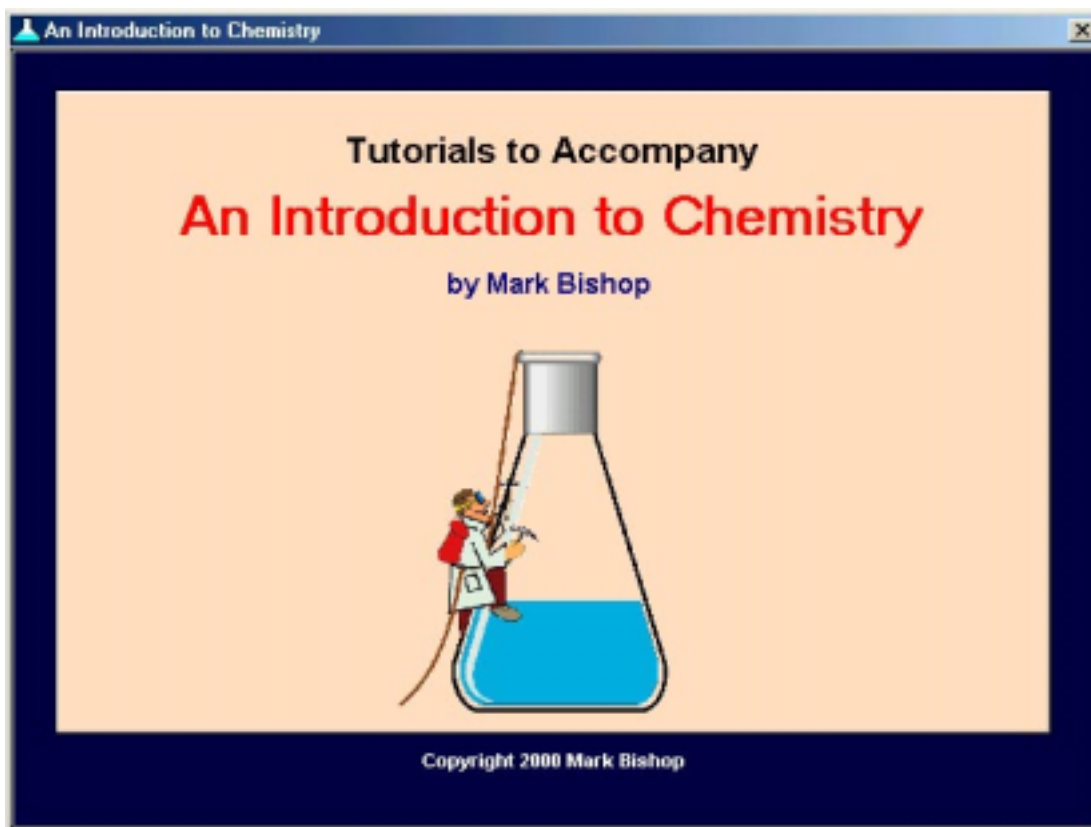


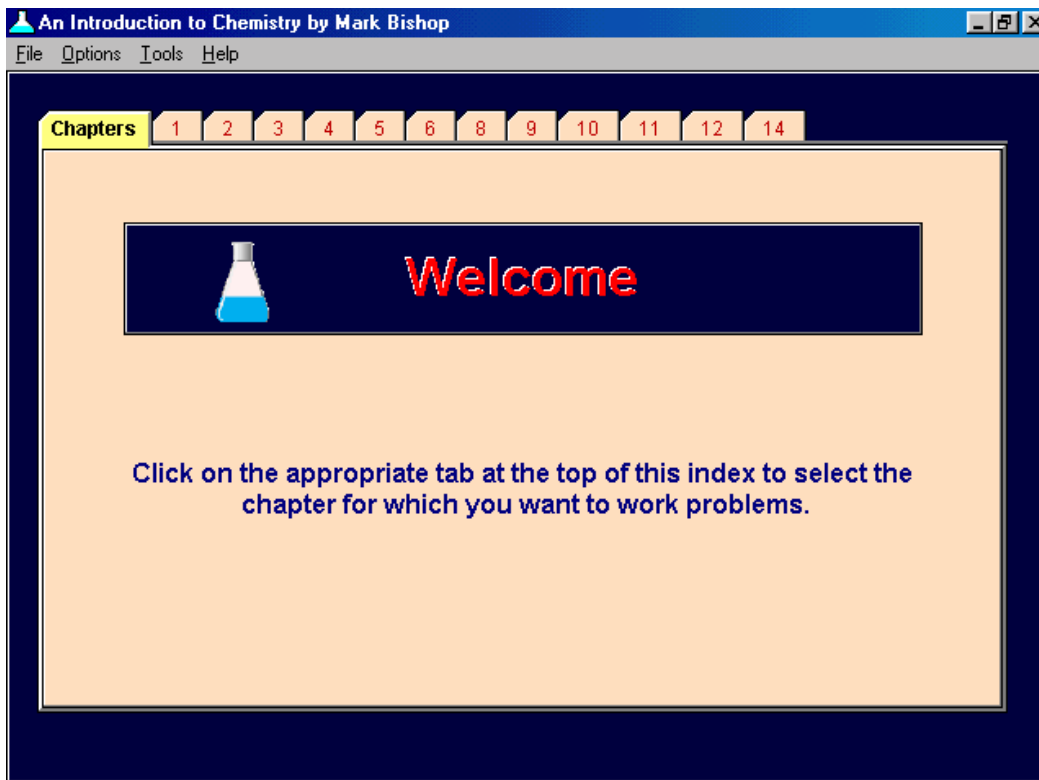
Tour of the Computer Tutorials for An Introduction to Chemistry by Mark Bishop



Follow these steps to be introduced to the features of this program.

