

# **Quick Start Guide:**

## **ChemSense Studio Client**

### **Version 3.0.7**

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Comments/Questions/Bug Report?  
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## **Background**

The ChemSense Studio Client software supports the sharing, viewing, and editing of a variety of chemistry representations, including text, images, drawings, and animations of chemical processes. The software consists of a client, which views and edits files, and a server, where items are stored. You need an Internet connection and login account to use the ChemSense Studio Client.

## **Contents of This Guide**

This introductory guide covers the following information:

### General:

- Installing the ChemSense Studio Client
- Logging in
- Connection options
- Viewing items
- Creating new items
- Editing and saving items
- Commenting on items
- Searching for items

### Specific Tools:

- Periodic tables
- Text tool
- Image tool
- Draw tool
- Animation tool
- Graph tool

## Installing the ChemSense Studio Client

The ChemSense Studio Client can be downloaded at <http://chemsense.org/download>. Using a web browser, download the installer for your platform (ChemSense software is available for Windows and Mac OS X), and run the installer.

The installer will prompt you for where you would like to install the software, and will place a shortcut on your desktop. When the installer completes, launch the ChemSense Studio by double-clicking on the application or the shortcut icon.

## Logging In

When you launch the ChemSense Studio, you will be prompted for a username and password. You can get these values from your instructor (see Figure 1).

Note that for security reasons, login sessions expire after a few hours. If your session expires, you will be prompted to log in again before you can save your work. For your security, do not leave the client running on a computer that others have access to when you are not present.

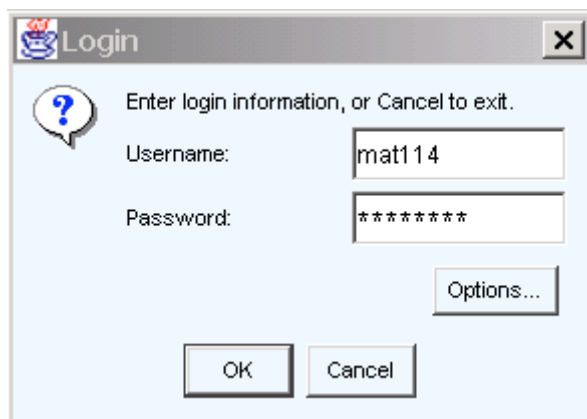
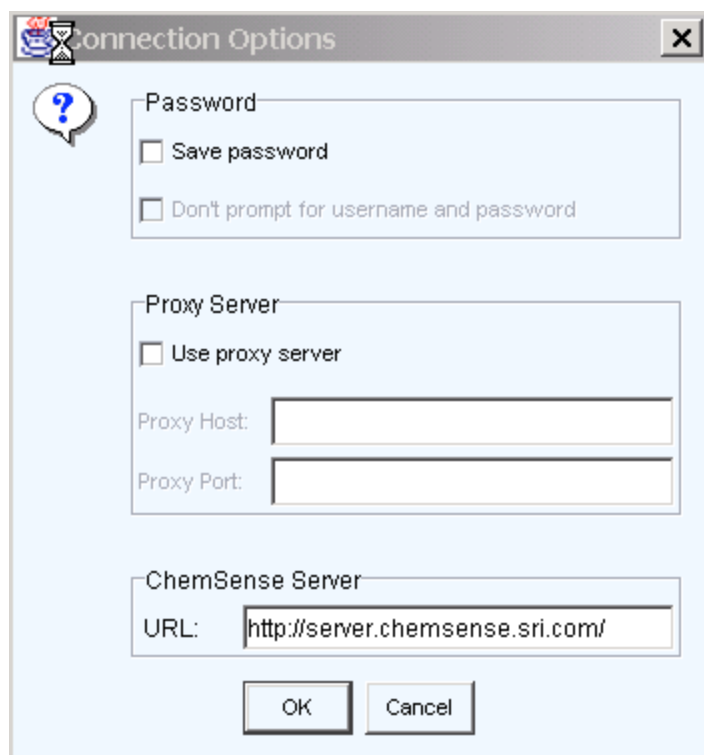


Figure 1. ChemSense Studio login dialog.

## Connection Options

Under the **Options** button you can tell ChemSense Studio to remember your password, set proxy server values (if applicable), and change the URL for the ChemSense server you are connecting to (e.g., if you are running a local server in your classroom, or as a stand-alone demo on your computer).

Note: Don't check **Save Password** unless you are on a private machine that others cannot access, or unless instructed to do so by your teacher.



**Figure 2.** Connection options.

Verify that the value for the **ChemSense Server URL** is correct. This is the URL of the server on which your login account exists. If it is incorrect, you will not be able to log in. You may need to ask your instructor for the value that you should use.

