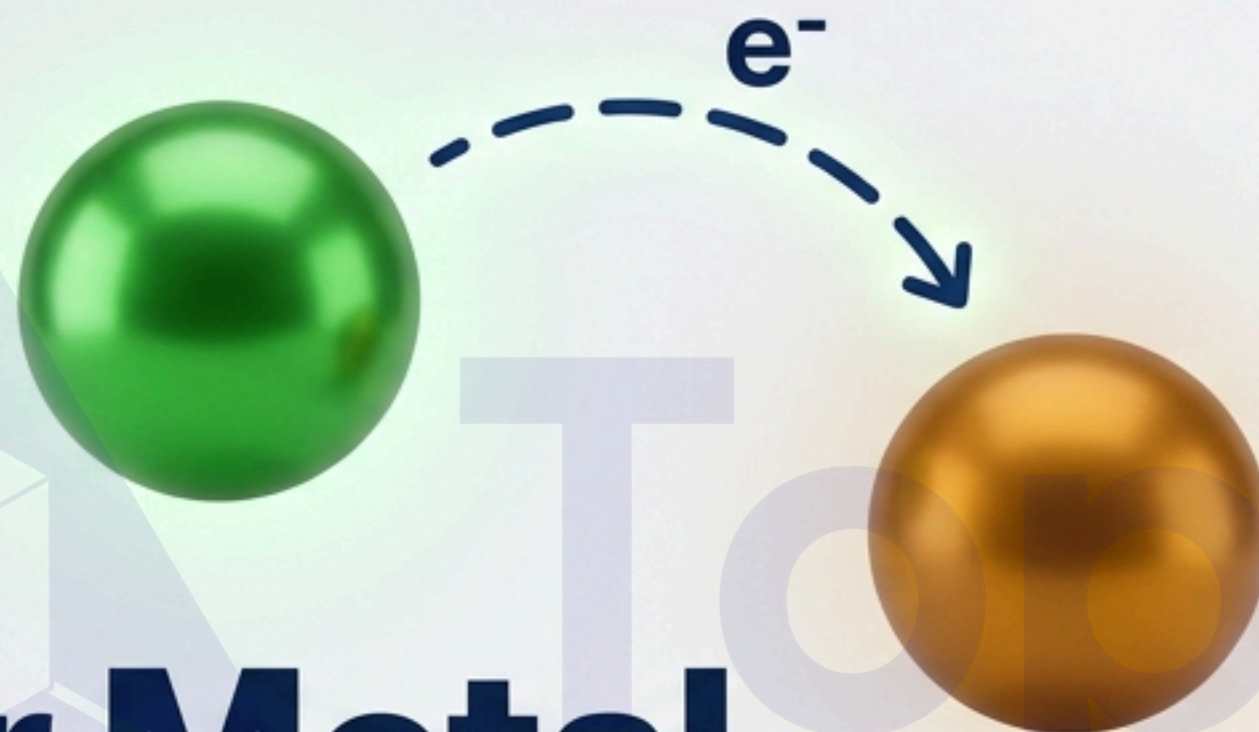
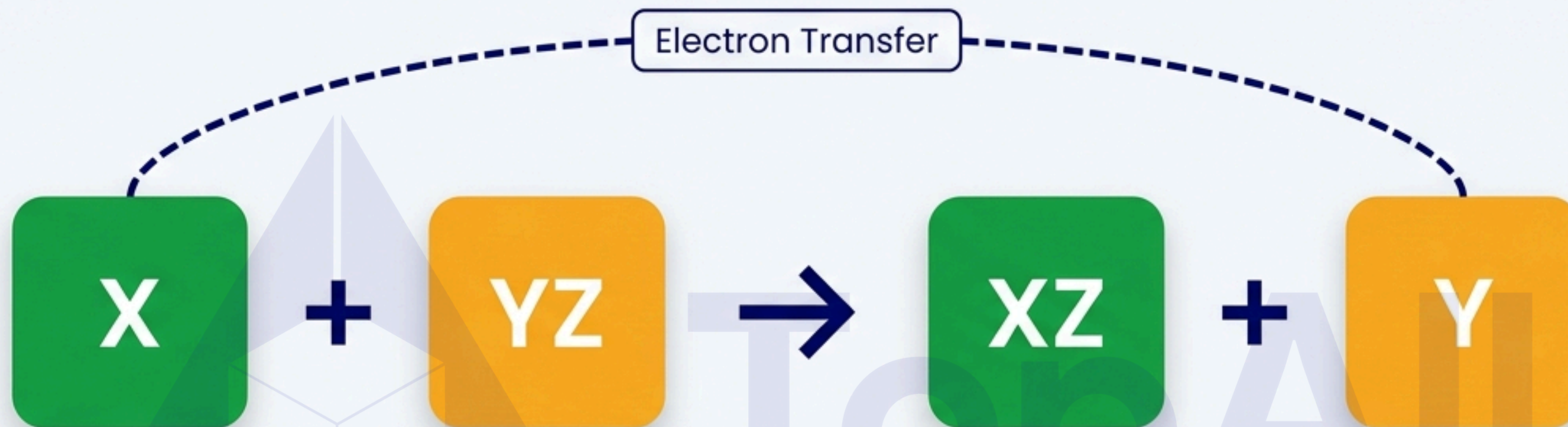




