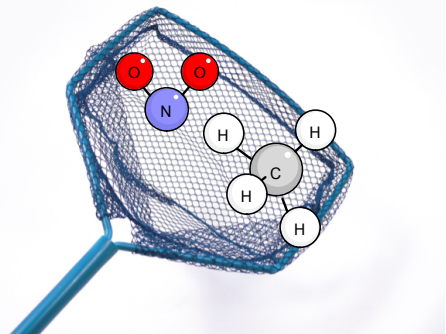


Net Ionic Reactions



Nov 29-11:10 AM



Dr. Martyn Poliakoff
Proudly Presents:

The Periodic Table Movie of the Day!!!

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POS Checklist

- write balanced ionic and net ionic equations, including identification of spectator ions, for reactions taking place in aqueous solutions

(actually moved from Unit D)

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Jr. High Math Review!

Simplify:

a) $3x + 5 = 3x + 3y$

b) $x^2 + y^3 = x^2 + 19$

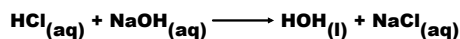
c) $2y - x^2 = 5 + x^2$

d) $2y + x^2 = 5 + x^2$

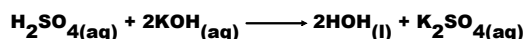
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Net Ionic Reactions

Consider the following neutralization reaction:



Now, consider this neutralization reaction:



How are these reactions the same? Different? What is the really important part of these reactions?

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In an ionic reaction, like a neutralization, we are really only interested in reaction forming the new product, in this case water. All of the other parts of reaction are just "filler".

If we only write the entities in the reaction that are changing and omit the ions that stay the same, we are writing a net ionic reaction.

Net Ionic Reaction: shows only entities that change in reaction and leaves out anything that does not change.

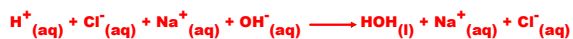
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Writing a Net Ionic Reaction:

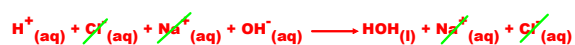
Step 1: Write out the balanced chemical equation.



Step 2: Dissociate all high-solubility ionic compounds to show the ions.



Step 3: Cancel out identical entities that appear on both sides of the reaction arrow.



Recall, these ions that do not participate are called spectator ions.

***A Note on Canceling:**

You can only cancel entities that are exactly the same! Same states, same form (ion, atom, molecule), they must be exactly the same!

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Step 4: Write out what is left over, reducing coefficients if needed.



This is the net ionic reaction!

Let's try another example:

ex) Write a net ionic reaction for:



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Of course, this works for reactions that are not neutralizations as well:

ex) Write the net ionic reaction between barium chloride and sodium sulphate.

Practice: Page 284 #10, 11, 12, 14

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