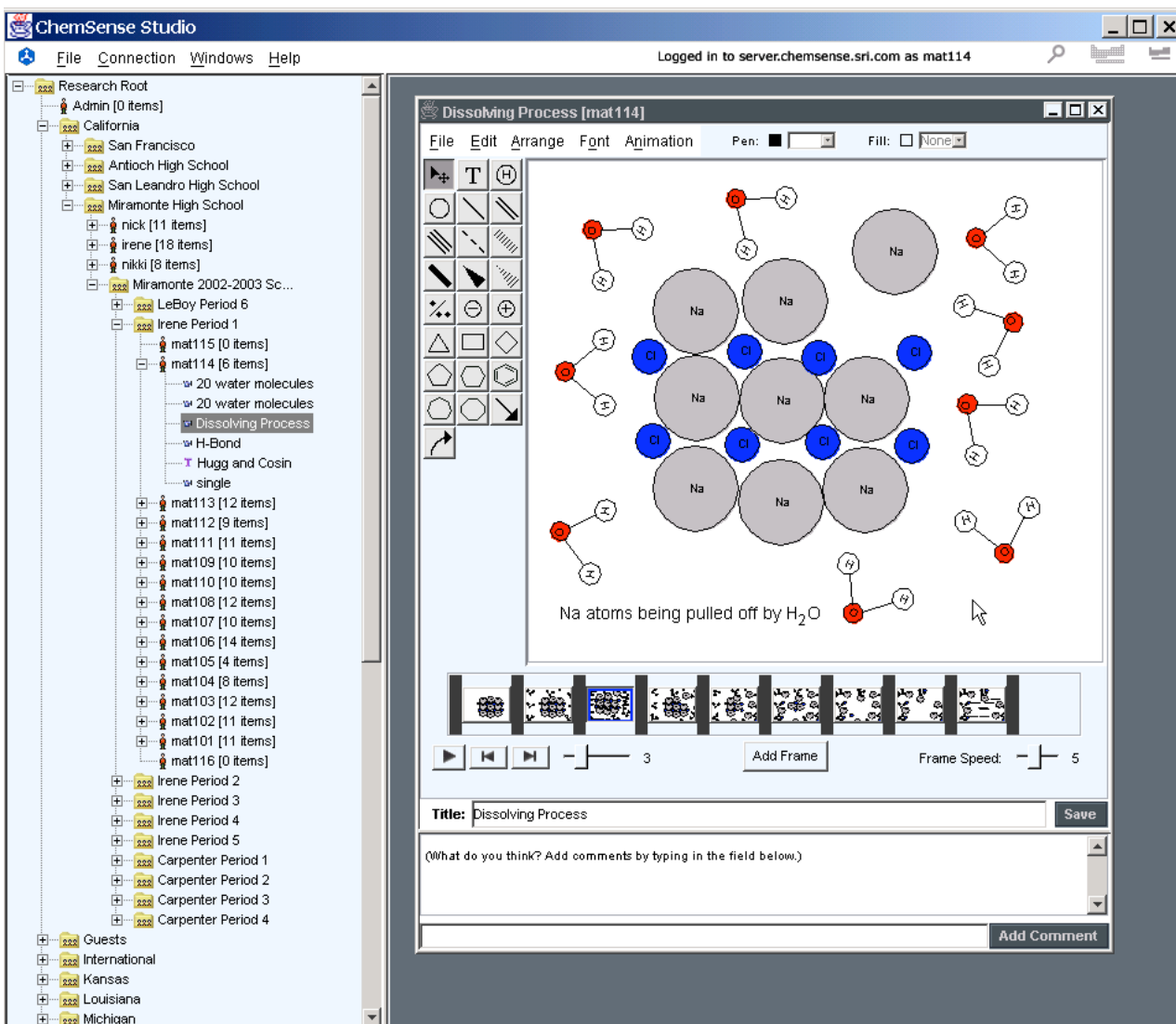
- If you have an account on SRI's ChemSense server, the value should be `http://server.chemsense.sri.com`
- If you are running your own local ChemSense server on the same machine as the ChemSense Studio, the value should be `http://localhost:8080`
- If you have a local network in your classroom with one computer running the ChemSense server, the value should be `http://the.ip.address.of.your.classroom.server:8080`

### Viewing Items

After you log in, a large window will appear on your screen (see Figure 3). The window is divided into two main frames.

1. The left frame is the navigation frame, called the explorer tree. It contains folders called groups. A group can contain other groups, as well as individual user

- accounts, represented by a person icon. Each individual account contains items created by that user.
- The right frame is the workspace, where you can create and edit items you own, and view and comment on items created by others.



**Figure 3.** The explorer (left) and workspace (right).

When you first log in, the explorer tree will expand to show you the items that you own. After that, you can click on any  $\oplus$  icon to expand another group (to see subgroups and users) or to expand another user (to see his or her items). Click the  $\ominus$  icon to collapse or hide part of the explorer tree.

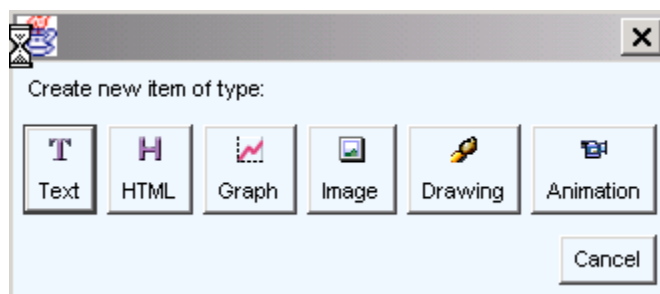
When you expand a user or group for the first time, the ChemSense Studio Client makes a request over the network to the ChemSense server to retrieve the items for display. Depending on the speed of your connection, you may notice some lag the first time you expand a user or group.