Stronger Metal Displaces Weaker Metal

Mastering Metal Displacement & Reducing Power for JEE

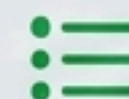
The Battle for Electrons: Displacement Mechanics



Generic Displacement Template



A metal in a compound can be displaced by another metal in the uncombined state—only if the displacing metal is a stronger reducing agent.



Key Takeaways Panel

- X loses electrons (Oxidation)
- Y gains electrons (Reduction)



You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



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Practice Now



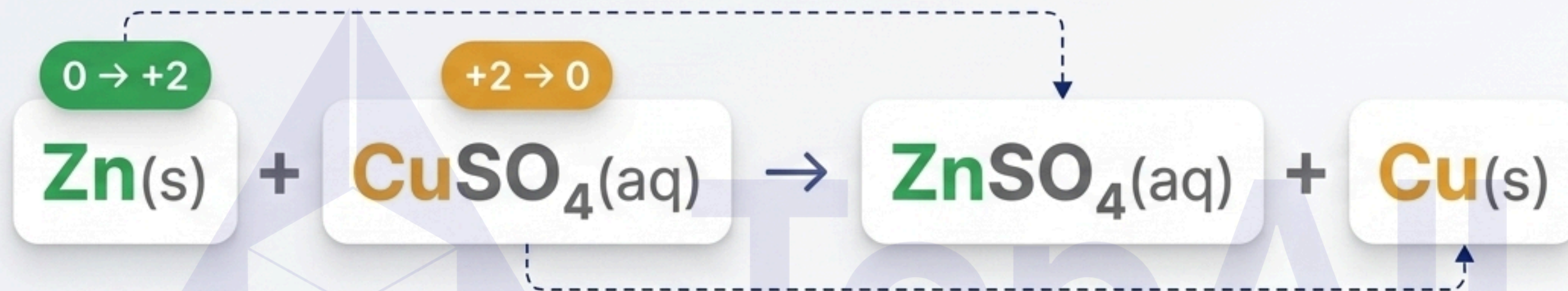
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Key Highlights

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- » Get Clear Explanations, Not Just Marks
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Aqueous Displacement: The Zn & Cu Battle



