

A Compound Problem

On May 6, 1937 the Hindenburg, a huge zeppelin 245 m long, pulled into view over the airfield in Lakehurst, New Jersey. Moments later, after the first rope was dropped to moor the airship, the Hindenburg burst into flames as the hydrogen that held it aloft exploded. Hydrogen is no longer used to keep blimps and other airships afloat because it is explosive. Like other explosions and fires on earth, hydrogen fires need oxygen. Hydrogen and oxygen make an explosive mixture. Ironically, water, a compound of hydrogen and oxygen, is used to put out fires. This tells us something about what happens to the properties of elements when they combine chemically to form a compound.



Answer the questions below based on your understanding about the differences between compounds and mixtures and on your knowledge of chemistry.

- What happens to the properties of atoms when they combine to form compounds? Give an example to support your answer. _____

- Oxygen is necessary in order for things to burn. Both water and carbon dioxide contain oxygen. Both water and carbon dioxide are used to put out fires. What is a possible explanation for this? _____

- Each of the substances listed below is a compound. How are these compounds different than the elements that compose them?
 - Rust (Fe_2O_3) _____
 - Table salt (NaCl) _____
 - Tarnish (Ag_2S) _____