESSIVE allele (f). Both copies must be faulty (ff) to have the condition. Parents can be carriers (Ff) — they have one copy but appear completely healthy. POLYDACTYLY is caused by a dominant allele (D).
■ **Examiner insight:**	CF = recessive. Polydactyly = dominant. This is tested almost every year. CF = you need two bad copies. Polydactyly = one copy is enough. Confusing these two disorders is the most common genetics mistake at GCSE.

■ **Students often write:**	*"A carrier of cystic fibrosis has mild symptoms."*
✓ **Correct answer:**	A carrier (Ff genotype) shows NO symptoms of cystic fibrosis. The dominant normal allele (F) masks the recessive faulty allele (f). Carriers are completely healthy but can pass the faulty allele to their children.
■ **Examiner insight:**	Carrier = Ff = unaffected = no symptoms. Only ff individuals have cystic fibrosis. This matters in questions about family trees — you can identify carriers from unaffected parents who have affected children.

Natural Selection and Evolution

■ **Students often write:**	*"Organisms adapt to their environment" or "animals decide to change."*
✓ **Correct answer:**	Individual organisms do NOT adapt or evolve during their lifetime. Evolution occurs over MANY GENERATIONS. Random MUTATIONS create variation. Natural selection acts on this existing variation — it does not direct it. No organism "decides" to change.
■ **Examiner insight:**	Use precise language: "a mutation arose that gave an individual an advantage" NOT "the animal adapted." Mutations are random — they are not directed by the environment. Natural selection sorts existing variation; it does not create directed change.

■ **Students often write:**	*"Antibiotic resistance develops because bacteria are exposed to antibiotics."*
✓ **Correct answer:**	Antibiotic resistance develops through natural selection. Random mutations create resistant bacteria BEFORE antibiotic exposure. When antibiotics are used, they kill non-resistant bacteria but resistant ones survive and reproduce, passing on resistance alleles.
■ **Examiner insight:**	The antibiotic does NOT cause the mutation — it merely selects for pre-existing resistant mutants. This is a crucial distinction. The mutation happened randomly; the antibiotic just revealed which bacteria had it.