# Counting Atoms Worksheet

Name: \_\_\_\_\_

Grade: \_\_\_\_\_

Instructions: For each chemical equation below

- $1 \ {\rm Write}$  the number of atoms of each element on the reactant side.
- 2. Write the number of atoms of each element on the product side.
- 3. Check if the equation is balanced (same number of atoms on both sides).



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### **Answer Key**

1) CaCO₃ → CaO + CO₂

- Reactants:
  - Ca=1
    - C = 1
    - O = 3
- Products:
  - Ca = 1
  - C=1
  - O = 3 (1 from CaO + 2 from CO<sub>2</sub>)
- Is it balanced? ✓ Yes

### 3) Na + Cl₂ → NaCl

- Reactants:
  - Na = 1
  - Cl = 2
- Products:
  - Na=1
  - Cl = 1
- Is it balanced? X No (Chlorine is not balanced)

#### 2) 2Mg + O₂ → 2MgO

- Reactants:
   Mg = 2
  - 0 = 2
- Products:
  Mg = 2
  - $\circ$  0 = 2 (2 × 1)
- Is it balanced? ✓ Yes

#### 4) $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$

- Reactants:
  - C = 1
  - H = 4
  - O = 4 (2 × 2)
- Products:
  - C=1
  - H = 4 (2 × 2)
  - O = 4 (2 from CO₂ + 2 from H₂O)
  - H<sub>2</sub>
- Is it balanced? ✓ Yes