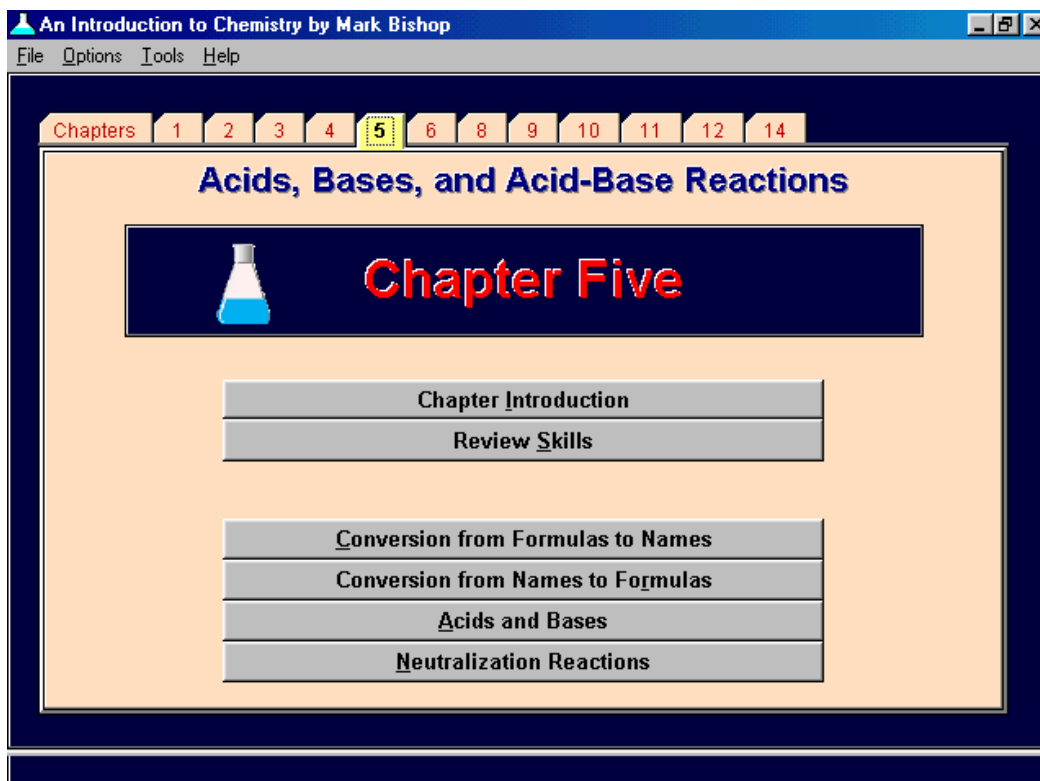
1. Start the program by selecting Start/Programs/Introductory Chemistry Tutorial//Introductory Chemistry Tutorial. You will see the screen below. In about five seconds, a box will appear that asks you to type your name. The program will provide you with a final report of what you have done in each session, and your name will be at the top of this report. After entering your name and pressing the Enter key, you are given the opportunity to change what you have typed. Click *Yes* to accept what you entered and to see a screen that allows you to select a chapter.

