

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.

Ecosystems and Material Cycles

■ **Students often write:** *"The food chain arrow means 'is eaten by.'"*

✓ **Correct answer:** The arrow shows the direction of ENERGY TRANSFER — energy flows in the direction of the arrow, from prey to predator. Grass → rabbit means energy flows from grass INTO rabbit (rabbit eats grass).

■ **Examiner insight:** Arrow = direction energy flows = direction of "being eaten." Grass is the prey; rabbit is at the arrowhead. Energy leaves grass and enters rabbit.

■ **Students often write:** *"Eutrophication mainly affects fish because algae is toxic."*

✓ **Correct answer:** Eutrophication kills aquatic life through OXYGEN DEPLETION. Bacteria decomposing dead aquatic plants consume all dissolved oxygen. Fish die from suffocation, not directly from algal toxins. Complete the full chain for maximum marks.

■ **Examiner insight:** Full chain: fertilisers → algal bloom → blocks light → plants die → bacteria decompose → use O₂ → fish suffocate. Every step needed.

■ **Students often write:** *"Nitrogen-fixing bacteria convert ammonia to nitrates."*

✓ **Correct answer:** Nitrogen-fixing bacteria convert ATMOSPHERIC NITROGEN (N₂) into ammonia or nitrates. NITRIFYING bacteria convert ammonia into nitrates. Four types of bacteria each have distinct roles — do not confuse them.

■ **Examiner insight:** Four bacteria types in the nitrogen cycle: nitrogen-fixing (N₂ → ammonia), nitrifying (ammonia → nitrates), decomposers (organic → ammonia), denitrifying (nitrates → N₂). Each has a specific job.