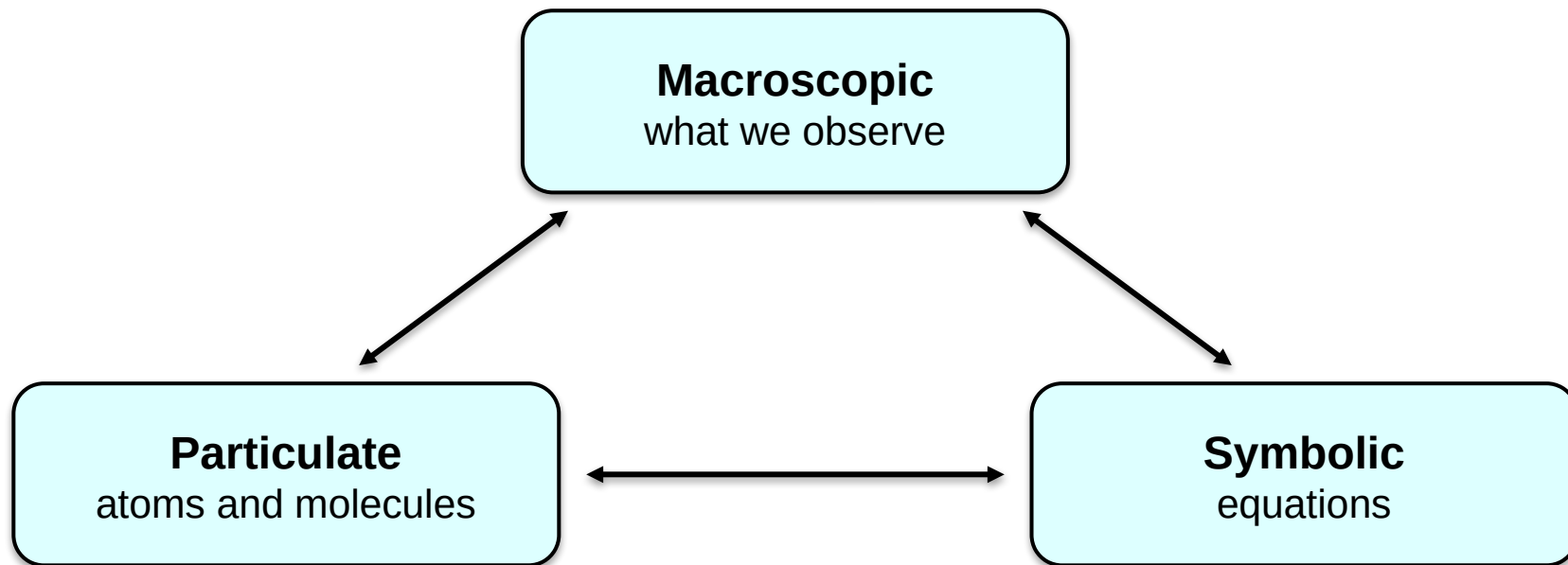


Essential Question

How can a drawing show a reaction?

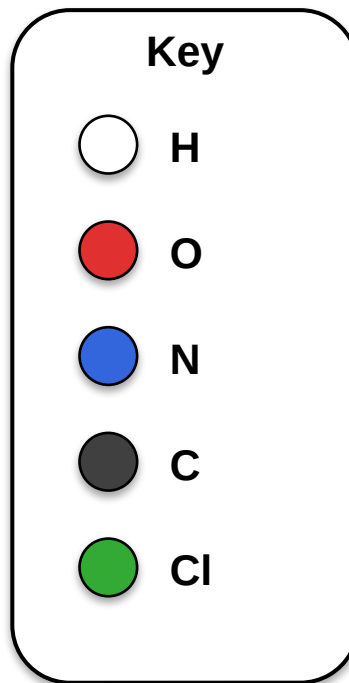
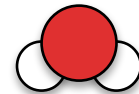
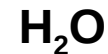
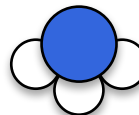
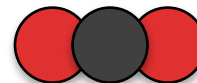
Three Ways to Show a Reaction

