

9-1 Balancing Chem. Eqns

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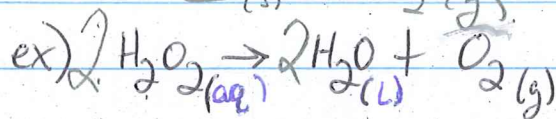
- writing equations (skeletal) as mentioned in 7-1 is ok to get the idea of chem. eqns, but is not entirely in compliance w/ law of conservation of mass/matter

- we need to make the eqns correct in that they are quantitatively accurate.

A balanced eqn. shows the same number of atoms of products as reactants.

- sometimes eqns are already balanced some are not

ex) carbon_(s) + oxygen gas_(g) make carbon dioxide_(g)



★ Trial & error is the best way to solve/balance them
- use pencil

Rules to balancing eqns

1. Determine the formulas for prod. & reactants.

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2. Write reacts on left & prod. on right
w/ arrow in between

- when more than one prod. or react. use
plus signs



3. Count atoms of each element on both sides.

they should be equal. ex $C + O_2 \rightarrow CO_2$
1C 2O 1C 2O

4. If atoms don't add up the same, use coefficients
to balance (or make each side equal)

- you may only change numbers in front
of the reacts & prods.

- don't touch subscripts

5. Double check that all is balanced

6. make sure coefficients are all in the smallest
ratio

- if there are common factors - reduce

balance the following

