

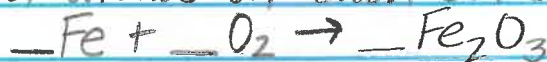
L72 Balancing Chemical Equations

TODAY'S  
DATE

E.Q.: How do you balance atoms in a chemical equation?

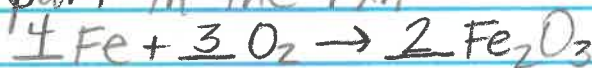
balancing chem. eq.

STEP 1 - take an inventory of atoms on each side



|        |  |        |
|--------|--|--------|
| Fe = 1 |  | Fe = 2 |
| O = 2  |  | O = 3  |

STEP 2 - use coefficients to indicate how many units of each substance takes part in the rxn



|        |  |        |
|--------|--|--------|
| Fe = 4 |  | Fe = 4 |
| O = 6  |  | O = 6  |

Coefficients → the #s in front of the chem formulas of the reactants + products in a balanced chem eq. - they indicate the correct ratio in which the reactants combine to form products

a balanced chem eq. satisfies  
the Law of Conservation of  
Mass

formula unit the simplest  
chem formula that can be  
used to represent network,  
covalent or ionic compounds  
that shows the elements  
present in the smallest  
whole # ratio (e.g.,  $\text{Fe}_2\text{O}_3$  is  
the formula unit for iron(III)  
oxide)

coefficients and the mole  
are both counting units thus  
we can use moles to count  
the # of atoms, molecules,  
or formula units involved  
in a rxn

e.g.,

