Balancing Chemical Equation – PhET Activity

Purpose: To see the Law of Conservation of Mass mathematically in chemical formulas

Background: The Law of Conservation of Mass states matter cannot be created or destroyed.

Go to https://phet.colorado.edu/en/simulation/balancing-chemical-equations

Part 1- Introduction
Instructions: Under tools click on the balance. Use this tool to help you balance the amount of each element on each side by changing the coefficients of the molecules.

Action	Balanced Equation	Particle View (draw what you see in the white boxes)	Balance View (draw what you see in the balances)
Make Ammonia	_____ N_2 + _____ H_2 → _____ NH_3		
Separate Water	___ H_2O → ___ H_2 + ___ O_2		
Combust Methane	___ CH_4 + ___ O_2 → ___ CO_2 + ___ H_2O		

Now go to the game section and try the game

Extension – Part Two: Game

1. To access game, go to same website or PhET app for Balancing Chemical Equations, and select GAME (happy face icon).
2. Begin with Level 1, to balance chemical equations. As you improve your ability to balance chemical equations, you can advance to Level 2, then Level 3. Levels become more challenging.
3. Use the chart below to fill in equations you have successfully balanced at each level, underlining the coefficients in each chemical equation.

Level 1	Level 2	Level 3