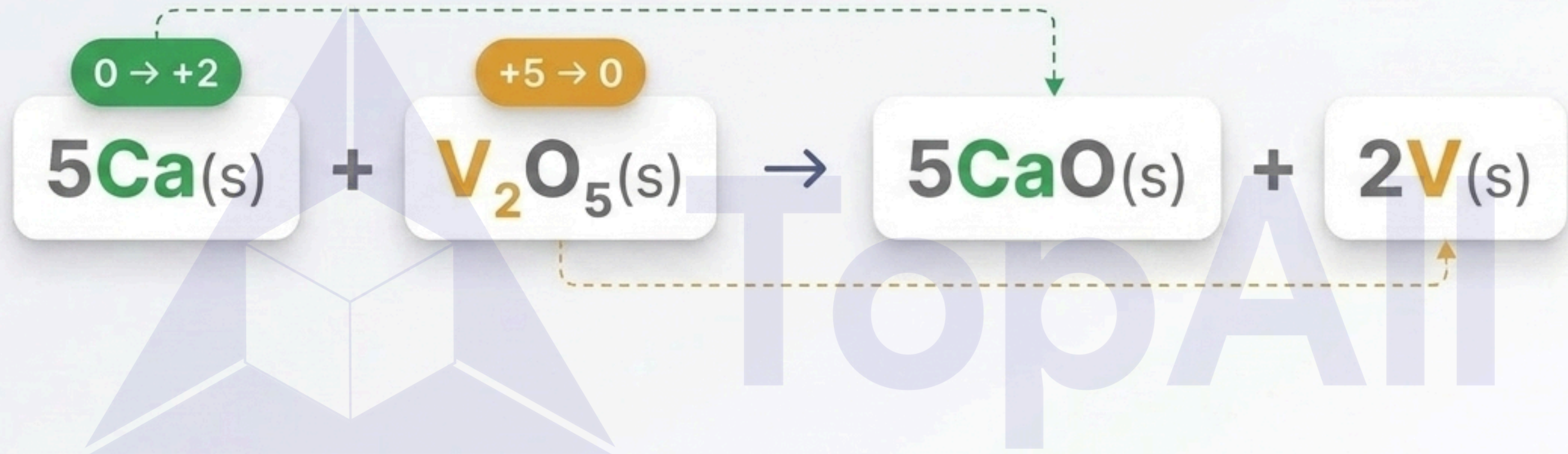
Zinc is a better reducing agent than Copper. Zinc forces its electrons onto Copper, displacing it from the sulphate solution.



Galvanic Foundation

This specific electron transfer competition is the fundamental chemical basis for Galvanic cells (like the Daniell cell).

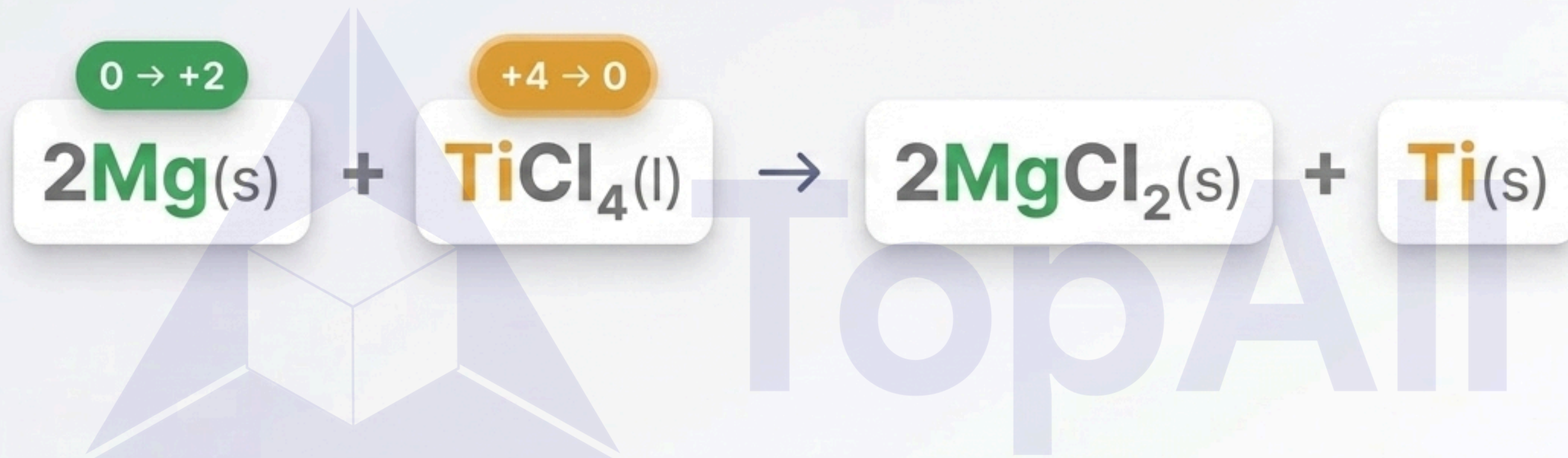
Metallurgical Applications: Extracting Vanadium