To view an item created by a user, double click it, or select it and press enter, or choose **View selected** from the **File** menu. The item will open in the workspace area on the right. To edit an item you own, select it in the explorer tree and choose **Edit selected** from the **File** menu (or Control-E). For example, if we edit the "Dissolving Process" item, an animation opens in workspace area (see Figure 3). If the animation is large, it may take a few seconds to transfer over the network from the ChemSense server to your computer.

If you want more workspace area, you can temporarily hide the explorer tree by unselecting **Show Explorer** in the **Windows** menu. You can also gain more space by hiding the comment pane on items (see below); to do this, unselect **Show Comments** in the **Windows** menu.

## Creating New Items

To create a new item, select **New Item** from the **File** menu (or Control-N). You may have noticed by now that most menu items have keyboard shortcut alternatives; just look at the menu item to see the shortcut. When you create a new item, a dialog will appear prompting you to choose the type of item you want to create (see Figure 4).



**Figure 4.** Create a new item dialog.

There are six types of items you can choose from:

1. **Text** tool, for unformatted text.
2. **HTML** tool, for (very basic) formatted HTML text.
3. **Graph** tool, to enter data values into a table or import data from a file to create an x-y graph.
4. **Image** tool, if you have a local image (e.g., JPEG or GIF) that you want to import into the ChemSense Studio for other to see.
5. **Drawing** tool, to create a static drawing.
6. **Animation** tool, to create a sequence of drawings for a storyboard animation.

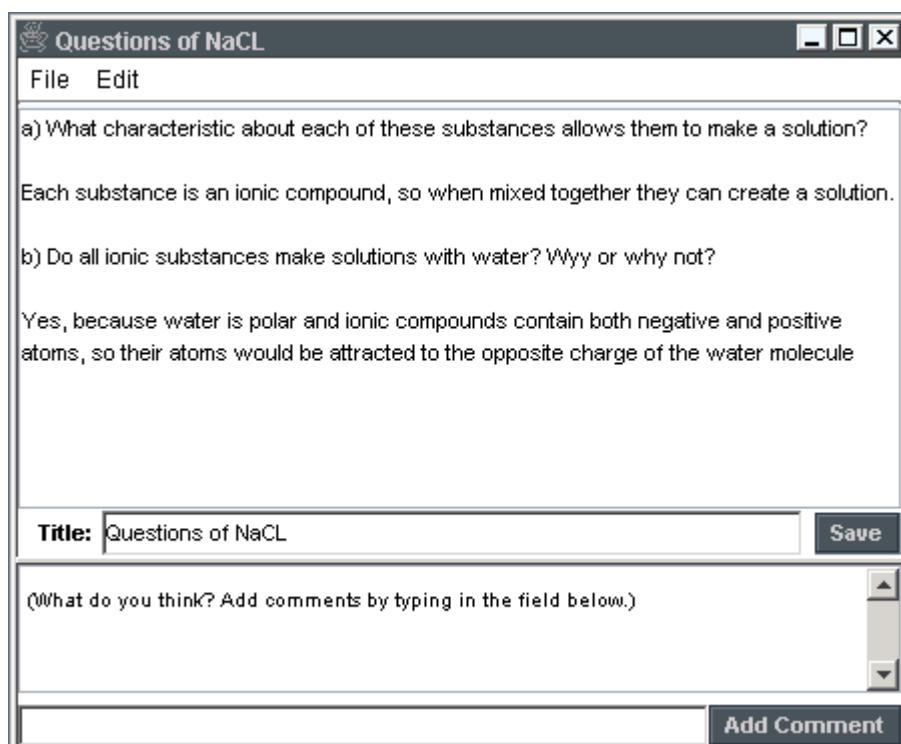
The animation and drawing tools are used most often!

## Editing and Saving Items

When you create a new item, an edit window will appear. When you edit an item that you created earlier, you will see the same edit window.

This edit window is divided into two parts (see Figure 5).

1. The upper frame, where you edit the content of the item and give it a title. Only you can edit these parts of an item you create.
2. The lower frame, where you, or anyone else who can see your item can also add comments about it.



**Figure 5.** Editing the content and title of a text item (top) and comment area. Only the owner can edit the content and title, but anyone can add comments.

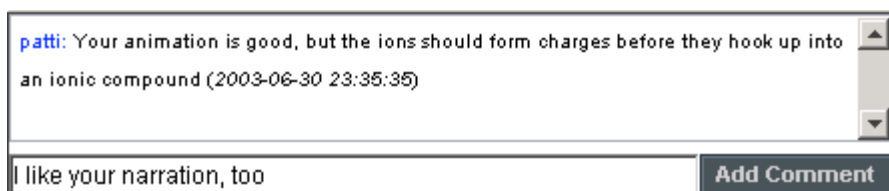
To save an item, press the **Save** button, or select **Save** from the **File** menu of the item you are editing (or Control-S). When you save the item, it will appear in the list of items under your account.

When you save, the ChemSense Studio sends the contents over the network to the server for storage. Depending on the speed of your network connection and the size of your item, you may notice some delay when you save an item.

You can later edit any item that you created by selecting it and choosing **Edit selected** from the **File** menu (Control-E), or right-click on the item and choose **Edit** from the popup-menu. Note that you can only edit items that you created; you cannot edit items created by others

## Commenting on Items

When you are editing one of your items or viewing items created by others, you will notice an area at the bottom where you can post comments about the item. Anyone in your group can comment on your item, and similarly, you can view someone else's item and comment on it using this feature (see Figure 6.)



