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Common Misconceptions in Open-Ended Questions

Misconception	Example	Tip / Guidance
Missing keywords or scientific terms	Saying "it moves" instead of "it moves due to a force"	Learn topic-specific keywords and always use them in your answers. Make a word bank per topic.
Not answering the question fully	Question: Why did the object float? Answer: Because it is light.	Use the Cause + Concept + Effect structure. E.g., “Because there are many air spaces in the sponge, it traps air and stays on the water.”
Using vague or everyday language	Saying "it is hot" instead of "it has high temperature"	Use precise scientific language. E.g., use “temperature increases” instead of “it gets hotter.”
Wrong cause-effect relationships	Plants grow because of water from the air.	Revise correct cause-effect relationships. Use concept maps to visualize processes.
Confusing similar concepts	Mixing up evaporation and condensation	Compare and contrast similar concepts in tables. Practice MCQs that test these differences.
Incomplete processes	Water becomes clouds (Missing evaporation + condensation)	Always describe the full process in the correct sequence. Use flowcharts to revise.
Overgeneralization	All metals are magnetic.	Learn exceptions. Review common myths and use examples. Practice correcting false statements.
Using incorrect examples	Saying glass is a conductor	Make a list of tested examples for conductors, insulators, etc. Practice classifying them.

Misconception	Example	Tip / Guidance
Not applying concept to the scenario	Describing photosynthesis without linking to the plant in the question	Read the question context carefully. Apply concepts to that specific situation.
Not stating evidence or observations	It is a living thing. (No reason given)	Use the Claim + Evidence approach: “It is living because it can grow and reproduce.”
Forgetting comparison terms in ‘Compare’ questions	The metal is hot, the plastic is cold. (No direct comparison)	Use comparison phrases like “hotter than,” “less than,” or “more quickly.”
Using memorized answers blindly	Repeating a definition that doesn’t match the question	Understand the application of concepts, not just memorize. Ask: “Why is this relevant here?”
Ignoring units or using wrong ones	Writing “100” instead of “100°C”	Always check for units. Practice using correct SI units for temperature, mass, volume, etc.
Answering with a guess	The seed grows because of soil (ignores water, sunlight)	Base answers on known scientific facts, not just guesses.
Describing what is seen without explaining why	The balloon got bigger.	Add explanation: “The balloon got bigger because air expanded when heated.”

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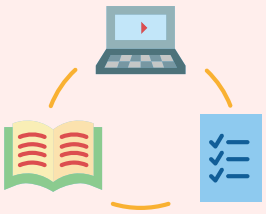
Next Step...



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