Preface to the Student Study Guide

The Study Guide has a very practical and important use: that is, to adequately prepare a student for course exams. First, there are brief content reviews including step-by-step worked-out examples. Next, the most important part of the Guide is the follow up testing for each Part in the text with answers and solutions following. An additional practice test is presented that includes the entire chapter. The multiple choice, matching, and problems should give helpful practice for your exams. The Study Guide coordinates closely with the text in both content and method since it was written by one of the authors.

Before we look at the material itself, it is recommended by the authors (and countless others who have weighed in on this subject) to evaluate your study habits with specific reference to the requirements of chemistry. And, since this is a physical science, it is important to evaluate your mathematical preparation. The Prologue in the text addresses how to take full advantage of the learning aids in the text. Here, in the Forward of the Study Guide, we focus on personal study skills and how to prepare and take an exam. This is entitled "How to Learn Chemistry and 'Ace' a Chemistry Exam." The second part of the Foreword is titled “Math Review Test.” This is an opportunity for you to check your background in math, algebra, and scientific notation without anyone looking at or judging you. It is a straightforward test and shouldn’t take long. The answers follow immediately so you can grade yourself and draw appropriate conclusions. Remember that the text provides several appendixes dedicated to help you review critical mathematical concepts that are needed to grasp chemistry.

The chapters in the Study Guide parallel those in the Ninth Edition of Basic Concepts of Chemistry by Malone and Dolter. No new material is presented here. The Study Guide is designed to be most effective if referred to immediately after Part A, B, or C is covered in the text. The Review Part in the Study Guide corresponds to that Part in the text. After carefully studying these related topics in the text, refer to the Study Guide for a summary of the relevant sections and for the questions in the Assessments of the Objectives. After checking the answers to the assessments, refer back to the text for more chapter problems. Then proceed on to the next Part in the text. After completion of the whole chapter, work the Chapter Summary Assessment in the Study Guide and the Chapter Synthesis problem in the text. This Guide can also be used in other fashions such as a review and as a source of sample exams before a test.

The general headings within each chapter of the Study Guide are as follows:

**Review of Part A, B, or C**

The material in each chapter is divided into parts labeled A, B, and in two chapters, C. Under each review of a part in the Study Guide, there are three subdivisions.
1. OBJECTIVE AND DETAILED CONTENTS

The title of the section is followed by the objective for each section and the titles of the subsections. These correspond to the objective and subsections in the text.

2. REVIEW OF SECTIONS WITHIN EACH PART

This review is a somewhat informal and brief description of the material covered with key terms shown in bold type. It is not meant to be a short course in chemistry or a substitute for the text. It does not stand alone because all points and details are not explained. It is meant to test your ability to read effortlessly and smoothly through chemistry material. If the reading is difficult and terms are not familiar, you need more work in the text.

3. ASSESSMENT OF OBJECTIVES

This is probably the most important section of the review. You are now ready to answer some multiple-choice questions and to work some problems on your own. Space has been left after each problem for your calculations. Most of these problems are very similar to the worked-out examples in the text. Multiple-choice and matching can seem confusing but they are excellent tests of your knowledge. It is one thing to write an answer when asked, but it requires more knowledge to pick a correct answer from among incorrect but similar answers. Learning to answer multiple-choice questions correctly can be tricky. The problems should serve as a good assessment of how you have mastered the objective for the section. It also relates to how you will do on an exam.

4. CHAPTER SUMMARY ASSESSMENT

This test is reserved for your use after all of the chapter has been covered. The intention of this assessment is to pull the various review sections of the chapter together. Problems in this test may require use of two or more concepts developed in the chapter.

Answers to Assessments of Objectives

After you have completed each assessment of objectives, compare your answers to those provided. The answers to problems include solutions and in many cases information on how the problem was worked. If you are still hazy on a particular problem, refer back to the text.

Answers and Solutions to Green Text Problems

This section is a supplement to Appendix E in the text. It contains answers and the worked-out solutions to all of the quantitative problems that appear in green print in the text.
Good luck in your start in chemistry. I hope this Study Guide as well as the text aid in your efforts. Mostly, I hope you find this subject fascinating.