

## Contents for BK Periodic Library

Welcome to BK Periodic Library online help. We have tried to make the program as intuitive and self explanatory as possible, but if you are stuck, you will probably be able to find the answer you are looking for here.

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## Working With the Table

### See Also

The main part of BK Periodic Library is the periodic table - the window you see first when you run the program. Working with the table itself is simple and intuitive. You will notice that as you pass the mouse pointer over the different elements, a small popup window indicates to you the full name of the element which you are currently over. Also, on the left of the status bar (at the bottom of the main window), you will see the number of the element which you are currently passing over, its name, symbol, and its electron configuration (please see the help section about [The Element Information Window](#) for more information about the format of the electron configuration).

To select a particular element, simply click on it with the default mouse button. You can also navigate the elements using the keyboard arrow keys, or the Tab key. If you would like more information about an element, you can right-click on it and choose [Element Information](#) or, alternatively, you can simply double-click on the element or press Enter on the keyboard. If you would like to find an element, right click on the table and choose [Find Element](#).

In order to change the temperature, you can manipulate the temperature slider on the right side of the toolbar (at the top of the main window). As you move the handle on the temperature slider, you can keep track of what temperature you are currently at by observing the right side of the status bar which is updated as you change the temperature. If you would like more control over how the temperature is changed, right-click on the table and choose [Change Temperature](#).

To change the colour configuration of the table, or to specify a custom background image, simply right-click on the table and choose *Options*. You will be presented with a dialog box which lets you change the background wallpaper of the program, the background colour of the periodic table, and the colour of the different phases and properties of the elements. This is particularly useful if you are running Windows with a non-standard palette or colour setup and are having trouble distinguishing or viewing certain element properties because of conflicting colours.

The Element Information Window  
Searching for Specific Elements  
Manipulating the Temperature

## The Element Information Window

### See Also

The Element Information Window can be displayed by either right-clicking on an element and choosing Element Information, choosing Element Information from the Element Menu, or clicking on the Element Information button on the toolbar which is the second button from the left. You can also bring up this window by double-clicking on the desired element, or simply pressing Enter on they keyboard when the desired element is selected.

The Element Information Window displays all the information about the currently selected element organised by property. The units of a specific property are given beside the value. Note that values with an asterisk next to them (ex. 42\*) indicate that the values are only estimates. Also, the electron configuration is not given in the standard format; where regularly a number would be given in superscript, it is here represented by a regular number followed by a comma like so:

Carbon:1s2,2s2,p2

All of the values listed besides their respective properties are able to be selected (highlighted) with the mouse or keyboard. When the value you want is selected, you can press Ctrl-C on your keyboard to copy what you have selected to the clipboard. Alternately, you can click the Copy All Info button to copy all the information listed to the clipboard. Note that although you can cursor through the different values, you cannot edit them.

## Working With the Table

## Searching for A Specific Element

### See Also

To display the Find Element window, you can either right-click on the table and choose Find Element, select the Find Element... option from the Elements Menu, or click on the Find Element button which is the third button from the left on the toolbar.

The dialog box that you are presented with has three tabs for different search requirements. The first tab lets you search for an element by its name, and the second by its symbol. Simply type in the name, or symbol of the element, or just the first few letters of it, and that element will become selected in the list below the text box. When you click the OK button, or double-click on the element name of choice, the dialog box will disappear and you will be returned to the periodic table where the element you have found will be selected.

The third tab allows you to search for an element by one of its properties. For example, if you were trying to find out which element had a *Heat of Fusion* between 5.55 and 6.05 kJ/mol. First you would first choose from the list box the property Heat of Fusion. Then you would type 5.55 into the Lower Limit text box, and 6.05 into the Upper Limit text box. When you click the Refresh button, the elements (in this case only one) which meet the criteria are displayed in the list box. You can now double-click on the element, or click on the OK button to return to the periodic table with the found element selected. If, when in the search dialog box, you wish to reset the values to their defaults, simply click on the Reset button and then click Refresh.

## Manipulating the Temperature

### See Also

When you first use BK Periodic Library, the temperature is set to 25 degrees Celsius; you can see what the current temperature is by looking at the right side of the status bar (at the bottom of the main window). At a given temperature different elements can be either gaseous, solid or liquid, and this is reflected by the colour of the element symbols on the table.