**Figure 6.** Adding a comment to an item.

If you can view an item, you can read all comments made on it. Note that you can't delete a comment once you have posted it, and your name (and the time) is automatically posted along with the comment when you press the **Add Comment** button. So remember, comment carefully; your comments are public and you can't edit or delete the later!

You can temporarily hide comments by unselecting **Show Comments** from the **Windows** menu.

## Searching for Items

In addition to navigating through the explorer tree to find items, you can search for items by title (see Figure 7). To do so, click on the Find (magnifying glass) button in the upper right corner of the ChemSense Studio, or select **Find** from the **File** menu.

To search by title, type in a title, and press return or the **Find** button. All titles matching the search string will be returned.

To view an item in the search result list, just double-click it. To edit an item that you own in the list, select the item and choose **Edit** from the search window's **File** menu, or right-click on it and choose **Edit** from the pop-up menu. You must own the item to edit it.

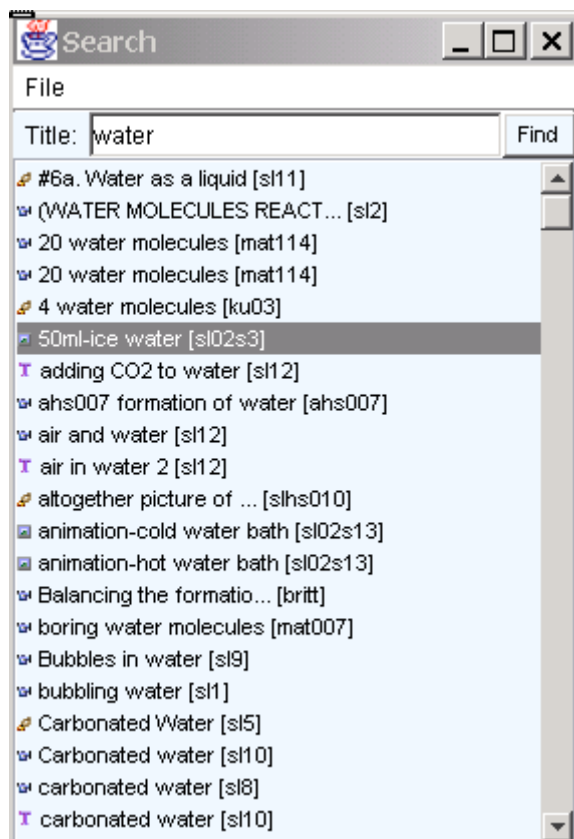


Figure 7. Searching for items by title.

## Periodic Tables

Two Periodic Table tools are available via the small buttons at the upper right of the application, or via the **Windows** menu (see Figure 8). Select either the large or small periodic table, and move your mouse over an element for more information about that element (i.e., full name, atomic number and weight).

