

The elements, chemical reactions, water and solution - thesis proposal example

[Science](#), [Chemistry](#)



The Elements, Chemical Reactions, Water and Solution

The paper "The Elements, Chemical Reactions, Water and Solution" is an excellent example of an essay on chemistry. This paper seeks to detail a proposal for elements, chemical reactions, water, and solution. This indicates the significance of chemistry discipline that helps us explain all the earthly occurrences and phenomenon. The paper will begin by briefly discussing the elements, chemical reactions, water and solution in order to highlight the basis of the proposal. This proposal indicates discussions about the topic and the mechanisms involved in the chemical composition of the subject. An element is a pure chemical material that consists of one particular atom that is distinguished from its atomic number (the number of protons within the nucleus). Elements are divided into metalloids, metalloid, and non-metals. Examples of elements include oxygen, carbon, iron, silicon, copper, gold, lead, mercury, and aluminum among several others. According to evidence, elements were produced by cosmic processes that included helium and hydrogen during the spallation of cosmic ray. The heavier element production from carbon to the heaviest elements is preceded by stellar nucleosynthesis. Although some elements are seen to be stable generally, there is an occurrence of transformation from one element to the other through radioactive elements decay and other processes of natural nuclear (Ball, 2004).

When different elements are combined chemically, and the atoms bonded together, a chemical compound is formed. Chemical compounds are composed of the elements that are combined in ratios of whole numbers of atoms like in table salt, water, and minerals. However, various types of

elements through chemical bonding result in metallic alloys and crystalline solids for which no exact chemical formulas exist. Few of the most inert elements are often found in a chemically combined form on Earth such as noble metals and noble gases. In carrying out research on elements, the periodic table will be examined to identify all forms of elements and their respective bond structure and chemical reactions. Detailed discussion on elements will then be put across in order to master the reactions of various elements according to the reactivity series as indicated in the periodic table (Greenwood and Earnshaw, 2007).

A chemical reaction is a process leading to a transformation of one chemical substance to the other. Typically, chemical reaction constitutes changes that include the positions of electrons in breaking and forming chemical bonds between atoms, with no particular change to the nuclei, and is illustrated by a chemical equation. Chemical reactions of radioactive and unstable elements are encompassed in nuclear chemistry where both nuclear and electronic changes may occur. We can hence infer that a chemical reaction is a substantial change from a set of a chemical substance to a new one with distinct chemical identity. In carrying out the actual research, we will determine the way of telling when a chemical reaction is taking place. Actually, we will be able to ascertain that a particular chemical reaction is actually occurring. A chemical reaction is often accompanied by physical efforts observed quite easily like emission of light and heat, the evolution of gas, precipitate formation, or change in color. The research paper will also ascertain how to confirm that a chemical change has taken place. A chemical analysis of the products will be illustrated as the only way through which we

can validate an absolute confirmation of the chemical change of the reactants (Ball, 2004).

Chemical reactions are characterized by various rates of reaction at particular chemical and temperature concentration. Rapid reactions are usually described as unprompted and spontaneous, that require no extra energy input apart from thermal energy. Different chemical reactions may be used in a combinative way in the process of chemical synthesis so as to obtain the product desired. The paper will highlight the conditions over which chemical reactions happen and the types of chemical reactions (Greenwood and Earnshaw, 2007).

Water and solutions are very significant in chemistry studies. Perhaps water is the most important nutrient. Chemistry makes use of water in its reactions and often produced as a product of various chemical reactions. The research paper will detail the elements that makeup water, the importance of water in chemical reactions and the formation of a solution in chemical reactions. The natural source of water will be addressed in the research paper and a difference will be made between freshwater, pure water, and salty water. On a performed chemical analysis, it is revealed that even a clean and treated water is still a solution of various dissolved species. This will bring us to the definition of a solution as a homogenous system that contains more than one substance. Where water is the solvent, such solutions are referred to as aqueous solutions (Ball, 2004).