The scroll bar on the right of the tool bar is the *temperature slider*. You can use it to quickly change the temperature and watch the resulting change in the colours of the element symbols on the periodic table to indicate what phase they are in at the given temperature.

A more precise way to change the temperature is through the Temperature dialog box. You can access this dialog box by either right-clicking on the table and choosing Change Temperature, clicking on the Elements Menu and choosing Set Temperature..., or clicking on the Set Temperature button on the tool bar which is the fourth button from the left. Using this dialog box, you can set the temperature to two decimal places in your choice of Kelvin, Celsius or Fahrenheit by choosing the desired tab, typing in the desired temperature, and clicking the OK button, or pressing Enter on the keyboard.

If you wish to convert between temperature units, simply click the tab whose unit you already know the temperature in, type in the temperature, and then click the tab of the unit you desire. The temperature you just typed in will be converted automatically and displayed in the new tabs text box.

## Working With the Table



## Viewing Periodic Trends

### See Also

There are two ways to view periodic trends in BK Periodic Library. The first is by selecting the property you wish to view the trend of from the Trends Menu. Upon doing so, the elements on the table will reflect the property's trend by adjusting their height. For instance, if you choose the property Atomic Weight, where the trend is that the Atomic Weight goes up as the atomic number increases, the perceived height of the element number 1 (Hydrogen) will be at the lowest level, while the perceived height of Lawrencium (element number 103) will be much higher.

For a more in depth look at periodic trends, you can graph them. To bring up the graphing module you can either choose Graph Trends choice from the Trends Menu, or click on the Graph Trends button which is the fifth button from the left on the tool bar. In the Trend Graph window you are presented with a graph representation of a periodic trend with the element numbers going from lowest to highest on the x-axis and the value of the chosen property on the y-axis. By observing the visual patterns created by the specified property (which can be selected in the Property Menu or by right clicking), periodic trends are revealed.

As the mouse pointer is passed over the graph, the right portion of the status bar (at the bottom of the window) reflects which element is at that point. If you wish to have a more direct view of the actual element positions, you can select the Show Element Positions choice under the Properties Menu or by right-clicking and choosing that option. Doing so will place a small green circle around the positions where elements exist on the graph.

When the mouse pointer is over the desired element, you can get more information about that element by either double-clicking, or right-clicking and choosing Element Information. Upon doing so, the Trend Graph window will retreat behind the main and element information window (or minimise if its always on top property has been checked) so as not to obscure your view, and you will be presented with the periodic table with the element you chose selected.

## Working With the Table

## About BK Computer Programming & Copyright Information

BK Periodic Library was designed and created by Bill Klein Computer Programming.

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## Licensing And Ordering Information

You have the right to use this program freely and on an unlimited basis if you are a student, and are using it on a non-public computer.

If you do not fit into this category, the price for using BK Periodic Library, after a 30 day trial period, is \$30.00 US per computer on which it will be accessible. Upon payment, you will be sent a personalised copy of the latest version of BK Periodic Library (both 16bit and 32bit versions). You will also have updates and new versions sent to you free of charge for one year after your initial purchase.

Please send a check or money order to:

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## Working With the Table

## Changes In Current Version

From version 1.61 to version 1.7, the following changes were made:

You are now able to customise the colours used in the Element Information window as well as the Trends Graph window. This is particularly useful if you have a non-standard colour scheme which makes it difficult to see the information presented in these windows.

You now have the choice of which element naming scheme to use for the heavier elements on the periodic table. Chose **Naming Scheme** from the **View** menu to change the current scheme.

From version 1.6 to version 1.61, the following changes were made:

Fixed a problem occurring for some people in the 32-bit version where the INI file would not save.

From version 1.5 to version 1.6, the following changes were made:

The folder in which the **BK Periodic Library** initialisation file is stored can now be specified at the command line. For example, if you want to keep the INI file in your windows folder, you could specify the following command line in your shortcut (or program icon):

```
c:\perlib\perlib32.exe c:\windows\
```

This assumes that you are running the 32-bit version which is kept in `c:\perlib\` and that your windows folder is `c:\windows\`. This is good if you are on a network and the users of the network do not have write access to the folder in which **BK Periodic Library** is kept.

The **BK Periodic Library** home page is now located at <http://www.orbit.org/perlib/>. Please update your links before the old ones become invalid.