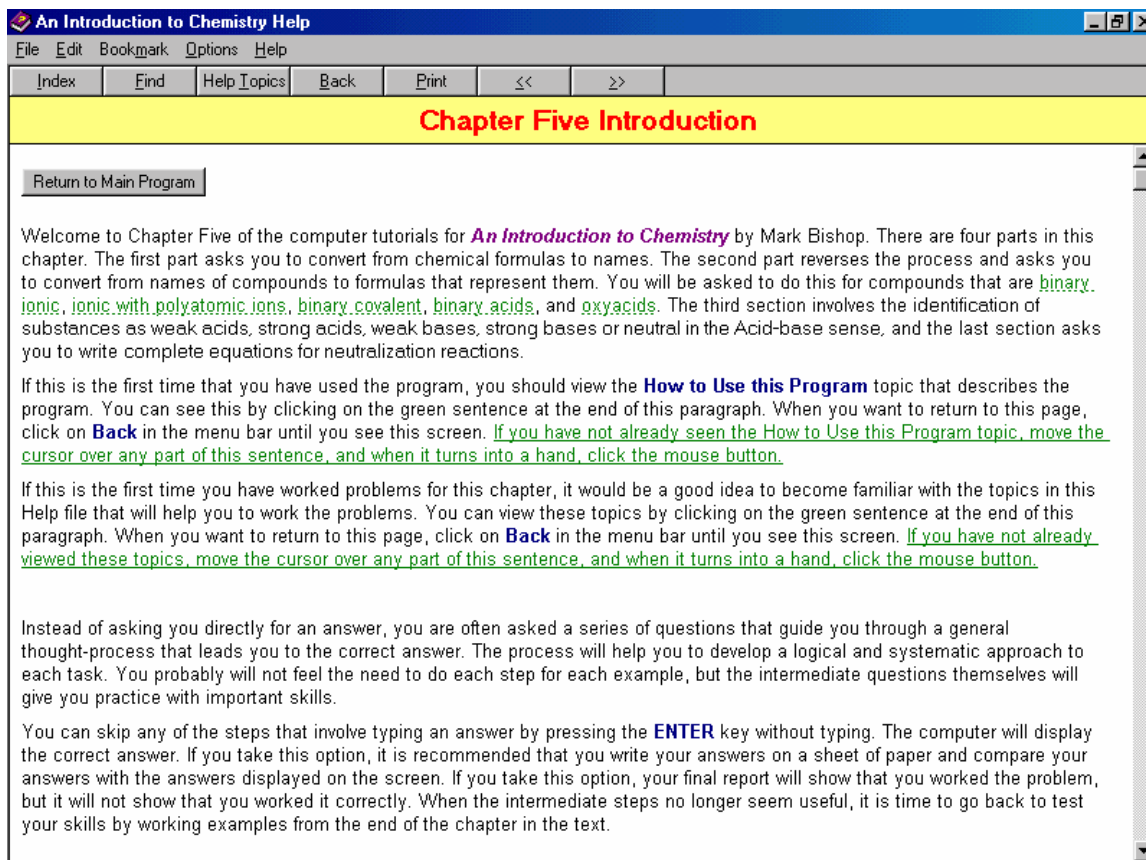




2. Click on the tab in the index that has the number 5.

3. You will now see a screen with six buttons for Chapter Five. Click on the top button that says, "Chapter Introduction." This will take you to the help file description of the Chapter 5 portion of the program.






4. Read this section. Notice that some of the words are green with dotted lines under them. This is typical of Windows help files. Notice also that as you drag the cursor over these words, it turns into a hand. If you click on these words, you will see a Pop-up Window that defines or in some way describes the word or phrase you have clicked on. At the end of this section, you will see four buttons. If you click on one of these, the program will jump to another topic of the Help file. In this case, you can jump to sections that describe the four tasks for Chapter 5. You can always return to a previous screen by clicking on *Back* in the Menu Bar. Clicking on *Back* twice will take you back two screens. If you get lost in the Help file, you can always click on the *Help Topics* button to return to the general contents of the Help file. To search for a particular topic, you can click on *Index* or *Find*.
5. The Help file is a separate program, so you must close it to return to the main program. There are four ways to do this: (1) by clicking on the X in the top right corner, (2) by pressing the *Esc* key, (3) by selecting *File* in the Menu Bar and then selecting *Exit*, or (4) by clicking on the button at the top of each Help screen that says *Return to Main Program*. When you are done viewing the *Chapter Five Introduction* section, close the Help file by clicking on the X in the top right corner.
6. Click on the second button that says, "Review Skills" This will return you to the Help file to view a list of skills necessary for this section of the program. You might click on some of the green words, green phrases, or buttons to see the result. When you are done viewing this section, press the *Esc* key. This will return you to the main program.

- Click on the button that says, "*Conversion from Formulas to Names.*" This will take you to a screen where you can select the first problem. Read the information found above the buttons.

Chapter Five of An Introduction to Chemistry

File Page Options Tools Help

 **Chemical Formulas to Names**

Click on the button for the problem that you want to work. You can do them in any order, but if you are doing this section for the first time, it would be best to work the first few problems in order.

When you work a problem, the button for that problem will be deactivated and dimmed. This will allow you to keep track of the problems that you have worked.

