



Water and
Environment Centre

Sana'a University
Republic of Yemen

Basic Skills Development

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Annexes

Basic Skills Development: Overview of the course

When conducting research, academic or non academic, there are some skills one need to have. One cannot just start conducting research without raising fundamental questions like: What do I want to know? Why do I want to know this? How am I going to get to know the thing I want to know? How am I going to present my findings? Etc...

This reader is an attempt to give you an introduction to the most basic skills. By no means will this be a complete record on skills needed. For sure there will also be an overlap with what you know already; in that case it will be an always welcome repetition. The Basic Skills course contains 10 lectures, distributed over 5 modules. For each lecture you will need to prepare by reading the literature. During the lectures some of the contents of the literature will be dealt with, and following in each lecture some assignments will need to be done, either individually or in groups.

This reader will first provide you an overview of the different modules and their exercises, followed by the 12 chapters with the literature. Please bear in mind that this collection of writings is far from complete, and is not an attempt to show you the way thing should be done, it is just an attempt to show you a way how things could be done, always keep asking the question: why?

Module 1: Overview, Introduction and Working in teams

[1 lecture]

Content:

- Overview of the contents of the course / planning
- Why this course?
- S.M.A.R.T. objectives
- Working in teams

Reading:

- Chapter 1: the SMART tool
- Chapter 2: Working in teams
- Chapter 3: the LogFRAME (optional, supportive)

Assignment 1: formulate a personal objective (What do you want to learn in this course?) for the next two weeks and have a group discussion on the formulation by using the S.M.A.R.T. acronym.

Assignment 2: make a list of the different group roles and write down for each role what *knowledge* and what *skills* one needs to have for this role.

Following, make groups and discuss for each role the knowledge and skills everyone of the group had in mind for the roles (for example: does the team leader need to have mainly knowledge on the content or on the functioning of group processes?). Discuss the differences that you come across.

Module 2: Data collection: Literature; questionnaire and active listening

[3 lectures]

Lecture 1: Searching (+ library visit)

Content:

- The difference between an encyclopedia, Wikipedia, web sources, journals and books
- Literature searching in library & online, special attention to the available glossary's

Reading:

- Chapter 4: Searching (for scientific literature)

Assignment 3:

Look for annual rainfall data of a country of your own choice. See if you can find out what the amount of rainfall in this particular country is. Search for multiple data from different sources, both academic and non-academic. Compare the data acquired from the different sources and following compare it to data collected by other students on other countries. What are the differences, similarities between the data from different countries?

Lecture 2: Reading

Content:

- Types of literature, what is a 'good' source? What makes a text scientific?
- How to read scientific literature?

Reading:

- Chapter 5: Different types of scientific literature
- Chapter 6: How to read a scientific article?

Assignment 4: comparing two texts

Take a look (reading quickly) at the two text included in this reader (Annexes 1 and 2). What are the goals? (why is it written/published?), what is the target group? (for whom is it written/published?) and how does this show? (how is the material adapted to the public in terms of layout and language?)

Lecture 3: Making a questionnaire and active listening

Content:

- How to gather data: Interview, listening and a questionnaire

Reading:

- Chapter 7: Active listening
- Chapter 8: making a questionnaire
- Chapter 9: how to conduct an interview

Assignment 5: conducting an interview, active listening and providing feedback

Form groups of three or four. Person one interviews person two about his/her professional past (education, jobs etc.). After 10 or 15 minutes person three (and four) will provide person one with feedback on how he/she *paid attention, showed to be listening, and responded* (See chapter 7). After this swap roles until all have been interviewed.

Assignment 6: setting up a questionnaire

If you were to set up a questionnaire in Sana, to find out more about the people's water consumption, how would you go about it? Describe what data you want to know and formulate 10 sample questions for a questionnaire.

Module 3: Data analysis: excel and gathered data

[2 lectures]

Lecture 1:

Content:

- Getting to know and practicing the basics of Excel

Reading:

- Chapter 10: Excel: the Basics

Assignment 7: Take the excel sheet (provided digitally) and practice the different possibilities of Excel. You can do this by manipulating the data and let excel provide you the averages (of the pH) and explore by trying the other formula functions.

