

This research was to be a baseline study to unearth Ghanaian elective science students' alternative conceptions at the start of their chemistry course at the SHS so that they could be corrected early enough. The study aimed at investigating students' conceptions on properties of matter- elements, compounds, mixtures, physical change, chemical change and the acid – base concept. It covered three representative schools with a population of four hundred and fifty students. These students completed a concept diagnostic test on basic introductory chemistry concepts necessary for the start of an elective chemistry course at Senior High School.

Results indicated that beginning High school students have significantly gross misconceptions of greater than 42 % about basic chemistry concepts. This is statistically significant and will not auger well for effective teaching and understanding of further concepts. A lot of preparatory studies will be required before the commencement of a secondary school chemistry course for better grounding and understanding of chemistry concepts.