

Learning Outcome (Desired State)	Expected Level of Understanding	Current Status	Gap	Possible Reasons for Gap	Action plan
Students understand the concept of valency	Can define valency and explain it in simple terms	Students can recall definition but struggle to explain	Partial conceptual clarity	Rote learning, limited examples	<ul style="list-style-type: none"> <li>• Use visual models and analogies</li> </ul>
Students identify valency using electronic configuration	Correctly find valency of common elements	Errors in counting valence electrons	Skill gap	Weak understanding of shells	Practice with diagrams and simulations
Students write chemical formulae using valency	Accurately write formulae (e.g., NaCl, H <sub>2</sub> O)	Incorrect criss-cross method usage	Procedural gap	Confusion between symbols and numbers	Step-by-step guided practice