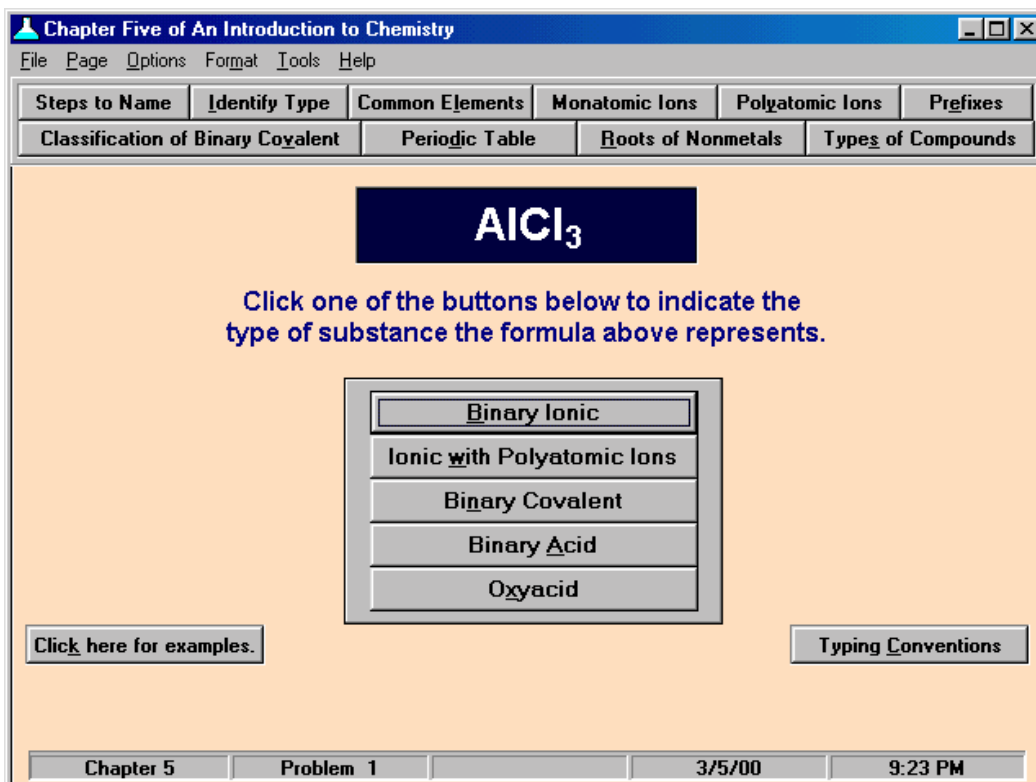
If you want to rework the problems, click on the Reset button on the bottom of the screen and all of the buttons will be reactivated.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41				

Switch to Converting Names to Formulas Reset

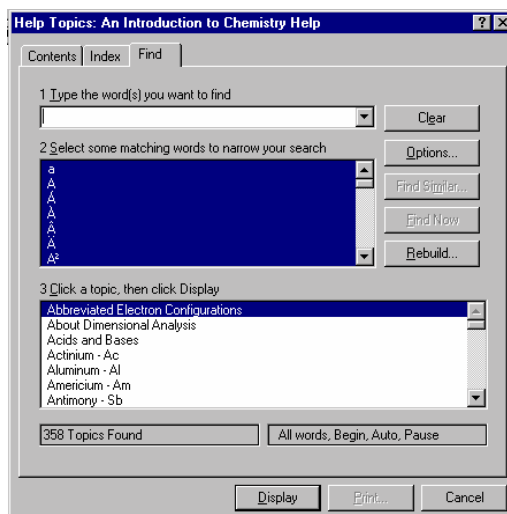
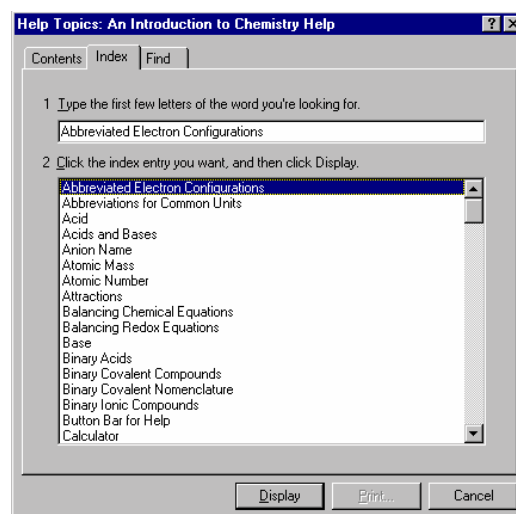
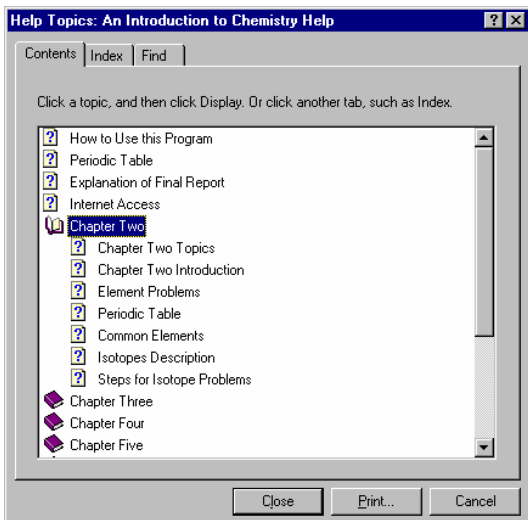
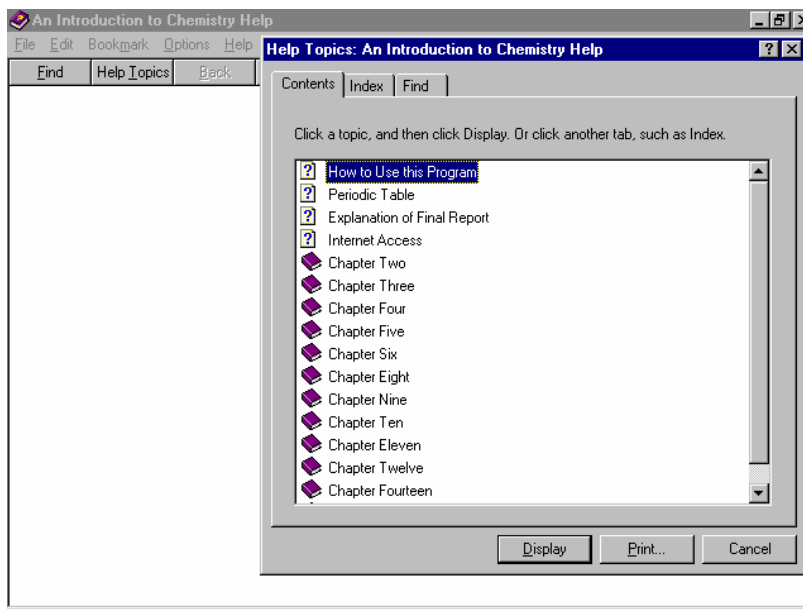
Chapter 5 Percent Correct 3/5/00 9:21 PM