Lecture 2:

Content:

- Using excel with your questionnaire

Reading:

- Chapter 10: Excel: the Basics

Assignment 8: Conduct the questionnaire as you prepared this for assignment 6 with all the other students. Enter the results in an excel sheet and following analyze the result making use of the possibilities you practiced in last session.

Module 4: Reporting and writing

[2 lectures]

Lecture 1:

Content:

- Writing a report, what is it? And, why to do it?
- How to write a report? Basic structure of a report

Reading:

- Chapter 11: Report Writing

Assignment 9: make a writing plan for a report, making use of texts of Annex 1 and 2 and at least one more new source.

Lecture 2:

Content:

- Introduction to ethical concerns, introduce paraphrasing, fabrication, falsification and plagiarism. How to make references

Reading:

- Chapter 12: Plagiarism, referring, citing and falsification

Assignment 10: Write the report for which you made a writing plan in the last session, make sure that it is brief (up to 2 pages) and make sure that you make the citations in the 'right' way!

Module 5: Presenting

[2 lectures, last used for presenting the overall assignment]

Lecture 1:

Content:

- How to give an oral presentation?

Reading:

- Chapter 13: Presenting

Assignment 11: Prepare a presentation on the basis of the paper that you wrote for the previous lecture and explain in the presentation how this contributed to you overall objective formulated in the first lecture.

Lecture 2:

Assignment: give the presentation to your colleagues and give each other feedback on the presentations.

Evaluation of the course

1)The S.M.A.R.T-tool

This chapter provides two supporting tools for working in, and working on project. First the S.M.A.R.T. principle is explained, which can be used for the formulations of effective goals questions and objectives. Secondly the LogFRAME will be introduced, which can help you in a group process.

SMART Goals

At the start of any project it is wise to formulate a main goal, and sub-goals. A useful tool for this goal formulation is the SMART tool. This acronym can be used to formulate goals in a SMART way - specific, measurable, agreed upon, realistic and time-based. You can use the SMART tool also during the project, to re-formulate goals, objectives and questions

The acronym SMART has a number of slightly different variations, which can be used to provide a more comprehensive definition for goal setting:

S - specific, significant, stretching

M - measurable, meaningful, motivational

A - agreed upon, attainable, achievable, acceptable, action-oriented

R - realistic, relevant, reasonable, rewarding, results-oriented

T - time-based, timely, tangible, trackable

When you next run a project take a moment to consider whether your goals are SMART goals.

Specific: Well defined, clear to anyone that has a basic background knowledge

Measurable: Is the goal/question obtainable, can we 'measure' the completion?

Agreed Upon: Do all group members and other parties (for example your supervisors) agree on the formulated goal?

Realistic: Can you achieve the goal within the availability of resources, knowledge and time

Time Based: Do you have enough time to achieve the goal?

2) Working in teams

Differentiation of roles within a team leads to better team organization and productivity. As team size increases, the need to differentiate between the roles of individuals increases. With time, the roles that team members naturally prefer tend to emerge. However, early in the team development process, team productivity may be promoted through the assigning and rotating of team roles. The characteristic behavior of a team member, i.e., their role, in the context of the team, defines the way other team members expect them to contribute to- and advance the objectives and goals of the team. All team members are responsible for behaving in such a way as to further the objectives of the team. All are responsible for completion of a quality product, inclusion of all team members in the process, capitalizing on the strengths of all individuals and promoting an environment where all team members acquire new skills and knowledge. Each team should define the roles that will best promote their team productivity. Example roles include a team leader, a recorder/scribe, a facilitator and a liaison. Each role type is described below.

Weekly rotation of team roles allows all members to learn new skills and to appreciate the challenges inherent in each role. Some roles will be more comfortable than others. Reflection by the team members on their experiences in the various roles strengthens team understanding and communication.

Team Leader

A team leader exerts the greatest influence on the team and is responsible for the overall project scheduling and deliverables. Effective leaders must change as the needs of the team evolve. Additionally, leaders understand that their role involves both task roles (managing tasks) and responsibilities associated with nurturing the emotional or people component of the team (leading people). It is beneficial for a team to designate a different "leader" for each meeting and rotate the leadership on a weekly basis.