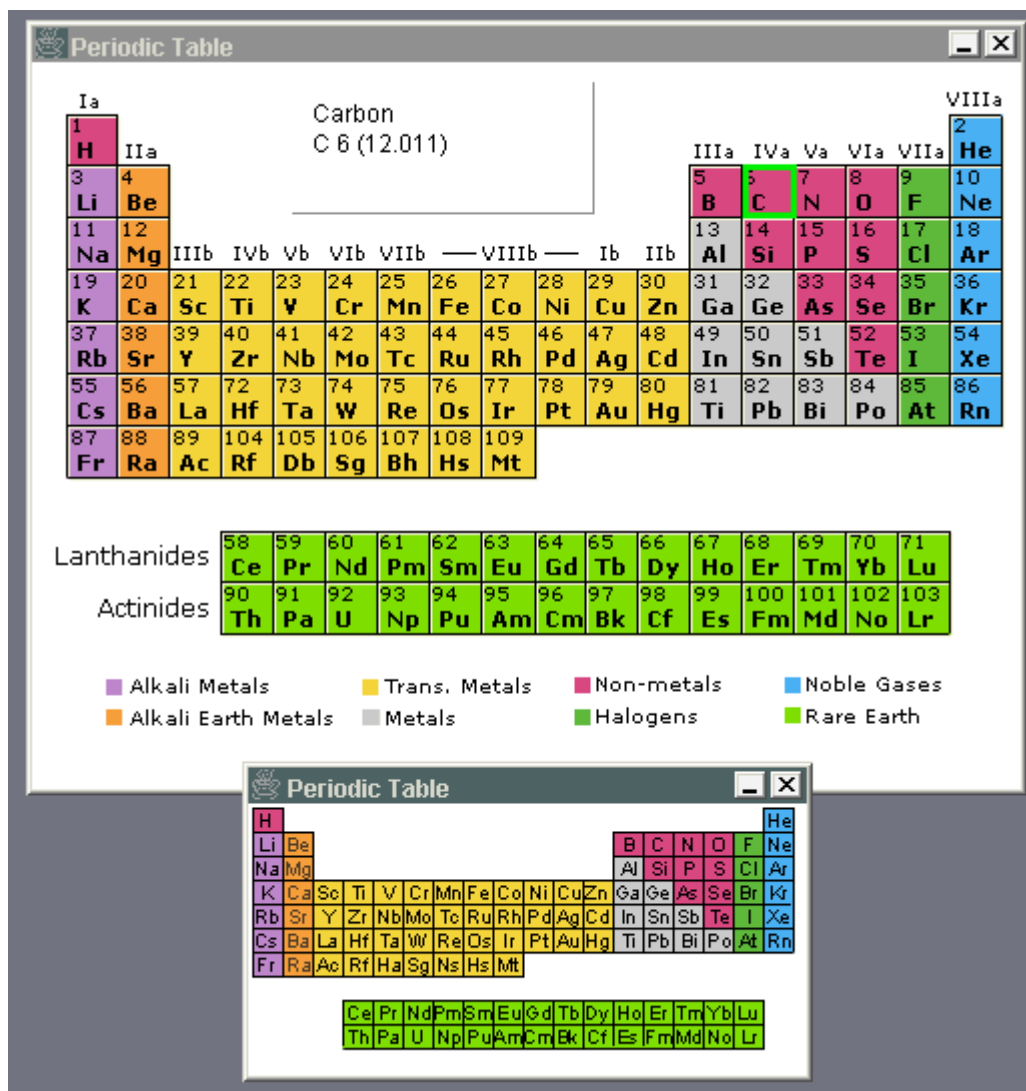


Figure 8. Large and small Periodic Table tools.

## Text Tool

The Text tool is a simple, plain text editor like NotePad on Microsoft Windows (see Figure 5 above). It supports cut, copy and paste, import from local files, and export to local files. Cut, copy and paste work across different applications on your computer, so you can transfer text to and from a ChemSense Studio note and another application (like Word or a web page).

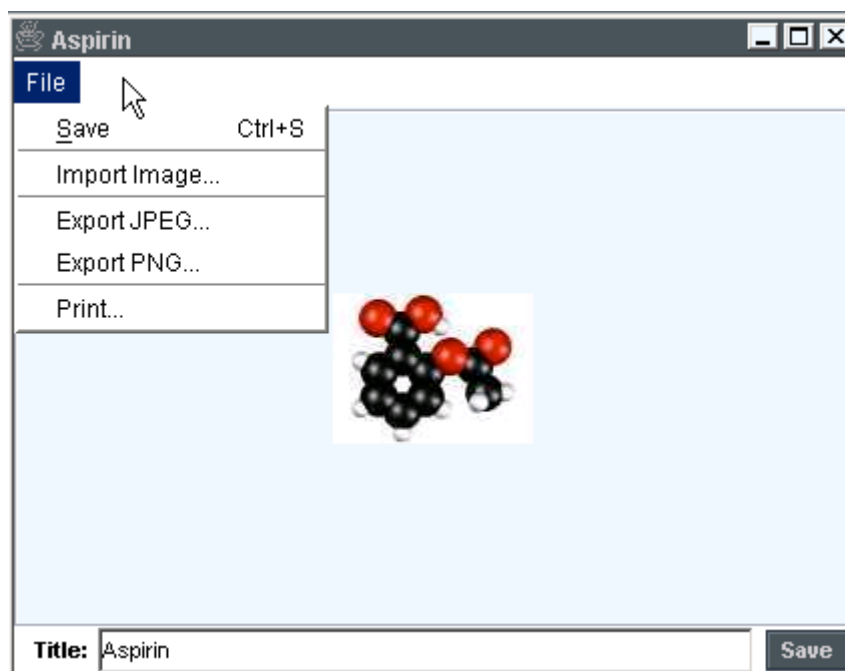
## Image Tool

The image tool lets you import an image from local storage to make it available to others.

To import an image, create a new image item and select **Import Image** from the **File** menu of the image item (see Figure 9). Three standard image formats are supported for import: GIF, JPEG, PNG.

You can export an image to a local file via the export menu items. Two image formats are supported for export: JPEG and PNG. GIF is a proprietary format that requires licensing to generate; PNG is an open format that is replacing the proprietary GIF standard on the Internet.

You can use this tool to import any images you want to share with others, and to export images that you may want to use elsewhere, like in a web presentation.



