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Research Question: What happens in the combustion of a metal?

Introduction: A metal will undergo combustion when heated. In this lab, I will carry out a carefully controlled combustion reaction using a small amount of iron filling.

Procedure: Place aluminum foil under an oil lamp. Fill the oil lamp with ethanol and light match. Then, hold iron filings from a container into the flame, being careful to not dump and to not peer over or into the flame. Note any changes from before and after in the appearance of the iron filings. Once done, place metal top over flame to snuff out the flame.

Results: The iron filings had a chemical reaction with the fire and started sparking. The silver color of the iron filings was turned to a darker, charred appearance.

Conclusion: Once the iron filings (A metal, an element on the periodic table with specific properties) came into contact with the flame, a combustion reaction (A reaction that involved the burning of a reactant, with oxygen as the other reactant to provide fuel for the fire) began to take place, burning the iron and causing it to spark in bright yellow strands like a firecracker or sparkler stick. At the beginning of the experiment, the iron filings were silver colored. After the combustion reaction occurred, the color changed to a much darker gray. The oxygen, iron filings, and fire chemically interacted with each other to produce iron oxide (rust).