8. Click on the button that says “1”. A message box will appear asking you if you want to see some instructions for the section. It is important that you read these instructions the first time you work problems in a section, so the first time you enter this section, select Yes. When you return to this section after becoming familiar with it, you can select No to bypass the instructions. Click on Yes and read the instructions for this section. When you are done reading them, click on the button at the top of the page that says *Return to Main Program*.

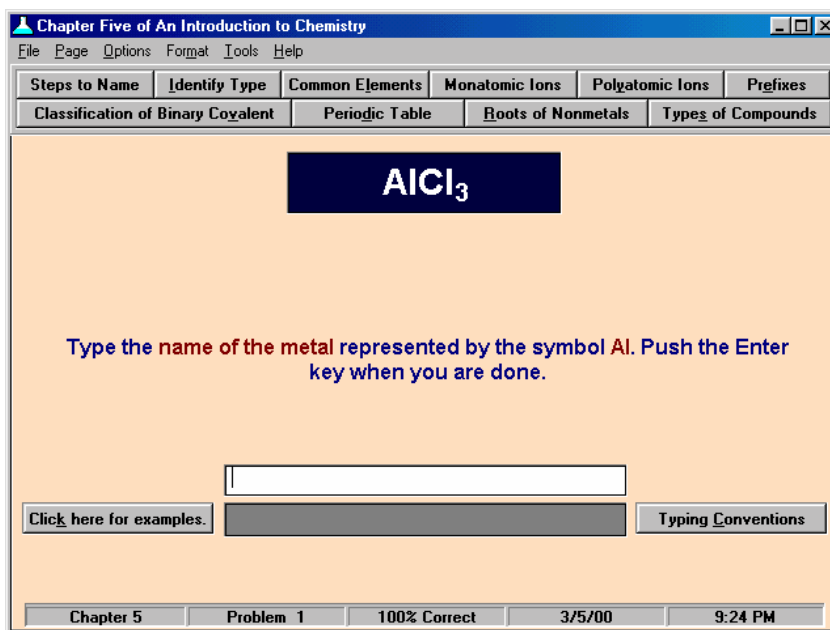


9. Before you attempt the first problem, you might want to explore the options available to you for help.
- Click on the button that says “*Typing Conventions*.” Read this section carefully. It tells you how the computer expects you to type chemical formulas and chemical equations. Click on *File* and *Exit* to return to the main program.
 - The Menu Bar includes five sections. Do **not** click on them now, since they will take you away from this screen.
 - When you click on File in the Menu Bar or press *Alt-F*, you will be provided with five options.
 - If you click on View Final Report or press *V*, you will go to a screen that tells you which problems you have done, which ones you have completed correctly, which ones you have missed, and your overall percentage for each part attempted.
 - If you click on Open Final Report or press *O*, the final report page will appear, and the Windows dialog box for opening a file will open. This allows you to open a previously saved report.
 - If you click on Save Final Report or press *S*, the final report page will appear, and the Windows dialog box for saving a file will open. This allows you to save your current report.