- Strong chemists move between all three



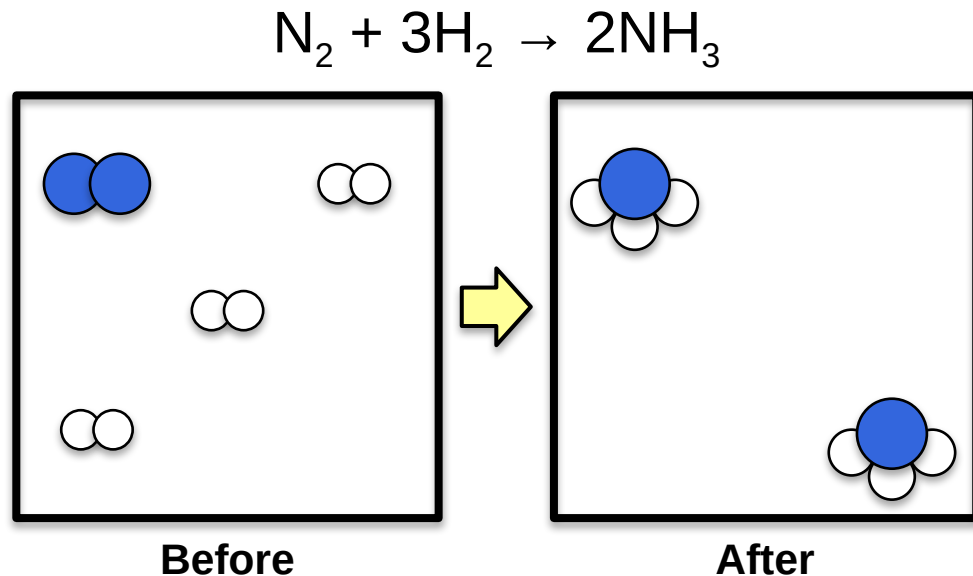
Reading a Particle Diagram

- Each circle = one atom
- Touching circles = one molecule
- Always check the key



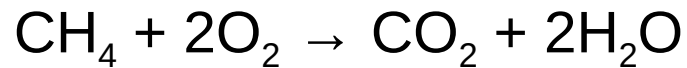
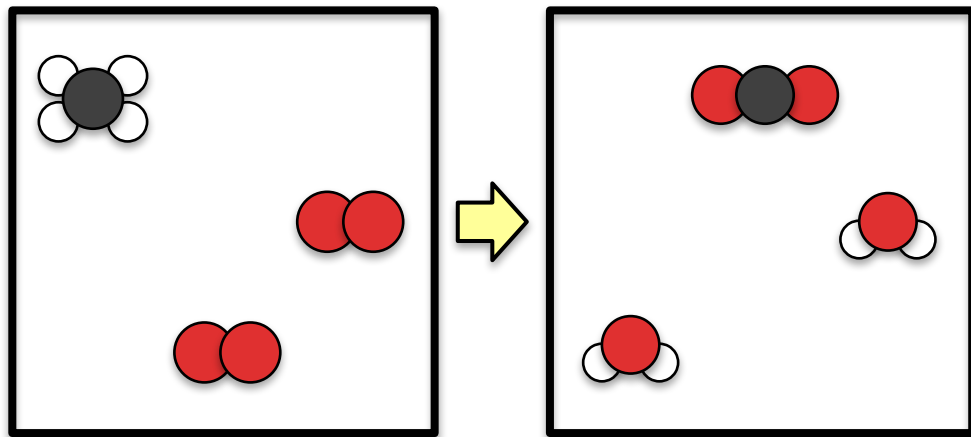
From Equation to Particles

