

Name \_\_\_\_\_

## Metal Marvels: How Acids React and What They Produce

### Short Answer Key

1. When an acid reacts with a metal, the acid donates positively charged hydrogen ions ( $H^+$ ) to the metal's surface. These ions react with the metal, creating hydrogen gas ( $H_2$ ) and forming metal ions in the process.
2. Some metals, like gold and platinum, are less reactive with acids because they have a stable electron configuration and are less likely to lose electrons and form ions in reactions.
3. The balanced chemical equation for the reaction between iron (Fe) and sulfuric acid ( $H_2SO_4$ ) is:  $3Fe + 2H_2SO_4 \rightarrow 3FeSO_4 + 2H_2$ .
4. Observing bubbles rising from the surface of a metal indicates the release of hydrogen gas ( $H_2$ ) as a product of the reaction between the metal and the acid.
5. The reactivity of metals varies based on their electron configuration and tendency to lose electrons. It is important to consider this variation when conducting experiments with acids to predict the outcomes and safety precautions.

