

Science 20 Unit A - Chemistry
Balancing Single Replacement
REDOX Reactions and Simple Stoich

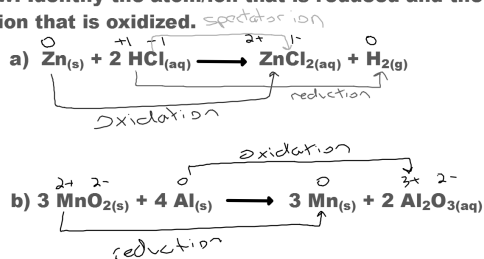


http://www.youtube.com/watch?v=6mdiUsK_Xhe

POS Checklist:

- balance provided single-replacement reaction equations, building on knowledge from Science 10, Unit A.
- relate single-replacement reactions to oxidation-reduction and apply mole ratios from given equations to predict moles of metals consumed or produced.

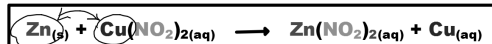
Review: Identify the atom/ion that is reduced and the atom/ion that is oxidized.



Single Replacement Reactions:

element + compound → element + compound

Example: a REDOX reaction:



*Notice how the zinc (Zn) and copper (Cu) change places. This is the single replacement.

Balancing Equations

In Science 20, you must be able to balance these single replacement equation.

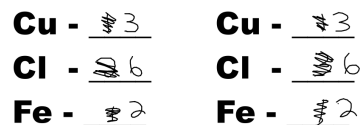
When the equation is balanced, there will be the same number of each type of atom on each side of the arrow.

Balancing equations is easy if you follow a few steps:

ex) Balance the equation:



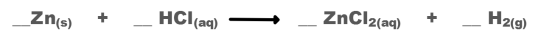
Step 1: Make a list of all the atoms present



Step 2: Start to place numbers in front of the products and reactants. Just try to balance one atom at a time.

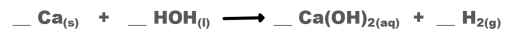
HINT: Write in pencil and don't be afraid to do a little trial and error.

ex) 7.5 mol of $\text{ZnCl}_{2(aq)}$ is produced in the reaction. How much $\text{Zn}_{(s)}$ was required?



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ex) 0.540 moles of $\text{Ca(OH)}_{2(aq)}$ is produced in the reaction. How much $\text{HOH}_{(l)}$ is consumed?



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**Practice: Balancing Single Replacement
Reactions and Simple Stoich WS**

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