



# Interactive Simulation

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

## Balancing Chemical Equations

### [PhET Lab Simulation Link:](https://phet.colorado.edu/sims/html/balancing-chemical-equations/latest/balancing-chemical-equations_en.html)

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### Did you know?

Every atom is accounted for in every chemical reaction. This is because matter cannot be created or destroyed; it is only changed into different forms.

### Investigation Question

How do we show that matter is always conserved in a chemical reaction?

### Prediction

### Procedure

#### Part I: Introduction

1. Click on the Introduction box.
2. Work through balancing the three different reactions. There are tools in the upper right-hand corner if needed.
3. Write down the balanced chemical equations in the Data section below.

### Data

#### Part I: Introduction

Write down the three balanced chemical equations:

1.

2.

3.



# Interactive Simulation

## Part II: Game

1. Click on the Game box. "Click" the clock and turn it on during each game.
2. Play Level 1 and write down your score and three of your balanced equations in the Data section below.
3. Play Level 2 and write down your score and two of your balanced equations in the Data section below.
4. Play Level 3 and write down your score and one of your balanced equations in the Data section.

| LEVEL #1 |        | LEVEL #2 |        | LEVEL #3 |        |
|----------|--------|----------|--------|----------|--------|
| 1.       |        | 1.       |        | 1.       |        |
| 2.       |        | 2.       |        | 2.       |        |
| 3.       |        | 3.       |        | 3.       |        |
| SCORE =  | TIME = | SCORE =  | TIME = | SCORE =  | TIME = |

## Conclusion

1. How does the law of conservation of mass apply to chemical equations?

2. What does it mean to balance a chemical equation?

## Extension

1. What do you think would happen if matter were not conserved and we did not balance reactions?