chemistry is one of the subjects that related to our daily life. as it has its applications almost in all fields. and this semester in the first learning transfer we studied the redox reactions.

redox reaction occurs when one or more electrons are transferred. it is also called oxidation-reduction reactions. and it is a chemical reaction happen when the oxidation number of molecule or atom change by losing or gaining.

when the atom loses electrons that is oxidation reaction. but reduction reaction occurs when the atom gain electrons. like in calcium chloride reaction:

ca + cl2 = cacl2

in the previous reaction, ca is a reducing agent as it lost electrons and cl 2 an oxidation agent as it gained electrons.

during our research about the challenge which focuses on energy industry. we found different industries that apply the concept of redox reaction during their process. like redox reaction in combustion and metals industries. for example, when fe2o3 is reduced to iron by using coke.

also, there is a redox reaction in methane reaction

ch4 + co2= co2+2h2o + energy

collecting all these data and information from studying this concept beside our research was extremely helpful. as we had a a good background about the reaction that happen in the industry and its environmental impact. like in extraction of petrol and natural gas , they have harmful impacts on the environment as they cause an increasing in the air pollution due to the toxic gases come out from the factory like co2 and nitrogen . so, we try to modify the process to reduce this air pollution.