✓ Key Takeaways Panel

Metal displacement reactions are extensively used in metallurgy to obtain pure metals from their ores. Calcium acts as a powerful reductant.

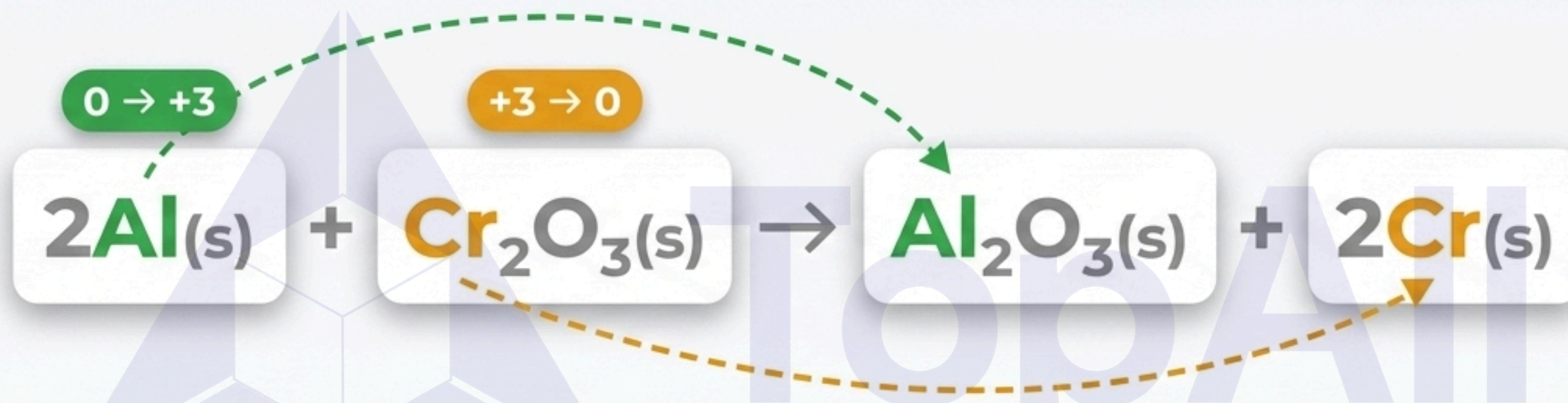
Metallurgical Applications: Extracting Titanium



Stoichiometry Illusion

Don't let large stoichiometry numbers confuse you. Always isolate the bare elements to check for oxidation state changes. Mg goes from 0 to +2; it is unequivocally oxidized.

Metallurgical Applications: Aluminothermy



Aluminium's extreme affinity for oxygen allows it to displace Chromium from its oxide at high temperatures.



The Universal Pattern

Notice the trend? In every case, the **uncombined metal entering the reaction** has **more** capability to lose electrons than the metal already in the compound.

Exam Snapshot: The Displacement Rulebook

Dimensions	Displacing Metal (The Challenger)	Displaced Metal (The Defender)
Initial State	Uncombined (0)	Positive (+)
Final State	Positive (+)	Uncombined (0)
Process	Gets Oxidized	Gets Reduced
Agent Role	Acts as Reducing Agent (Reductant)	Acts as Oxidizing Agent (Oxidant)

GOLDEN RULE: The stronger reducing metal ALWAYS gets oxidized.



You've Learned the Theory.

Now Let's Test It.

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