

Electrolysis

Electrolysis may sound complex, but it is simply the use of electricity to bring about a chemical change. By passing an electric current through a liquid or molten substance, electrolysis can break compounds into simpler substances, making it a powerful tool in modern chemistry. This process is the backbone of electroplating, where a thin layer of metal is coated onto another object to improve its appearance, protect it from corrosion, or increase its durability—think of shiny jewellery, chrome-plated car parts, or rust-resistant tools. Closely related is the simple cell, a basic device that converts chemical energy into electrical energy. It reminds us that chemistry is not only about reactions in a lab, but also about how batteries power our phones, torches and everyday gadgets.

Beyond the classroom, chemistry opens doors to a wide range of exciting careers, including chemical engineering, pharmacy, forensic science, environmental science, medicine and materials research. Chemists play a vital role in developing life-saving drugs, clean water systems, renewable energy sources and safer materials for daily use. In fact, chemistry is central to life itself—from the air we breathe and the food we eat to the medicines that keep us healthy. By understanding chemistry, we gain the power to improve quality of life, protect our environment and shape a more sustainable future.