- d) If you click on *Print Final Report* or press *P*, the final report page will appear, and your current report should print.
 - e) If you click on *Exit* or press *x*, you will be asked if you want to view your Final Report. If you select Yes, you will be taken to the Final Report screen before you exit. If you select No, the program will close.
- 2) If you want to select a different problem, a different topic, or a different chapter, you can click on *Page* in the Menu Bar or press *Alt-P*.
 - 3) When you answer a question correctly, you should hear a “Tada” sound if you have a sound card. When you answer incorrectly, you will hear a laser sound. Clicking on buttons leads to a clicking sound. You can turn these sounds off by clicking on *Options* in the Menu Bar or typing *Alt-O* and selecting *Sound for Correct Answers*, *Sound for Incorrect Answers*, or *Sound for Buttons*. To turn them back on, repeat the process. When the sounds are on, there will be a check mark by the menu item for the sound.
 - 4) The *Tools* menu will allow you to open the periodic table in the Help file, and when you are doing problems that require calculations, you can open the Windows calculator. Click on *Tools* in the Menu Bar or press *Alt-T* to open the Tools menu. Press *P* or click on *Periodic Table* to open the periodic table. The calculator can be opened by clicking on *Calculator* or pressing *C*.
 - 5) When you click on *Help* in the Menu Bar or press *Alt-H* you will be provided with a list of help options.
 - a) Selecting *Help Topics* will start the Help file that accompanies the program. You will see a screen like the one that follows. The dialog box in the center has tabs that give you three ways to move to different sections of the Help file.
 - 1) If you click on the *Contents* tab, you will see an outline view of the topics in the Help file.
 - a) If you select a topic with a question mark icon next to it and then select the *Display* button (or double click on a topic with a question mark icon), you will see one of the topics in the Help file.
 - b) If you select a topic with a book icon next to it and select the *Display* button (or double click on a topic with a book icon), a list of related topics appears. For example, do this for the Chapter Two. You will see all of the Help file topics that relate to Chapter Two.
 - 2) If you click on the *Index* tab, you will see a list of key words and phrases that can lead you to specific sections of the file.
 - 3) If you click on the *Find* tab, you will see a dialog box that will allow you to search the whole Help file for a key word or phrase.



- c. You will see two rows of buttons below the Menu Bar. We will call this the Button Bar. Clicking on one of these will take you to a specific section in the Help file that might be useful for the current task. Click on the one that says *Periodic Table* or type *Alt-d*. This will take you to a periodic table in the Help file. Notice that when you move the cursor over any one of the symbols for the elements, it turns into a hand. If you click the mouse, you will see a pop-up box that shows information about that element. When you click again anywhere on the screen, the pop-up box disappears. Click on the X in the top right corner to return to the main program.
 - d. Click on the button in the lower left of the screen. It says, “*Click here for examples.*” This will display the section of the Help file that shows examples for the current task. Close the Help file to return to the main program.
10. You are now ready to try a problem. Just read and follow the directions on the screen. You will be asked a series of intermediate questions that will help you to answer the overall question.
 - a. Click on the button that says “*Oxyacid*”. The computer tells you that this is an incorrect answer with a laser sound, displaying a frowning face, and by showing a message box that says you were incorrect. In this case, you are given a chance to try again. In some cases, you are given the guideline that leads to the correct answer and the correct answer itself.
 - 1) Most of the message boxes that tell you that you have answered a question incorrectly will include a button that says *Help*. If you select this button by clicking on it or pressing *Alt-H*, it will open the section in the Help file that will help you to answer the question correctly. The section is described at the bottom of the message box. You might want to try this now. If you do, remember that you close the Help file to return to the main program.
 - 2) Click OK to continue.
 - b. Click on the button that says “*Binary Ionic*”. When you provide the correct response, you will see a smiling face, and if you have a sound card, you should hear a “Tada” sound. You will also see a message box that tells you that you are correct and gives you the general guideline that leads to the correct answer.
 - c. Sometimes the message boxes cover up something you want to see. You can move them by clicking in the bar at the top of the box, holding the mouse button down, and dragging the box out of the way. You might want to try this now. Click OK to continue.

