

How to balance chemical equations?

GOAL – number of atoms of each element must be the same on both sides of the equation!

ONLY COEFFICIENTS CAN BE USED  3 CaO

– do not change the formula of the chemicals or modify the subscripts

– do not add chemicals to the equation

TIPS

1. Balance elements that are by themselves last
2. Balance H and O last
3. Treat polyatomic ions as if they are single particles: 1
“NO₃” versus 1 N and 3 O
4. Rearrange H₂O as H(OH) if the OH polyatomic ion is used
5. Use Fractions to balance and then adjust equation

$$\frac{1}{2}x + y = 7 \xRightarrow{\times 2} x + 2y = 14$$

Balancing equations will get messy!