

BIOLOGY POSTER PROJECT

This is your opportunity to investigate an aspect of Biology that particularly interests you. You are to select one biological concept, topic, or problem that relates to what we have studied, or will be studying, in this course and prepare an educational poster presentation on that concept, topic, or problem. Your topic should take the form of a scientific question that you hope to answer through library, laboratory, or field research. The poster should be designed for an audience of college students. This assignment is worth 45 points and will be graded as follows:

	Pts
APPROPRIATENESS OF CONCEPT SELECTED does it relate to the course, is it a novel concept, will it contribute to the overall knowledge of your classmates	7
SCIENTIFIC BASIS OF POSTER do you approach your question in a scientific manner (e.g. form hypothesis, substantiate with data, draw valid conclusions)	7
POSTER CONTENT did you present quality information, is it well written, do your visuals go with your text, etc	10
QUALITY OF RESEARCH did you consult reputable sources, are you including an extensive bibliography, did you ask researchable questions	10
POSTER DESIGN is the poster visually appealing, were you creative, is it professionally assembled	5
EDUCATIONAL VALUE OF POSTER will your classmates learn from the poster, will your instructor learn from the poster	6
CREATIVITY will we think "cool" when we look at your poster, the creativity may be in the art, the topic, the research, or the presentation	5

All topics must be cleared with your instructor before you begin researching the topic. If you need assistance selecting a topic, see your instructor well in advance of the due date.

Your poster should be mounted on 40" x 32", quality poster board (also called mat board). You are encouraged to utilize photos, graphs, diagrams, and tables to convey your concept.

This is in essence a visual term paper. As with any research, you are expected to use citations within the text and provide a bibliography. The bibliography can be on a separate piece of paper attached to the back of your poster. The rest of this document is intended as a guide, not a set of rules.

How to Make a Great Poster

by Dina F. Mandoli, University of Washington, Department of Botany, Box 355325, Seattle, Washington 98195-5325

Making a great poster can be fun and is certainly a challenge! Here are some ideas about how to get the most attention for your efforts.

I. A Great Poster Is...

readable,

Readability is a measure of how easily the ideas flow from one item to the next. Text that has lots of grammatical problems, complex or passive sentence structure, and misspellings is "hard to read".

legible,

If a text is legible, it can be deciphered. For example, an old book may not be legible if the paper has corroded or the lettering has faded. A common error in poster presentations is use of fonts that are too small to be read from 6-10 feet away, a typical distance for reading a poster.

well organized,

Spatial organization makes the difference between reaching 95% rather than just 5% of your audience: time spent hunting for the next idea or piece of data is time taken away from thinking about the science.

and succinct.

Studies show that you have only 11 seconds to grab and retain your audience's attention so make the punchline prominent and brief. Most of your audience is going to absorb only the punchline. Those who are directly involved in related research will seek you out anyway and chat with you at length so you can afford to leave out all the details and tell those who are really interested the "nitty gritty" later.

II Two Ways to Make a Poster Are to

have someone else do it, or

A professional illustrator will ask you about all the items in this presentation! Although they will execute the work, you are the final arbiter of the quality and content of the poster.

make your own. (cheaper and keep control entirely in your own hands)

Designing the poster elements. Most posters are most quickly made using some kind of computer software. A word processing program plus a few graphics packages (e.g. CricketGraph, MacDraw Pro, Aldus Freehand, Adobe Photoshop for IBM or MacIntosh) are important tools. If you have not tried computer graphics or are just starting out, find someone whose poster you like and ask them what they use and if they like it.

Printing the poster elements.

There are many ways to make the elements or parts of your poster.

Computerized word or graphic images printed on paper.

Laser prints made directly from color slides are inexpensive, easy to mount poster elements. A printer used for printing manuscripts for submission is essential (dot matrix is just not legible).

Canon color copiers print color laser prints either from a printed image or directly from a slide for less than \$2.00 each (try Kinko's or other commercial copy center).

There are also prints with high resolution and a waxy finish made via a process called "dye sublimation." This process gives great color but tends to blur edges of the images because of the way the dye is layered.

Hand drafting can be scanned into a computer and "prettied up" in a graphics program such as Aldus Freehand.

Photographs can be touched up with Adobe Photoshop. State exactly what modifications have been made to the images - it is very easy to alter your data and you must be able to defend any and all of your changes.

III. To Begin:

decide what the main message is,

Keep it short and sweet and make this your title! Use the active voice (i.e., avoid "ing" on the ends of verbs) and avoid the verb "to be" whenever possible.

measure the space you have,

Lay out the space physically as well as on paper to double check yourself. If you can, make the poster flexible enough to change the size by adding or omitting elements. This flexibility is handy if you are going to more than one meeting, if the poster boards are not exactly the size advertised, if the meetings have different in size requirements for posters, or if you wish to update your data between meetings.

lay out your elements crudely,

Before you actually spend time making the final elements of the poster, take pieces of paper that are about the right size and see if you can actually make it all fit. This will save you a lot of time in the long run.

ELIMINATE all extraneous material,

Given that the average poster gazer spends less than 10 minutes on your work and you have 11 seconds to trap your subject before they move on, only show data that adds to your central message. You do need a Title, Authors, Introduction, Results, and Conclusions. Some meetings require you to include the abstract also. Usually, omitting Materials & Methods is fine: most people will not read them anyway. If you

wish, have a methods handout for those who ask for it. Although sometimes the method is essential to understand the data or the validity of the conclusions, most of the time, a short version here will do as well.

begin to make individual components of the poster!

IV Poster Layout

How to arrange poster elements and text within each panel.

People approach new information in a known spatial sequence: we track vertically from center to top to bottom, and horizontally from left to right. This means that you should put the most important message in the center top position followed by the top left, top right, bottom left, and finish in the bottom right corner. That's why the poster title should be your punch line because, in that position, the title and your name will be seen in the first 11 seconds that a person looks at the poster.

The overall format of a good poster is dictated by the way we assimilate information. For example, you would never put your first panel on the right and ask your reader to proceed to the left because we are not trained to read that way. Newspaper format, two vertical columns that are arranged so that you read the left one first and then the right one, is highly "readable" since the reader does not spend time figuring out which panel to read next. A left to right horizontal rows arrangement works too but is not as common. You can easily walk around any meeting and find lots of variation.

Space is important in a poster: without it, your reader has no visual pauses to think. Books leave space on the margins and by having chapters. Posters that are crammed with information are tiring to read and are seldom read in their entirety. Omit all extraneous text or visual distractions, including borders between related data and text, so the reader can assimilate your ideas easily.

Size of poster elements or the fonts in each element can serve to emphasize the main points. For example, making your subheadings in all capitals and two font sizes larger than the rest of the text on the same panel will draw the reader's eye first, and so be emphasized. The use of multiple fonts in a poster can distract from the science.

You will lend the most power to your words if you spatially arrange the text in each panel of your poster following the same principles used for the poster layout as a whole. A common street sign reads "go children slow". Because the word "children" is in capitals larger than the other words and is in the center of the image, you read "Children, go slow" even though that is not the actual spatial arrangement of the words in the sign. This sign is powerful, succinct, and highly readable.

Practical matters.

It takes time to make a great poster. Allow 2 to 3 days to assemble all the bits and pieces, such as photos or laser copies, and then 1.5 to 2 days to cut all the boards and assemble the poster physically. That last bit of data you rush around to get at the last moment will go completely unnoticed if your poster is messy and disorganized i.e. illegible and unreadable.

It costs from \$50 to \$150 to make a poster depending on how you have it printed. Assembling your own poster on mounting boards is cheapest and one piece, color dye emulsion prints that you can roll up to transport are the most expensive. If you

have poster made for you it can cost from \$300 to \$3,000 (average of \$550.00 at the University of Washington) depending on how much of it you do yourself.

Portability is worth considering. The poster should fit into carry-on luggage so that even if your suitcase is lost, you can still present your work. If all your poster panels can stack and be packaged together, so much the better.

A great poster is easy to assemble on site and can be flexible in assembly in case the poster space is smaller than advertised. If you cannot mount the poster by yourself or the poster is awkward for one person to mount on the materials provided, be sure you arrange for someone to help you. Often the person next to you will be glad to exchange labor. A map of how the poster should look when it is done is handy when you need to work quickly, are distracted or nervous.

We recycle our poster boards by peeling off the old data and text and glueing on new material. Of course this means that you stick to the same style but it also saves time, money and trees.

Posters can be made in many styles. Roll-up single piece prints, individual boards, hinged boards that fold together all have their pluses. The style you chose is a matter of cost and personal taste.

VI. Font Choice:

sizes,

Font sizes need to be big to be effective. A good rule is to stand back from your own poster: if you, who are familiar with the material, cannot easily read it from 6 feet away, your audience will certainly not be able to.

highlighting with text format,

Indents set text apart and are great for short lists.

Justification of text in the center of a line will draw attention.

basic font choice and highlighting with font variations,

Choose a basic font whose “e’s” and “a’s” stay open at all sizes and that is supported by your printer. Bookman, Helvetica, and Geneva are examples of good choices. If your font is not supported by the printer, you will get ragged edges on all your letters.

Highlighting a few parts of the text is done easily with:

/ capitals as in the “go CHILDREN slow” or the “Stop,...” street signs, / Zapf dingbats instead of numbers for simple lists of things, / wrapped letters that arc around an image, / switch styles (bold, italics, shadow, etc.).

V. Color

ways to add color,

Mounting boards are a fast way to add a color border to poster elements. Choosing a color that does not compete with your data is wise.

LaserFoil is a new product that allows you to make your printed words from a laser printer come out in color. Available in mat, glossy, and “prism” finishes, LaserFoil can add pizzaz to a poster.

Colored yarn can be effective in visually linking poster elements.

Colored graphic tape or dots, and white arrows (Chartpak, Lettraset) can be quickly applied to poster elements to draw attention to the elements you wish to.

contrast,

Proper contrast will reduce eye strain and make the poster more legible and interesting visually. Again, be careful that the color does not outclass the visual impact of your data: too much contrast is hard on the eyes and can distract the reader from your data.

Adding light color backgrounds to your figures can make the poster attractive. For example, using white lettering and lines on a blue background can make your poster eye-catching. Like a painting, poster elements can also be double matted to add interesting contrast.

fidelity of reproduction,

Images do not stay the same between one medium and the next and this is especially true for color quality. Although it is efficient to use computer-generated color slides as poster elements, you lose some fidelity in doing so. For example, the edges of letters will blur slightly in going from a slide to a printed image or vice versa. Also, the colors you see on your monitor are usually not what comes out on the slide or on the final, printed poster element. You can “adjust” your monitor and check professional color books that show what the slide film recorders will print. However, it will not be an exact match from screen to print no matter what you do. Automatic film recorders used to print computer images also vary from model to model and from run to run just like photographic printing machines do. To keep the color “true”, request custom printing. A good rule of thumb is to switch media as few times as possible.

VI. Final Check Before You Assemble the Poster

Have some people look over your poster before you put it all together. If they are confused, it is far better to fix it now than to lose people at the meeting. Pay particular attention to things that may not be necessary: eliminate everything that you can!

VII. POSTER ASSEMBLY

It is trivial to assemble a poster once you have decided on and made all the individual elements. Be sure to give yourself enough time to assemble the poster. Keeping your hands and the work surfaces clean helps to produce a great looking poster.

List of materials and tools needed.

individual poster elements (8” X 10”) (print 2 of each in case of goofs in gluing), mounting board (I use 10” X 12”), colored paper panels about 1/4” larger than your poster elements that will be double borders around the data, adhesive, e.g. 3M Sprayment sharp Exacto knife or razor blade, sharp paper cutter, ruler, soft pencil and eraser, T-square (optional but very handy) large surface covered with paper or newsprint to work on, clean paper and some tape to wrap the poster in for travel.

I like to take a map of the final layout with me so that I don't make a mistake in putting the poster up. Some people number the backs of their poster elements. I always take my own tacks: I prefer the stainless steel 1/2" ones so I know the poster will stay up for the whole meeting and that I can actually get them into the poster board.

Good luck and have fun making your poster and showing it. Displaying your finished work is a big accomplishment so take time to enjoy it and your interactions at the meeting. Remember that enthusiasm is contagious. Be on time and enthusiastic about showing your poster to colleagues at the assigned times during the meeting - it a fine chance to advertise yourself and your work!

For further information about education issues, you can reach Brian Hys by email at Brian Hys, bhyps@aspp.org, Public Affairs Director.

| Education | | [ASPP Home Page](#) | Last updated: 12 / 18 / 96