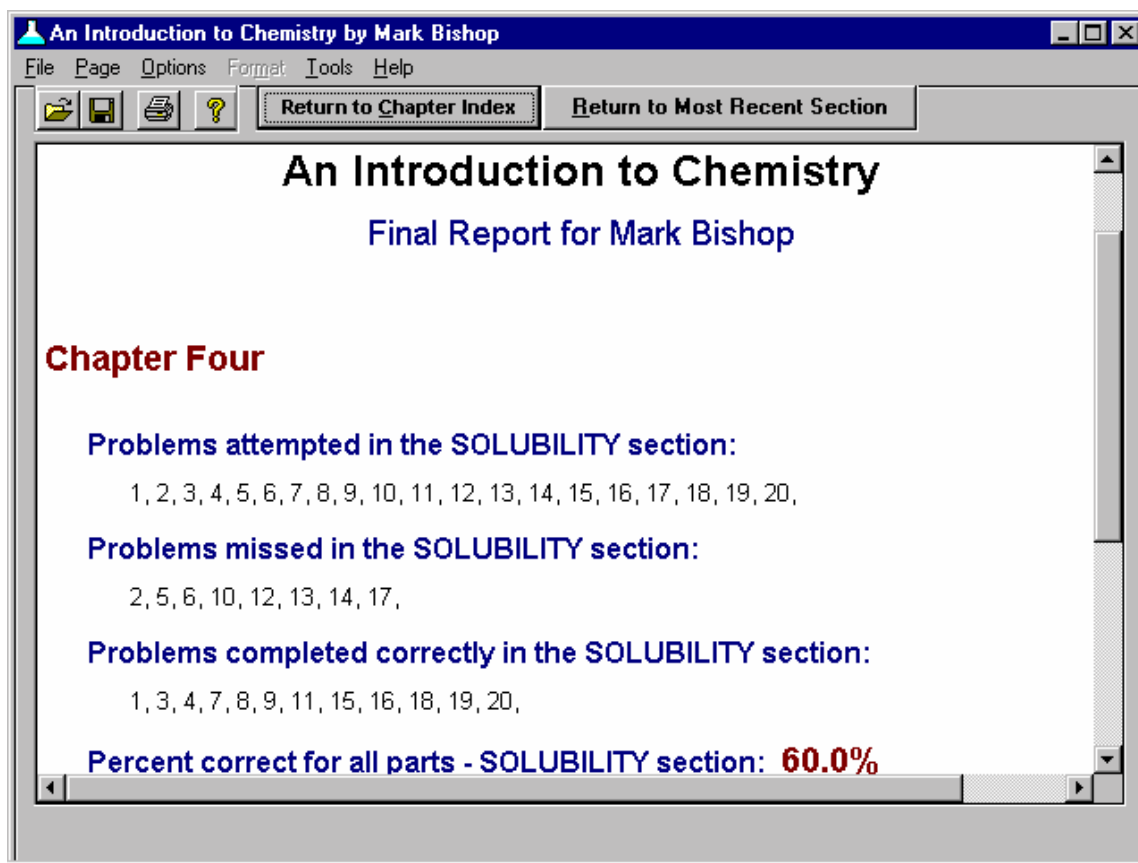


- d. You are now asked to type the name represented by the symbol Al . There are three general types of responses to what you type. Notice that you are not asked for the full name of the compound yet. It is very common in the software to be asked a series of questions meant to help you to develop an efficient procedure for a task and to identify the smaller parts that might be giving you troubles with larger problems. In this case, you are asked a series of questions that you have to ask yourself as you write the name for the compound.
 - 1) If you type "aluminum", you will be told you are correct, and the next intermediate question will appear.
 - 2) If you press the Enter key without typing, the correct answer will be displayed in the gray box at the bottom of the screen. (There are two ways to be given an answer without having to supply it yourself. Pressing the Enter key without typing is sometimes an option. For some problems, you can get the answer by selecting a *Give Answer* button.) If you do not know the answer, you can select this option, but you might also want to be given the answer, even when you know it, just to save time. For example, the computer often takes you through several steps that lead you to a final answer. You can bypass the initial steps by pressing the Enter key without typing or selecting the *Give Answer* button.
 - 3) If you type anything else, you will hear a beep and be told that you are incorrect.
 - e. In this case, type "aluminum" in the box (without the quotation marks). Press the Enter key when you are done. A message box appears to tell you that you are correct. Click OK.
 - f. You will next see a message box that asks you a question. This will be common when the question can be answered with a Yes or No. Click either button, and the computer will respond.
 - g. You have now seen the ways you will be asked questions, how you will provide answers, and how the computer will respond to your answers. Continue following the directions on the screen to complete the problem. You can type answers if you want or press *Enter* to be given answers.
 - h. After the computer has responded to your last answer, you will be returned to the screen that allows you to select another problem.
11. When you return to the problem selection page, notice that the "1" button is dimmed. If you click on it, nothing will happen. Click on the button in the lower right corner that says "Reset". Notice that the number "1" is no longer dimmed. If you clicked on the "1" button now, you could rework this problem. Do **not** do this now.
 12. Click on the button at the bottom of the screen that says "Switch to converting names to formulas." This will take you to the selection screen for the problems dealing with the conversion of chemical names to formulas.
 13. Click on button "1". You will see the message box that asks if you want to see the section of the Help file that describes the instructions for the section. Select No in this case. You will now see the screen for the first of these problems.
 14. Notice that the button near the center of the screen that says "Binary Ionic" is highlighted. We say this button has the focus. Press the *Tab* key and notice that the focus shifts to the next lower button. Continue pushing the *Tab* key until the focus returns to the "Binary Ionic" button.
 15. Press the *Enter* key. Using the *Tab* and *Enter* keys provides an alternative to using the mouse. Click on *OK* or press the *Enter* key.
 16. There is another alternative to the mouse that you might want to explore. Notice the button in the Button Bar says "Polyatomic Ions" with the "y" underlined. Press the *Alt* key and the "y" key together. This does the same thing as clicking the button with the mouse. Type *Alt-F* and then *x* to return from the Help file to the main program.

