

1. A 10.0 g sample of magnesium reacts with oxygen to form 16.6 g of magnesium oxide. How many grams of oxygen reacted?

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2. A 12.2 g sample of X reacts with a sample of Y to form 78.9 g of XY. What is the mass of Y that reacted?

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3. In the complete reaction of 22.99 g of sodium with 35.45g of chloride, what mass of sodium chloride is formed?

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4. 40 g of calcium reacts with 71 g of chlorine to produce of calcium chloride. How many grams of the product?

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5. Hydrogen reacts with 32 g of oxygen to produce 34 g of hydrogen peroxide. How many grams of reactants?

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6. A student carefully placed 15.6 g of sodium in a reactor supplied with an excess quantity of chloride gas. When the reaction was complete, the student obtained 39.7 g of sodium chloride. How many grams of chloride gas reacted?

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Classify the following as being a physical or chemical change.

1. _____ Sodium hydroxide dissolves in water.
2. _____ Hydrochloric acid reacts with potassium hydroxide to produce a salt, water and heat.
3. _____ A pellet of sodium is sliced in two.
4. _____ Water is heated and changed to steam.
5. _____ Potassium chlorate decomposes to potassium chloride and oxygen gas.
6. _____ When placed in water, a sodium pellet catches on fire as hydrogen gas is liberated and sodium hydroxide forms.
7. _____ Evaporation
8. _____ Ice melting
9. _____ Milk sours
10. _____ Sugar dissolves in water.
11. _____ Wood rotting.
12. _____ Food is digested in the stomach.