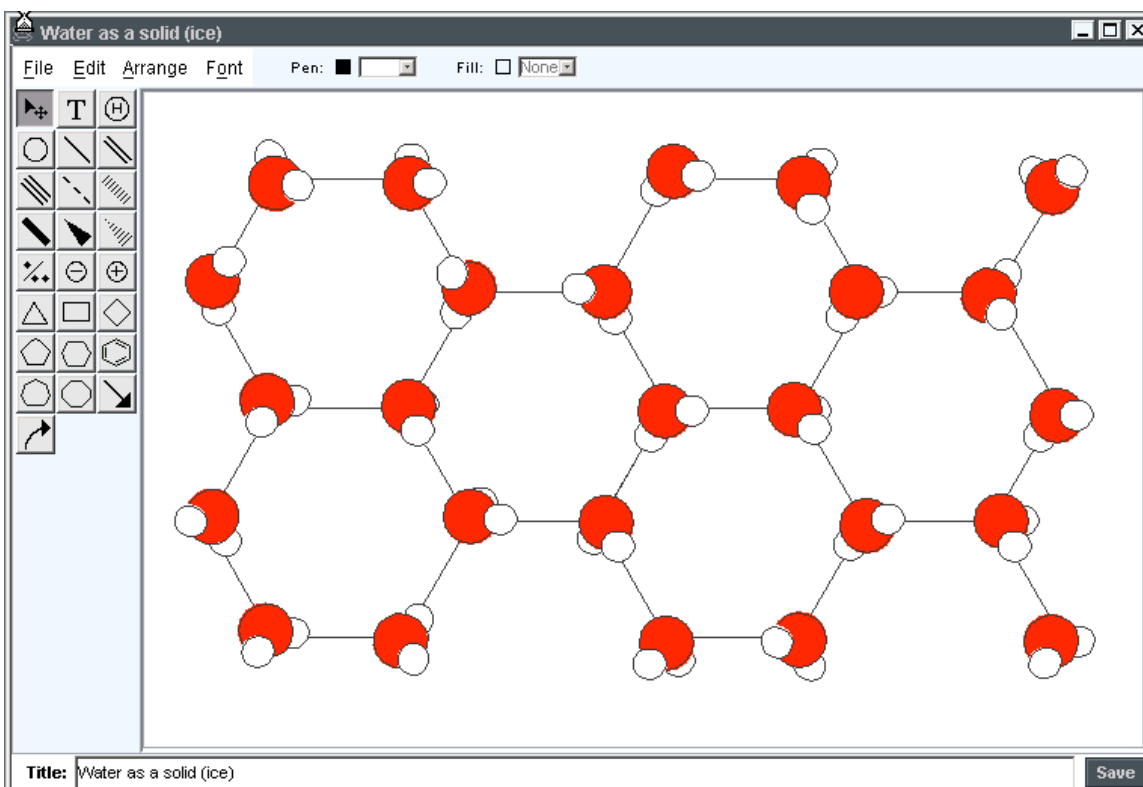
**Figure 9.** Image tool (with comment area hidden).

## Draw Tool

The Draw Tool lets you draw two-dimensional structural representations of chemical phenomena (see Figure 10).


It consists of a toolbar of shapes (left), an canvas drawing area (right), various color tools for the outline and fill color of shapes (top), and a menu with options for duplicating, moving, layering, grouping, and otherwise modifying selected shapes. Multiple levels of undo/redo are also supported.

ChemSense drawings can be exported as a JPEG or PNG image for the Web, or in XML format for local backups. Drawings exported in XML format also can later be imported (from XML format).



**Figure 10.** Drawing tool (with comment area hidden).

To draw a shape, select a tool and click on the white canvas to "stamp" the shape. Some tools, like the bond/line tool and arrow tool, can be dragged before you release the mouse (e.g., to draw a line in the desired direction).

The selection tool  (top left) can be used to select a shape or group of shapes on the canvas. When a shape is selected, a rectangular border is drawn around it to indicate the selection. Once a shape or group of shapes is selected, you can move, rotate, resize, color, relayer, nudge, duplicate, or group them.

To move a shape, click on it and drag it to a new position. To just nudge it a little in one direction, select it and press the arrow keys, or select **Nudge** from the **Arrange** menu.

To bring a shape forward or move it behind another shape, select it and use the move layer options in the **Arrange** menu.

To resize a shape, select the shape, look for a tiny white square that appears in the lower-right corner, and drag this corner to a new position.

To rotate a shape, select the shape, look for a tiny yellow circle that appears in the upper-right corner, and drag this circle to a new position.

To change the outline color of a shape, select the **Pen** button, select the shape, and click on a new color in the color bar. To change the fill color, select **Fill** instead of **Pen**, and repeat these steps.

To duplicate a shape, select it and choose **Duplicate** from the **Edit** menu. Note that many menu item options have keyboard shortcuts, as specified on the menu item.

The Text tool **T** accepts and displays multiple lines of text (press the **Enter** or **Return** key when editing text to begin a new line). It also uses a few simple rules to parse the text that you enter to display any subscripts and superscripts on chemical formulas. For example, if you type:

NH4 + Cl-

in the text edit window and then click on the canvas, the following will be displayed:

NH<sub>4</sub> + Cl<sup>-</sup>

That is, the 4 will be subscripted and the '-' will be superscripted. Note that you must type a space before and after the '+' if you *do not* want it to be interpreted as a superscript. A plus ('+') or minus ('-') immediately following a letter or number (no space) will be automatically superscripted, and a number immediately following a letter (no space) will automatically be subscripted. Anything following a space or equals sign ('=') is always displayed in normal type, neither subscripted nor superscripted.

If you want to force a word to be superscripted, type a '^' character before it; if you want to force it to be subscripted, type a '|' character before it. For example, if you enter:

This should be ^superscripted  
This should be |subscripted

Then when you click on the canvas you will see:

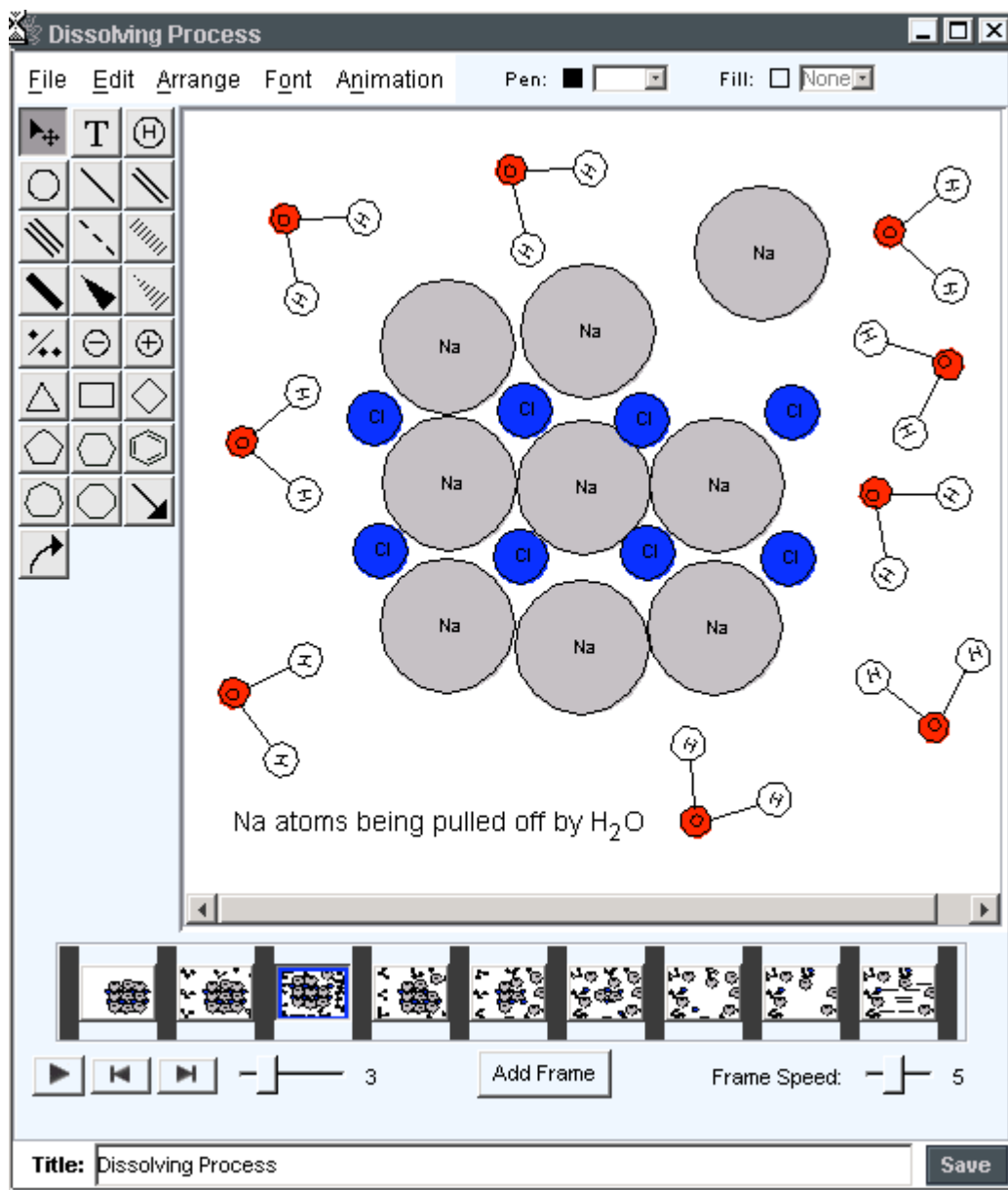
This should be <sup>superscripted</sup>  
This should be <sub>subscripted</sub>

Finally, to edit existing text, just double-click on the text and enter your changes in the dialog that appears. To later change the font size, style, or family, select the text shape and use the **Font** menu to choose new values.

## Animation Tool



The Animation tool lets you create multiple frames of a drawing to create a storyboard animation (see Figure 11). The animation window is divided into two parts:

1. The top part of the Animator window contains a drawing area where you can draw and edit individual frames.
2. The bottom part of the window contains the animator controls. The controls consists of a filmstrip to interact with the frames, sliders and buttons (immediately below the filmstrip) to step through, play, and add frames, and a duration slider to specify the amount of time spent on the selected frame.




**Figure 11.** Animation tool (with comment area hidden).

To create an animation, first make a drawing of the initial frame. To create a second frame, press the **Add Frame** button. This will copy the contents of the current frame into a new frame, which you can then edit to change. Continue in this fashion for each new frame you want to create.

To scroll the film, move the slider just below the film strip, or step forward and backward one frame at a time using step forward  and step backward  buttons. You can mouse over a frame on the film strip to see the frame number.

To edit an existing frame, just click on the frame in the film strip (scroll the film if necessary) and make your edits to that frame.

To delete a frame, select it and choose **Delete Selected Frame** from the **Animation** menu. To delete all frames, choose **Delete All Frames** from the **Animation** menu. To change the duration of a frame, select the frame and adjust the **Frame Speed** bar (far right, below the film strip).

To play an animation, press the play  button on the far left. If you want the animation to loop over and over again when it plays, select **Loop Animation** in the **Animation** menu. You can hide the film strip by unselecting **Show Film Strip** in the **Animation** menu.

To export an animation for use outside of the ChemSense Studio (e.g., in a Web page), select **Export Animation to Animated GIF**<sup>1</sup> or **Export Animation to Quicktime**<sup>2</sup> in the File menu. To play the exported animation, just open it with a web browser or with Quicktime. You can download Quicktime for free on the Apple web site.

The **File** menu also lets you export and import animations as XML. Use this to create local backups of animations you have created (if desired), or to copy an animation to a new document (e.g., export it, create a new animation item in ChemSense, and import the animation that just exported).