17. You are now asked to type a chemical formula.
- When you type formulas, you need to be careful to type the correct case for the letters, e.g. nacl for NaCl would be incorrect.
 - You also need to have the correct subscripts and superscripts, e.g. H2SO4 for H_2SO_4 would be incorrect. There are three ways to get subscripts and superscripts.
 - The easiest way is to use the following keyboard conventions.
 - If you hold down the **Ctrl** key while pressing one of the number keys above the letters, you will get subscripts.
For example, **Ctrl+3** gives a subscript 3.
 - If you press and hold the **Ctrl** and **Alt** keys together while pressing one of the number keys above the letters, you will get superscript numbers.
For example, **Ctrl+Alt+2** gives a superscript 2.
 - You can get a superscript plus or minus by pressing the **Ctrl** and **Alt** keys together while pushing **p** for plus or **m** for minus. **Ctrl+Alt+p** yields a superscript plus, and **Ctrl+Alt+m** yields a superscript minus.
 - After each subscript or superscript made using this technique, the text box is automatically returned to normal characters.
 - When appropriate, there will be buttons on the screen that will allow you to create subscripts, superscripts, and normal characters. If you click on the *Subscript* or *Superscript* button before you type a number, the number will appear as a subscript or superscript. All characters will be subscripts or superscripts until you click the *Normal Character* button.
 - If you prefer to use the keyboard, you can also get a subscript by pressing **b** while holding down the **Alt** key. You can get a superscript by pressing **u** while holding down the **Alt** key. You can return to normal characters by pressing **n** while holding down the **Alt** key.
 - You can manipulate the text in a text box like you would in a word processing program. For instance, you can backspace over characters that you type incorrectly, you can place the cursor anywhere in what you have typed to insert characters you skipped, pressing the *Home* key will take you to the beginning of what you have typed, or the *End* key will take you to the end.
18. To test the typing conventions, type the following: **H** then **Ctrl-2** then **PO** then **Ctrl-4** then **Ctrl-Alt-m**. You should see H_2PO_4 in the box.
19. Backspace over the " H_2PO_4 " that you typed, and press the Enter key without typing anything else in the box. This will show you the option you have of seeing the answer to a question without typing.
20. Complete this problem by following the directions on the screen. You can type responses or just press the *Enter* key.
21. When you return to the problem selection page, click on button "2" or press the Enter key.
22. Select the *Binary Ionic* button and then select the *OK* button in the box that appears. Instead of answering the next two intermediate questions that lead you to the final answer, let's jump directly to that final answer by pressing the Enter key twice without typing. Now type **MgCl** and **Ctrl-2**, and press the Enter key to have the final answer evaluated. This shows how you can bypass intermediate questions.
23. When you return to the problem selection page, click on button "3" or press the Enter key.
24. Rather than working problem 3, click on *Page* on the Menu Bar again and select *New Problem*. (You can do this from the keyboard by clicking **Alt, P**, and then **b**.) This will return you to the screen where you can select another problem. Click on any active button or press Enter.
25. Rather than working the problem, click on *Page* on the Menu Bar again and select *New Chapter*. This will return you to the screen where you can select another chapter.

26. Select the tab for Chapter 9, and click on the bottom button that takes you to the molar mass calculations section.
27. Select problem #1, and click on *No* to bypass the instructions.
28. Click on the button that says, "*Click here to Start.*"
29. Click on the *Hint* button in the Button Bar or press *Alt-n*. This shows you another feature that is available for some problems. The hints will help you with the specific problem you are working. In a problem that contains several parts, there may be several different hints. Many of the hint-boxes contain a *Help* button that takes you to the help file. If you click this button, it takes you to a section of the help file that deals with the specific problem (or specific portion of a problem) you are working. If you select the *Help* button, close the help file, and click the OK button in the Hint-box.
30. Select the *Give Answer* button, and then click *OK* to close the message box that appears.
31. Click on the box in the upper left corner that contains the picture of a calculator. This opens the Windows calculator. It has two modes, scientific and standard. You can switch between the two by selecting *View* in the menu bar. You can do calculations by clicking on the buttons with the mouse or with keyboard commands. To see a list of keyboard commands, select *Help* in the menu bar and then select *Calculator Keyboard Commands* from the list that appears. Do the calculation for this problem or just type anything in the text box for the answer.
32. Notice that at the bottom of the program window, there is a status bar that shows the chapter number, the problem number, the percentage of the parts that you have answered correctly, the date, and the time.

33. Click on *File* in the Menu Bar and select *View Final Report*. You will see a final report screen like the example below. This screen shows you the problems you have attempted, missed, and completed correctly for this session. It also shows you the percent correct for all of the parts of all of the questions in a section. If you have done problems in more than one chapter, there will be a separate page for each chapter's report. You don't need to deal with this now, but the following summarizes how you can save and open final report files.
- You can save your final report to your hard drive or to disk by selecting File and Save As or by clicking on the disk icon. This calls the standard dialog box for saving files in any Windows program. The files are automatically saved with the extension .icm at the end of the file name.
 - You can open a file containing the final report from an earlier session by selecting File and Open or by clicking on the file folder icon. This will call the standard dialog box for opening a file for any Windows program. The file names for files that can be brought into the program end in .icm. After opening a file, you will be given the option of either selecting *Yes* to combine the opened file with the existing file or selecting *No* to replace the old file with the new one. If you want to keep track of all of the problems you have done in all of your sessions, you should choose to *Yes* to combine the files.
 - To print all of the pages, click on the *Print* button, select File and Print Report from the Menu Bar, or click on the printer icon.



34. When you are done viewing this screen, you can click on the *Return to Chapter Index* button to return to the chapter selection index to explore the program on your own.
35. Select *File/Exit* from the Menu Bar or click on the x in the top right corner to exit from the program.