Team leader responsibilities include, but are not limited to:

- preparing of the meeting agenda, to be published and distributed at least a day in advance;
- sending a reminder of the meeting time and place to all team members;
- ensuring that the meeting remains focused on the agenda;
- encouraging participation by all team members;
- establishing an environment that fosters creativity where team members are respected, take risks and feel safe expressing their ideas;
- furthering the overall goals and objectives of the team.

Recorder/Scribe

A recorder/scribe captures the team's discussions in writing and documents decisions made and action items assigned. S/he communicates team decisions consistently and in a timely fashion. A team should designate a "recorder" for each meeting, and his/her responsibilities include electronically publishing and distributing the conclusions reached and action items assigned within 24 hours of the meeting.

Facilitator

A facilitator is responsible for ensuring that all team members' opinions are expressed and evaluated. Also, the facilitator keeps time during team meetings and assumes the

lead responsibility for furthering team cohesion and camaraderie. As with the team leader and recorder/scribe roles, the team designates a "facilitator" for each meeting. In addition to the above duties, the facilitator is responsible for moving the meeting along according to the established schedule.

Liaison

A liaison communicates with organizations outside of the team. S/he takes a lead role in establishing contact, following up on commitments, obtaining information, etc.

Example of a meeting agenda

Meeting:

Chairman:

Recorder:

Date/Time:

AV:

Location:

Distribution:

#	Start Time	Duration	Description	Desired Result	Person Responsible
1	8:00a	0:00	Welcome and opening		Team leader
2	8:00a	0:05	Review and approval of agenda	Revise & Adopt	
3	8:05a	0:05	Approval of previous meeting minutes	Vote	
4					
5					
6					
7					
8					
9			Next meeting		
10			Close meeting		

[Based on chapter 6 of guide available at <http://itll.colorado.edu/GEEN1400/>]

3) The LogFRAME

(Supportive additional background reading)

The logical framework or logframe is an analytical tool used to plan, monitor, and evaluate projects. It derives its name from the logical linkages set out by the planner(s) to connect a project's means with its ends. The logframe is only one monitoring and evaluation tool and its use does not pre-empt the use of other evaluation tools such as priority-setting or rate-of-return analysis.

The logframe was originally developed by the United States Department of Defense, and adopted by the United States Agency for International Development in the late 1960s. Since then, it has been applied and modified by many bilateral donors, including Germany, the United Kingdom, the European Union, Canada, and Australia.

[Source: "Engendering the Logical Framework – Helen Hambly Odame, Research Officer, ISNAR, August 2001 see: <http://www.isnar.cgiar.org/gender/hambly.htm> - International Service for Agricultural Research]

Logical Framework (LogFRAME) has the power to communicate a project's objectives clearly and simply on a single page. Its power comes from the ability to incorporate the full range of views of all stakeholders of a project. LogFRAME is a tool for summarising the key features of a project design at the time of project identification (**what is it?**) during definition (**what should we do?**) and appraisal (**should we do it?**). It is an up-front planner which provides the Project Team with essential planning information for the development of project plans.

LogFRAME is ideally suited for the definition and design of soft projects. Examples of soft projects include:

- Strategic Planning;
- Corporate Restructuring;
- Business Improvement Projects;
- Quality Implementation Projects;
- Business Planning;
- Marketing Planning;
- Methodology and Cultural Change Projects;
- Commercialization Projects.

Such projects are termed soft because the deliverables of these projects are typically abstract (i.e. cannot touch and feel the results).

LogFRAME can also be used on hard projects as these often do have a soft perspective. Examples of hard projects include:

- Heavy Engineering Projects (e.g. Ship Building);
- Building Construction;
- Installation of Computer Hardware;
- Road and Bridge Construction;
- Office Relocation/New Branch Office.

Such projects are termed hard because the deliverables of these projects are typically physical (i.e. can touch and feel the results).

The framework or structure behind the LogFRAME is a 4x4 matrix. That is, four rows and four columns.

[Source: Project Management Solutions (Aust) Pty Ltd see:
<http://www.pmsa.com.au/LogFrame.htm>]

Worked out logFRAME questions

	Summary	Indicators	Evidence	Assumptions
Goal	What is the overall broader objective to which the project will contribute?	What are the key indicators related to the overall goal?	Where can we find the information for the indicators?	
Objectives	What are the specific objectives which the project shall achieve?	What indicators will show whether the projects sub-objectives are achieved?	Where can we find the information for the indicators?	What factors/ elements are influencing the process?
Outputs	What are the concrete outputs envisaged to achieve the specific objectives? What are the envisaged effects and benefits of the project? What improvements and changes will be produced by the project?	What indicators will show whether the projects outputs are achieved?	Where can we find the information for the indicators?	What factors/ elements are influencing the process?
Activities	What are the key activities to be carried out and in what sequence in order to produce the expected results?	What indicators will make progress visible?	Where can we find the information for the indicators?	What factors/ elements are influencing the process?

4) Searching (for scientific literature)

Boolean Operators

When using search engines, one can often specify searches using Boolean Operators since almost all search engines use Boolean operators. Boolean operators define the relationships between words or groups of words.

Use	To
AND	Narrow search and retrieve records containing <i>all</i> of the words it separates.
OR	Broaden search and retrieve records containing <i>any</i> of the words it separates. The can be used instead of 'or' (e.g., 'mouse mice rat' is equivalent to 'mouse or mice or rat').
NOT	Narrow search and retrieve records that do <i>not</i> contain the term following it.
()	Group words or phrases when combining Boolean phrases and to show the order in which relationships should be considered: e.g., '(mouse or mice) and (gene or pseudogene)

Note: Search queries containing several operators search in the following order:

()

NOT

AND

OR

Some useful search engines

General science:

Scirus: [http://www.scirus.com/]

Google Scholar (beta): [http://scholar.google.com]

For an overview of more specific scientific search engines see the website of the Wageningen University library:

[http://library.wur.nl/desktop/portals/general/]

The essentials of Google search

Note: The following will explain the basics of searching with Google. Please be aware that Google.com is not an academic search engine. It is the most frequently used search engine for standard search in the web. Most scientific search engines, see above, use searching technology similar to the one used by Google.

[based on: www.google.com/help/basics.html]

Doing a search on Google is easy. Simply type one or more search terms (the words or phrase that best describe the information you want to find) into the search box and hit **Enter** on your keyboard.

Water	Google Search
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In response, Google produces a results page: a list of webpages related to your search terms, with the most relevant page appearing first, then the next, and so on.

Here are some basic tips to help you maximize the effectiveness of your search:

- Choosing search terms
- Capitalization
- Automatic "and" queries
- Exclusion of common words
- Word variations
- Phrase searches
- Negative terms
- I'm Feeling Lucky

Choosing search terms

Choosing the right search terms is the key to finding the information you need.

Start with the obvious – if you're looking for general information on Water, try **water**.

But it's often advisable to use multiple search terms; if you're interested in integrated water management than with either **integrated**, **water** or **management** by themselves.

integrated water management	Google Search
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You might also ask yourself if your search terms are sufficiently specific. It's better to search on water **management Yemen** than on **water management**. But choose your search terms carefully; Google looks for the search terms you chose, so **Yemen water management** will probably deliver better results than **drinking water use and other water use in Yemen**.

Capitalization

Google searches are NOT case sensitive. All letters, regardless of how you type them, will be understood as lower case. For example, searches for **water**, **Water**, and **wAtEr** will all return the same results.

Automatic "and" queries

By default, Google only returns pages that include all of your search terms. There is no need to include "and" between terms. Keep in mind that the order in which the terms are typed will affect the search results. To restrict a search further, just include more terms. For example, to search for water management, simply type **water management**.

water management	Google Search
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Automatic exclusion of common words

Google ignores common words and characters such as "where" and "how", as well as certain single digits and single letters, because they tend to slow down your search without improving the results.

If a common word is essential to getting the results you want, you can include it by putting a "+" sign in front of it. (Be sure to include a space before the "+" sign.)

Another method for doing this is conducting a phrase search, which simply means putting quotation marks around two or more words. Common words in a phrase search (e.g., "where are you") are included in the search.

For example, to search for the World Water Forum, 5th edition, use either search terms below:

"world water forum 5"	Google Search
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world water forum +5	Google Search
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Word variations (stemming)

Google now uses stemming technology. Thus, when appropriate, it will search not only for your search terms, but also for words that are similar to some or all of those terms. If you search for **water managerial aspect**, Google will also search for **water management aspects**, and other related variations of your terms. Any variants of your terms that were searched for will be highlighted in the snippet of text accompanying each result.

Phrase searches

Sometimes you'll only want results that include an exact phrase. In this case, simply put quotation marks around your search terms.

"Virtual Water"	Google Search
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Phrase searches are particularly effective if you're searching for proper names/concepts ("**Virtual Water**").

Negative terms

If your search term has more than one meaning you can focus your search by putting a minus sign ("-") in front of words related to the meaning you want to avoid.

For example, here's how you'd find pages about Yemen, filtering out touristic pages:

bass -music	Google Search
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When you include a negative term in your search, be sure to include a space before the minus sign.

And finally... "I'm Feeling Lucky"

After you've entered your search terms, you might want to try the **I'm Feeling Lucky** button, which takes you straight to the most relevant website that Google found for your query. You won't see the search results page at all, but if you did, the "I'm Feeling Lucky" site would be listed on top.

For example, if you're looking for info on Sana University, just enter **Sana University** and click **I'm Feeling Lucky** instead of the Google **Search** button. Google will take you directly to "http://en.wikipedia.org/wiki/Sana'a_University."

Sana university	Google Search	I'm Feeling Lucky
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5) The different types of scientific literature

Scientists communicate the results of their research to other scientists primarily through the scientific literature, which therefore constitutes a permanent repository of scientific knowledge and a record of progress in scientific enquiry.

Different types of scientific literature exist, normally referred to as the primary, secondary, tertiary and grey literature.

Primary literature refers to accounts of research carried out personally by The an individual scientist or as collaboration by a group of scientists, which is published in a peer-reviewed scientific journal. These accounts, commonly called 'papers', are written in the particular format specified by the journal to which it is submitted for publication. Normally journals require a paper to consist of a title, abstract, keywords, introduction, material & methods, results, discussion, acknowledgements and references. Papers are submitted to the journal editor who then asks a number of recognized experts in the area of study addressed by the paper (called 'referees') to give an opinion on whether the work reported presents new scientific information, and to report on the merits and deficiencies of the work. On the basis of the referees' reports, the editor may accept the paper as it was submitted, or may require minor revision from the authors, or may require major revision, or the paper may be refused outright. This formal reviewing process is known as 'peer review'. There are different types of journal that range from international to regional to local and there are also systems that grade the importance of journals on the basis of how often papers carried by the journal are cited in other scientific papers (called the 'impact factor').

Most primary literature is published in scholarly journals, but some research is published as monographs, theses or dissertations, conference papers and reports. In the world of science, the contribution of an individual scientist to the advancement of knowledge is usually gauged partly on the number of publications that the scientist has contributed to, especially those published in international peer-reviewed journals with high impact factors.

Secondary literature consists of publications that rely on primary sources for information. Here it is not a requirement for the authors to have done the work themselves, since the purpose of the publication is to summarize and synthesize knowledge in a specific area for other scientists who already have an understanding of the topic; however, the authors of secondary publications would normally have worked and published primary literature in the area they are writing about. The secondary literature includes review journals, monographic books and textbooks, handbooks and manuals. Although normally written in a scientific style, secondary publications are not organized in the same way that primary publications are; however, it is a universal requirement that they are fully referenced and that most of these references are to the primary literature. Scientists use the secondary literature to gain an overview of research areas that are close to or relevant to their own, or to familiarize themselves with existing research in new topics on which they plan to start working.

Tertiary literature consists of published works that are based on primary or secondary sources and that are aimed at scientists who work in different areas from the subject matter of the publication, or towards an interested but lay audience. Such publications are normally written in a popular rather than a scientific style and while such publications

may include a short bibliography, they do not usually include references to the primary literature. Examples of the tertiary literature include science magazines, newsletters, science articles in newspapers, introductory textbooks and encyclopedias.

Grey literature refers to sources of scientific information that are not published and distributed in the usual manner and which therefore may be difficult to obtain. Gray literature includes theses and dissertations, technical reports with a limited distribution, journals published by special interest groups that have a limited distribution, abstracts of conference papers and conference proceedings that are only made available to conference participants, Environmental Impact Statements, some types of Government documents, working papers, and some types of online documents. Note that being classified as 'gray literature' in no way implies that the publication has little scientific merit, since some types of grey literature are rigorously peer reviewed and count as primary literature; 'grey' refers more to the limited distribution and difficulty of accessing the publication than to its content.

It is important to note that the form that a publication takes no guide to its classification as primary, secondary or tertiary literature. For example, books may belong to any of these three categories. A monograph that presents new ideas as a result of scientific research that has been reviewed by a number of referees (usually called 'readers' in the case of a book), will count as primary literature (in effect, a very long scientific paper), whereas an encyclopedia or science magazine article, even if written by a Nobel laureate, is still tertiary literature.

Another example is the case of conference proceedings. Papers presented at international, regional or national conferences, workshops or symposia are considered as primary literature if they are peer-reviewed and published, either as a book of conference proceedings, or as a special issue of a scientific journal. On the other hand, abstracts of papers presented at a conference, or the papers themselves, which have not been peer-reviewed, do not count as primary literature even if they are published in book form. An in-between case is that of conferences where the papers presented are published as peer-reviewed 'extended abstracts' (in effect, long summaries of the work that may be formatted in the same way as a journal paper). Normally, such papers present work that is in an advanced stage but not yet complete to an audience of peers for comment and criticism. Most such work is later published in full form in primary scientific journals.

The situation is further complicated by the Internet. Scientific information available on the Internet ranges from absolute rubbish to high quality. There are very authoritative looking sites that present completely wrong information, sometimes deliberately, whereas at the other end of the spectrum, there are primary peer-reviewed scientific journals that are published online (normally, but not always, with at least a limited print edition as well). Professional looking websites are no guarantee of quality information. Users of the Internet should very carefully evaluate the source, quality and accuracy of any information that they plan to use.

[source:

<http://home.um.edu.mt/biology/The%20different%20types%20of%20scientific%20literature.pdf>.]

6) How to read a scientific article

"Probably what you should learn if you are a graduate student is not a large number of facts, especially if they are in books, but what the important problems are, and to sense which experiments, work that has been done, probably aren't quite right."

James Watson, of Watson & Crick (DNA fame)

When students in the sciences are first faced with using the primary research literature, the prospect sometimes seems overwhelming. Finding pertinent journal articles often seems to involve a maze of abstracting journals, indifferent librarians, missing volumes, CDroms from hell, and bound periodicals that refuse to flatten themselves for photocopiers (no matter how hard you press on them, CPR-style). Even once an article has been located--or, in the case of this class, provided--there is the problem of reading it. The *worst way* to assimilate a research paper is to read it word for word, title to literature cited, as if it were a textbook. This approach is a waste of time, because perhaps as few as 1 in 4 articles that find their way into your hands should be committed to your brain, and is deadly boring.

Before reading one word of an article, ask yourself: What am I looking for in this article? Knowing what I do about the subject, what gaps need to be filled, what knowledge needs to be expanded, and what controversial points need to be corroborated? Generate expectations of a journal article before you read it. This will help your analysis of the work in front of you, plus keep you more interested in the material. Then what:

1. Read the **authors' names**. Where and with whom are they working? What is their expertise? Names may mean little at first, but as you "wade through" a scientific subject or topic you will find familiar names cropping up, and you will develop those with whom you agree and those whom you question.
2. Read and digest the **title**. It should summarize the work of the article well, help you to clarify your expectations of the paper, and it should be an attention-getter (if you are reading the article, it has probably already accomplished that task!).
3. Read the **abstract** carefully and try to understand it (though it may be the densest prose you will ever encounter). Abstracts are as difficult to read as they are to write, because an entire publication must be summarized in an understandable way in only about 200 words. By now, you should have a good idea of what the paper is about and what you have gotten yourself into. At this point, it may be obvious that the paper does not answer your questions. If this is true, move on, but be conservative because the authors' interpretation of the research presented in the abstract may not be the same as yours after reading the full paper. **Never** cite an article after having read only the abstract!