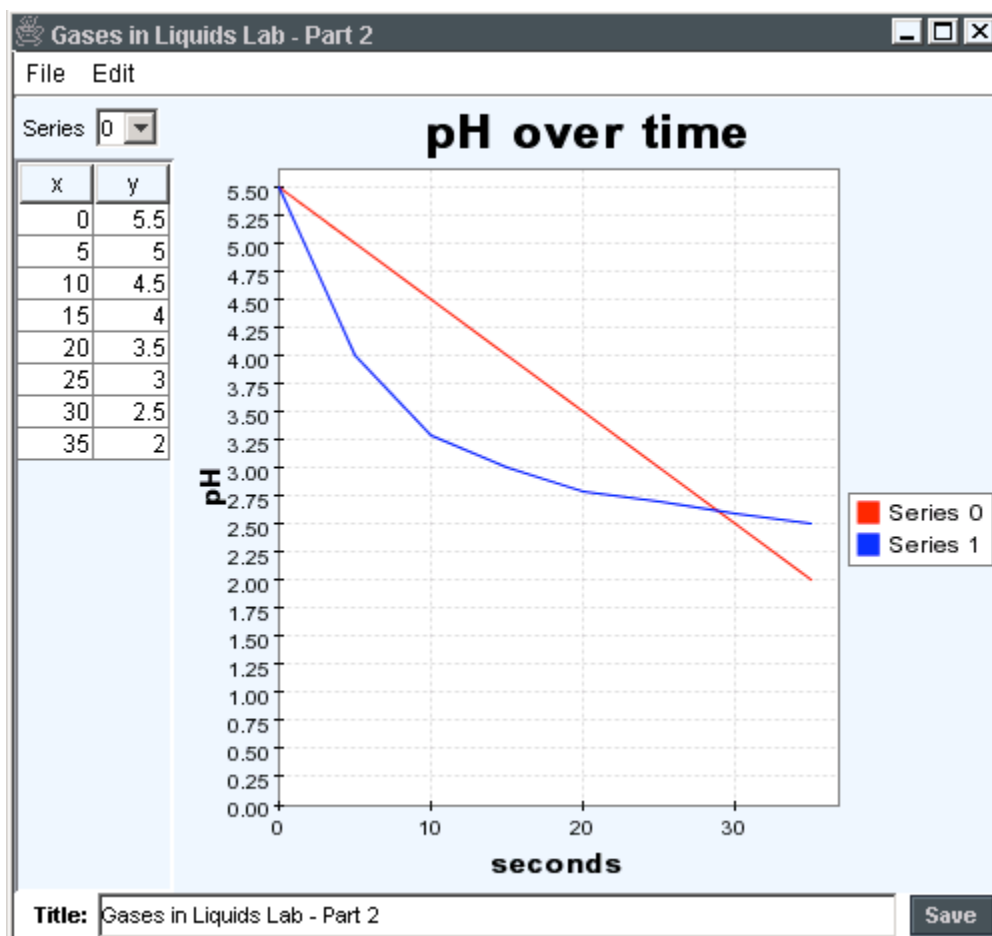
## Graph Tool

The graph tool lets you create and view X-Y plots of data (see Figure 12). The data table (left) contains the X-Y coordinates for a selected series. The graph (center) plots one or more series or "runs" of data as specified in the data table.

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<sup>1</sup> On Mac OS X, there appears to be an incompatibility in the current Java implementation (1.4.2) when producing an animated GIF, so Mac OS X users should use Quicktime export for the time being.

<sup>2</sup> On Microsoft Windows, you must first do a custom install of Quicktime be able to export animations to Quicktime. This custom installation is described in the README file that comes along with the installation. In brief, you have to install Java (if it's not already installed), download and launch the Quicktime installer, choose Custom for Installation type, and check Quicktime Essentials (1st item, should be selected by default), Quicktime Internet Extras (2nd item), and QuickTime for Java (2nd to last item; scroll down to it). If you are using Mac OS X, you don't need to do a custom installation; Quicktime and Java are already installed on Mac OS X, and will just work.



**Figure 12.** Graph tool (with comment area hidden).

To edit a cell value, click on the cell to select it. You should see a faint yellow box outlining the cell. When a cell is selected, you can edit it directly by pressing the backspace key to delete what is there and typing in a new number. The Tab key can also be used to move to (select) the next cell. Use Shift+Tab to move to the previous cell. The up and down arrow keys will also move you between cells in a column. Whenever a cell is selected in one of these ways, you can edit it by pressing the backspace key and retyping the number that is there.

To add a new row to the bottom of the current series, select **Add New Row** from the **Edit** menu. The new row added at the bottom will contain default data values that you can select and edit.

To insert a new row in the middle, select a row (click your cursor in a cell in the row) that you want to insert above, and select **Insert New Row** from the **Edit** menu. To delete a row, select a row and then select **Delete Selected Row**.

To add an entire new series of data, select **Add New Series** from the **Edit** menu. A new series will be added to the table, and selected by default. To move between series, use the **Series** popup menu above the table. To delete the current selected series, select **Delete Selected Series** from the **Edit** menu.

To edit the labels on the X and Y axes and the title shown above the graph, select **Graph Labels...** from the **Edit** menu and enter new values.

To export an image of your graph, select **Export JPEG** or **Export PNG** from the **File** menu. You can also export and import graph XML descriptions as well as tab-delimited data via the **File** menu.