

Documenting an Experiment with an Electronic Lab Notebook

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Most scientists working in corporations have made the transition from documenting experiments with a paper lab notebook to using an electronic lab notebook (ELN or e-notebook). As costs come down and simple online ELNs become available, scientists working in universities, research hospitals, and government organizations are beginning to follow the lead of their commercial counterparts.

This document sets out some of the reasons why scientists are moving from paper lab notebooks to ELNs, and takes you through the basics of using eCAT, an online ELN available through Science Buddies, to students taking part in advanced competitions.

Why use an ELN?

- **READY-MADE EXPERIMENT TEMPLATE** eCAT comes with a ready-made experiment template so you don't have to create your own.
- **SINGLE, INTEGRATED ENVIRONMENT** Because eCAT allows you to upload and link to files, you can keep all the information relating to your experiment (e.g. Word documents, spreadsheets, PDFs, and images) in a single, integrated environment.
- **CONVENIENT SHARING** With an online ELN like eCAT, it's easy to share your experiment record with others who need to see it, such as mentors.
- **POWERFUL SEARCH CAPABILITY** Using the search capability, it is easy to locate data, information, and attached files when you don't remember exactly where they are.
- **AVOID DUPLICATED EFFORT** Your experiment data will already be in electronic form, and the experiment record can be turned into a PDF, so when you're done, you won't need to rewrite and re-present what was in the paper lab notebook.
- **HELPS YOU GET ORGANIZED** eCAT won't get lost! In addition, entries are always legible to you and to others, like mentors, who need to see the record of your experiment.

Using eCAT

Login

You will be given a username and a password that allow you to access eCAT from any web browser. Whether you have a mentor now, or plan to find one later, your mentor will be given his or her own login details, so that he or she can view and comment on your experiment record.

Getting started

When you first log in, you will see your home page. To get started, click on “My Experiments” under the menu on the left of the screen. You will see that you already have two experiments! The first is called *Sample Experiment*, and it shows you a completed experiment that has been documented in eCAT. The Sample Experiment should give you some ideas about how to document your experiment in eCAT. The second is called *Science Buddies Experiment*. This is where you can document the experiment you are doing for your competition (you can change the experiment name later if you’d like).

Experiment template

You will see that the experiment record has seven fields:


- Method
- Objective
- Procedure
- Results
- Discussion
- Conclusion
- Comments

Editing the experiment

Click on the *Science Buddies Experiment*. You will see it displayed and see that it is empty. Click the “Edit” link to start editing. Select the field you want to edit, and click the link that says “Click here to edit this text”. Once you are done editing, click “Save” and you will see that your experiment record shows what you entered.

Uploading


When you are editing a record, if you want to attach a file (image, text document, etc.), then use the “Upload” tab on the right of the screen, shown here. You need to select the attachment store to which you want to upload, and then “Browse” to the file you want to upload. Once you've selected it, click “Upload” and wait for the upload to complete.

Attachments 

Browse a resource store and click on an attachment to link to it in the active text or attachment editor

Store **Upload**

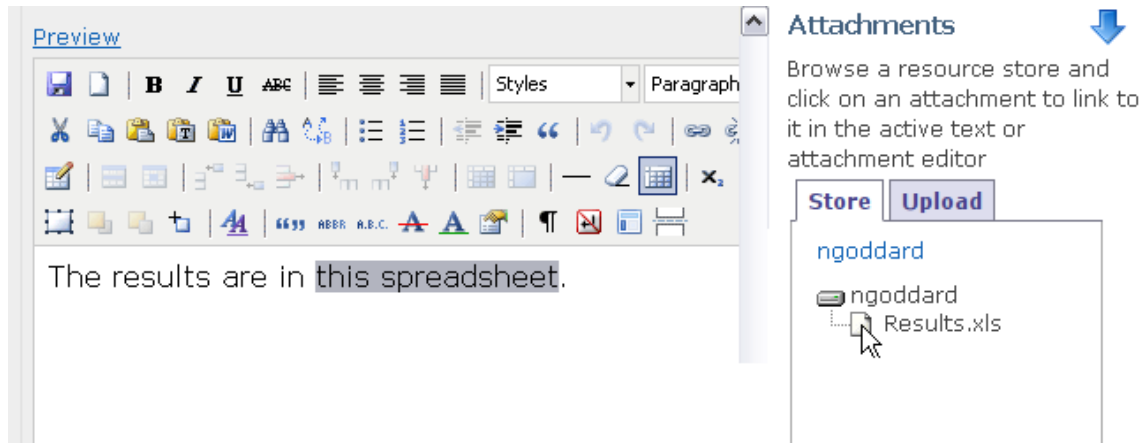
Please select an e-CAT store you'd like the file to be uploaded to:
 Unzip file after upload

e-CAT Stores
ngoddard 
secondary_store

File Upload:
ctop/results.xls

Linking

Once you've uploaded your attachments, you can link them to fields in your experiment record. To do this while you are editing a field, select the text that you want linked. Then (on the right), click on the attachment “Store” to which you uploaded. Then click on the name of the file to which you want to link and a link will be created in the text you selected, as shown below.



Search

To search, use the “Search” menu item. You can enter simple Google-like searches, or use a more complicated syntax, which you can learn about if you let your mouse hover over the “search string” link on the search page. The search function presents you with a list of records that match your search terms, so if you have just the one experiment, then it will tell you if your experiment includes those terms.

Commenting on your Experiment

You may want your mentor to comment on your experiment as you progress. At your request, we will give him or her the ability to log in and make comments on your experiment. You just need to let us know the name of your mentor and his or her email address. We will explain to him or her how to log in, as well as how to make comments in the “Comments” field.

Printing and PDFs

When you are finished with your experiment, and want to print it, simply click the “Print” link. This will display your experiment in your browser in a form that is suitable for printing. Click “File” and then select “Print.” If your computer is set up to print to PDF, as well as to real printers, then you can save your experiment as a PDF this way as well.

Help

You may have questions about using eCAT as you proceed with documenting your experiment. Your first port of call should be the “Help” pages, which you can access by clicking on “Help” under the menu on the left of the page. If you can’t find an answer to your question there, please make a post setting out your question to the “Support Forum,” which can be accessed by clicking on “Forums” under the menu on the left.

Other things you can do in eCAT

You can do lots of other things with eCAT, in addition to documenting the experiment you are doing for your competition. For example, you can set up other experiments, create other kinds of records, and use eCAT to manage your data. Now that you have your own eCAT account, you are free to make full use of eCAT, above and beyond the competition you have entered! To get an idea of the full range of things you can do with eCAT, we recommend that you look at the introductory video, *Create, Edit, Manage and Share*, which is available at www.axiope.com, and that you read the three ‘Basic Topic’ help sections: *How do I get started?*, *What are projects and experiments?*, and *How do I work with my files?*

An ELN is still a lab notebook!

Using eCAT will allow you to do some useful things that were not possible with paper lab notebooks, but to get the best record of your experiment, you will need to follow the same kind of disciplined best practice you would with a paper lab notebook. To learn more about lab notebooks, visit the following Science Buddies pages: [Laboratory Notebook](#) and [How to Be Successful at a Top Science Competition](#).

Communicating about eCAT

Axiope is the company administering eCAT for Science Buddies. You may need to communicate with us about eCAT. For example, you might have a question about how to use a particular function in eCAT. For general usage questions, such as this, please make a post to the Support Forum (you can access the forum by clicking on Forums under the menu on the left of the screen). For questions regarding your account, such as to request that we give your mentor access to your experiment, please send an email to scibud@axiope.com.

Signing up for eCAT

To get your eCAT account, just sign up at http://www.axiope.com/electronic-lab-notebook/form_try_scibud.php.