

Curiosity: A pattern is a useful question, not a verdict

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Reaction patterns help chemists make organized predictions. If a card looks like an element plus a compound becoming a different compound plus an element, a single-replacement model may be worth testing. The word “may” matters: shape alone does not tell us whether the reaction is feasible, what conditions were present, or whether the proposed products were actually measured.

This is how models become evidence-based. Start with a pattern, preserve the formulas, balance the atom inventory, then compare the prediction with observations. If the evidence is weak or ambiguous, the responsible conclusion says so.

Try it: A mixture turns cloudy. Does that prove a precipitate formed? Name another possibility and a measurement that could help decide.