The chemistry education cume is to be completed as an essay no longer than 5 pages. Students may access all readings from the reading list while completing the cume.

1. Select one of the empirical reports below. Summarize the article: (1) detail the methods employed in the study, (2) enumerate the misconceptions about fundamental chemistry concepts that were documented, and (3) report (or extrapolate) the prevalence of the documented misconceptions among undergraduate students in the U.S.

2. For the selected report, provide an explanatory model that (1) identifies the genesis of the misconceptions documented, and (2) accounts for why these misconceptions are resistant to instruction. Your explanatory model should appeal to contemporary learning theory.

3. Propose a design for a short intervention that can best help students to overcome one of the misconceptions reported in the empirical report you selected. The learning environment you propose should include design elements that emerge from the same theory of learning you referenced in #2.

4. Propose a research design that would allow you to test the effectiveness of your learning environment. Detail the methods you would employ as you did in #1.

Empirical Reports (choose one):


Supplemental Reading on Learning Theory and Research Design:
