

Observing science teaching in a secondary school

[Education](#)



Observing Science Teaching in a Secondary School There is learning of chemistry that is a science in all levels of education. The topic of acid, bases, and salts in chemistry uses specific language, theories, and concepts, becomes more complex with the advancement in students education levels. This paper will address the progression of the topic acid, bases, and salts from primary school, through secondary school and beyond.

In the primary school level, the topic of acid, bases, and salts gets a lowly informed introduction. Indeed, it was not possible to use the chemistry terms, concepts, and theories in relation to the topic of acid, bases, and salts at this level of education. Shallow and understandable language was in application, no experimentations, no confirmation tests, just a mention of few examples relating to the topic. Ideally, the reference to a lemon as an acid and ash as a base was the only regard to the topic. Moreover, the pupils had no questions to the topic and the teachers barely explained further details on the topic.

In the secondary school level, much advancement came in defining the chemical terms, detailed examples, applications, experimentations, confirmation tests, and reactions that demonstrate the topic. Indeed, there were chemical definitions of acid, bases, and salts. These definitions were reliant on certain concepts and theories that establish the loss or gain of hydrogen ions in dissolving compounds. At this level, the confirmation tests like the litmus test were in application, more examples like hydrochloric acid, ammonia as a base, and ammonium chloride as a salt were present, and much emphasis came to being. The use of a pH indicator to ascertain acidity or basicity was relevant at this level. Actually, the teachers would offer many experiments in light of putting emphasis on this topic. Additionally, the <https://assignbuster.com/observing-science-teaching-in-a-secondary-school/>

students had varied questions on this topic that the teachers answered and significantly classified acids, bases, and salts. In fact, the teachers introduced the idea of balancing and representing such reactions in chemical equations. Moreover, the issue of chemical reactions that manifest this topic was dominant at this level of education and the results of such equations representing chemical reactions were either acidic, basic, or neutral compounds (Roanoke Valley Governors School, n. y, p. 1). The concept of water dissociation and neutralization that rose from the reaction between an acidic compound and a basic compound largely featured in this context. $\text{HNO}_3 (\text{aq}) + \text{NaOH} (\text{aq}) \rightarrow \text{H}_2\text{O} (\text{l}) + \text{NaNO}_3 (\text{aq})$ was such a chemical equation defining a neutralization chemical process. In addition, the strength of a given acidic solution or a basic solution that depended on the level of ionization and the strength of the applied electrolyte came up in this context. Indeed, the completeness or incompleteness replacement of the hydrogen ion to form a salt was determined at this level.

At the undergraduate level, the concepts, theories, classifications, chemical reactions, and experimentations became more complex. Actually even the compounds used were complex and very dangerous. Utmost precaution on handling these substances was required. Detailed research on this topic was undertaken and the students made experimentations, graphical representations, and informed deductions. Actually, there was an analysis on the strength, properties, titration processes, models, and contents of various acids, bases, and salts that marked the epitome of the topic, acids, bases, and salts (Roanoke Valley Governors School, n. y, p. 1).

Works Cited

<https://assignbuster.com/observing-science-teaching-in-a-secondary-school/>

Roanoke Valley Governors School n. y, Notes on Acids and Bases Viewed 12
April 2012,