

Name : ..... Date : .....

## Law of Conservation of Mass Worksheet

1. Fill in the blanks with the correct answers based on the law of conservation of mass.

- i) A vase weighs the \_\_\_\_\_ as the clay used to make it.
- ii) If an ice cube weighs 10g, the collected water weighs \_\_\_\_\_ when it melts.
- iii) 32g of  $O_2$  reacts with 2g of  $H_2$  to produce \_\_\_\_\_ of  $H_2O_2$ .
- iv) 58g of Fe reacts with \_\_\_\_\_ of  $Cl_2$  to produce 129g  $FeCl_2$ .

2. Identify the correct statement. Circle the correct answer.

- i) The law of conservation of mass declares that the mass of the reactants is greater than the mass of the products.
- ii) The law of conservation of mass declares that matter cannot be created or destroyed in a closed system.
- iii) The law of conservation of mass states that mass cannot change its state during a reaction.
- iv) The law of conservation of mass states that mass cannot change its state during a reaction.

3. Answer the following questions.

- i) Does the law of conservation of mass apply to both physical and chemical reactions?
  
  
  
  
  
  
  
  
  
  
- ii) Who proposed the law of conservation of mass?
  
  
  
  
  
  
  
  
  
  
- iii) If 121g of A reacts with 235g of B, product AB is created. How much does AB weigh?
  
  
  
  
  
  
  
  
  
  
- iv) If 350g of X reacts with 58g of Y to produce Z, what is the weight of Z?

## Law of Conservation of Mass Worksheet

### Answers

1.

- i) A vase weighs the same as the clay used to make it.
- ii) If an ice cube weighs 10g, the collected water weighs 10g when it melts.
- iii) 32g of  $O_2$  reacts with 2g of  $H_2$  to produce 34g of  $H_2O_2$ .
- iv) 58g of Fe reacts with 71g of  $Cl_2$  to produce 129g  $FeCl_2$ .

2.

- i) The law of conservation of mass declares that the mass of the reactants is greater than the mass of the products.
- ii) The law of conservation of mass declares that matter cannot be created or destroyed in a closed system.
- iii) The law of conservation of mass states that mass cannot change its state during a reaction.
- iv) The law of conservation of mass states that mass cannot change its state during a reaction.

3.

- i) Does the law of conservation of mass apply to both physical and chemical reactions?  
**Yes, the law of conservation of mass applies to all reactions, including both physical and chemical reactions.**
- ii) Who proposed the law of conservation of mass?  
**French chemist Antoine Lavoisier proposed the law of conservation of mass in the late 18th century.**
- iii) If 121g of A reacts with 235g of B, product AB is created. How much does AB weigh?  
**The product AB formed in this reaction weighs 356g.**
- iv) If 350g of X reacts with 58g of Y to produce Z, what is the weight of Z?  
**The product Z weighs 408g.**