- Coefficients = number of particles
- Same substance, same drawing



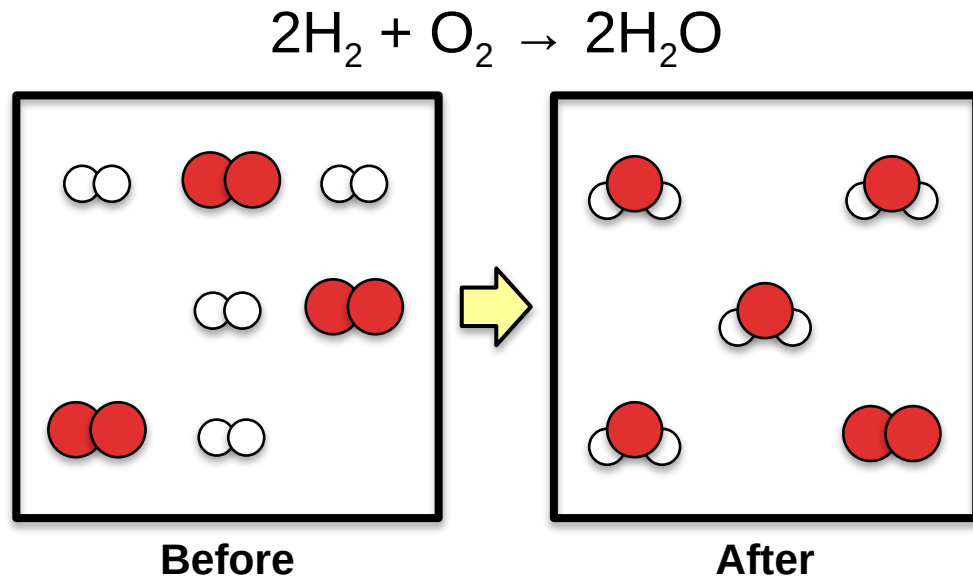
Drawings Must Conserve Atoms

- Count each kind of atom in both boxes
- Totals must match



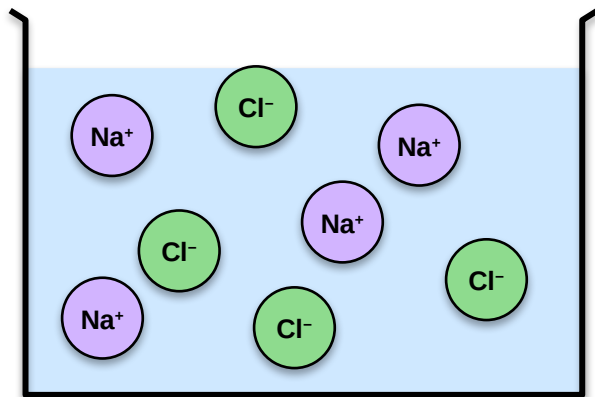
Leftover Reactant

- Extra reactant stays in the after box
- Leftover particles are unchanged

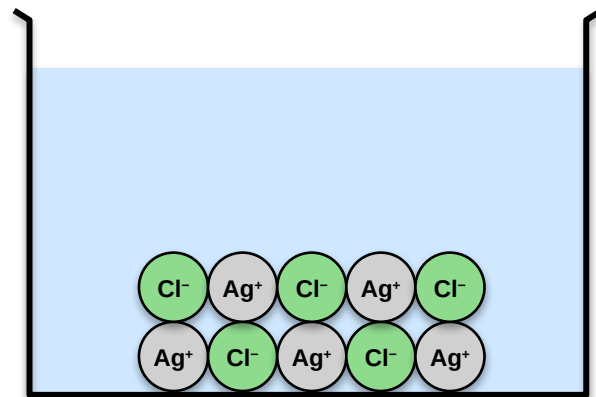


Ions in Particle Diagrams

- Dissolved: ions drawn apart
- Solid: ions packed together



NaCl(aq)



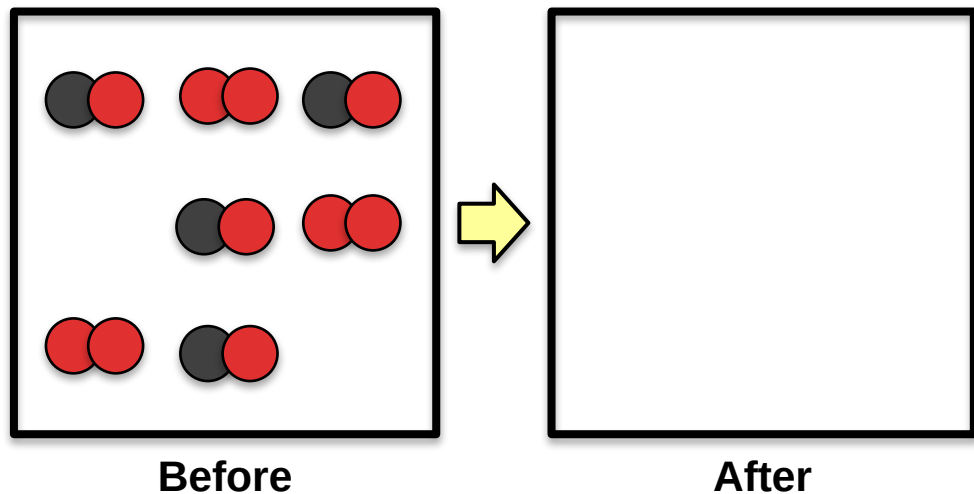
AgCl(s)

Representations of Reactions

Example: Draw the After Box

The box shows CO and O₂ before they react: $2\text{CO} + \text{O}_2 \rightarrow 2\text{CO}_2$.

Draw the after box.

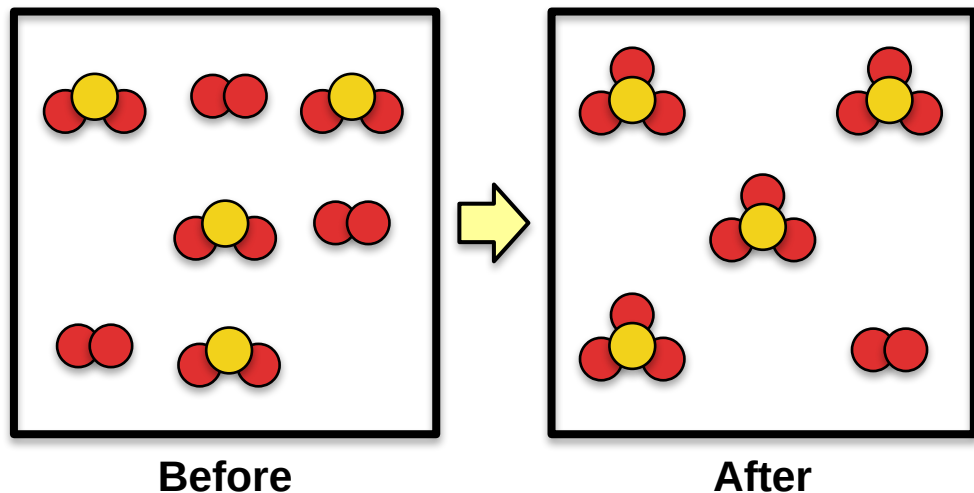


Key: ● C ● O

Representations of Reactions

Example: Write the Equation

Write the balanced equation for the reaction shown in the diagram.



Key: ● S ● O

Big Ideas

- Coefficients = particles to draw
- Atoms are conserved
- Leftovers are not in the equation
- Ions: apart (aq), packed (s)