4. **Picture** time--flip through the article and study the figures, illustrations, and tables, including the legends. It will probably become necessary to consult the Methods and Results section to clarify figures and understand the experimental design. If the article is closely related to your research, closely examine the techniques described in the Methods section. There may be problems there, but more likely there will be a new, perhaps better, approach to your own research. It should be clear to you by now whether this paper will be truly helpful. If so, now it is time to be critical (please, see the note below about this word).
5. Read the **Introduction** and be sure the author knows the field, has adequately researched past work, and understands where their work "fits into the puzzle". Generally, the Intro and Literature Cited sections go hand-in-hand. Most importantly, within the first paragraph or 2 of the Introduction the authors should have made it very clear what their objectives for the research were, and what their paper will tell you.
6. Check to see if the **Results** adequately and accurately describe the data presented in the paper. Are there additional points that should have been brought up? Is there something in the figures or tables that does not substantiate the authors' claims that was not mentioned? Do the figures and tables clearly, succinctly, and attractively present the results of the paper? Remember that great data presented clumsily or sloppily will not be seen as great, only clumsy or sloppy.
7. Now read the **Discussion**. This is perhaps the most important section, because it is here that the results (the "what" of the research) are explained. That is, here is where the authors should [at least try to] explain "why" they saw what they saw. Beware of unsubstantiated speculation, though do not fault, off-hand, the presentation of hypotheses for future work or even expectations of findings from those future experiments. On the other hand, there are authors who are prone to timidity, understatement, or who are just plain invertebrate about their ideas. You should not be left guessing, or left to fumble to your own conclusions because an author was unwilling to take even a small step out onto a limb. As a moderate example of such understated conclusions, Watson and Crick ended their historic presentation of the structure of DNA with the sentence: "It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material." In fact, the complimentary base pairing they presented was no less than a quantum leap in our understanding of biological systems, in terms of both modern biochemistry and evolution!

Bear in mind that the ultimate burden of assessing published material lies with you, the reader. Take the time and energy to do this and you will gain more and be further along than the person who depends on the author for interpretation. Having just completed a critical reading and assimilation of a journal article pertinent to your work, you should be able to paraphrase the significance of this paper with 3 or 4 sentences free of technical jargon. You should also be able to both praise and criticize several points of

the paper (this is important--see note below). A general rule of thumb, regarding what goes where, when both reading and writing a scientific article is:

Title:	Short, succinct, eye-catching, all-encompassing
Abstract:	Summary of Methods, Results, and Discussion starting off with a statement of why the research was done and with emphasis on why the results are significant.
Introduction:	When was past work done, by whom , why was their work important, what you plan to do in your paper, and why what you did is important.
Materials and Methods:	How you did what you did and where you did it--nothing more.
Results:	What the data show you--nothing more.
Discussion:	Why the data show what they show, and how your analysis relates back to your objectives from the Introduction.

Note: Some journals will allow the Results and Discussion sections to be combined. In this case, the data should be divided up into logical groups, and for each group (generally separated by a subheading) the **What** and the **why** are presented together.

A note on critiques: A critique "considers the merits and demerits of something and judges accordingly" (Webster). When critiquing an article (or anything, really), remember that there are positive points to be found, and made, about everything. To present only negative criticism is wrong. Never forget to acknowledge that, while we all make mistakes and do things incorrectly, we also all do things correctly sometimes. A pat on the back can go a long way.

Finally, after having scanned the text intensively you have to make the judgment whether to read the complete text in depth. In depth reading basically means reading the article from stem to stem, every word. In depth reading demands a focused reader, and quite a lot of time, for this reason it is wise to scan the text as mentioned above. It is always up to the reader's judgment to see whether the text demands an in depth read.

Based on: <http://www.fiu.edu/~collinsl/Article%20reading%20tips.htm>

7)Active Listening

Hear What People Are Really Saying

Listening is one of the most important skills you can have. How well you listen has a major impact on your job effectiveness, and on the quality of your relationships with others.

We listen to obtain information.
We listen to understand.
We listen for enjoyment.
We listen to learn.

Given all this listening we do, you would think we'd be good at it! In fact we're not. Depending on the study being quoted, we remember a dismal 25-50% of what we hear. That means that when you talk to your boss, colleagues, customers or spouse for 10 minutes, they only really hear 2½-5 minutes of the conversation.

Turn it around and it reveals that when you are receiving directions or being presented with information, you aren't hearing the whole message either. You hope the important parts are captured in your 25- 50%, but what if they're not?

Clearly, listening is a skill that we can all benefit from improving. By becoming a better listener, you will improve your productivity, as well as your ability to influence, persuade negotiate. What's more, you'll avoid conflict and misunderstandings – all necessary for workplace success.)

Good communication skills require a high level of self-awareness. By understanding your personal style of communicating, you will go a long way towards creating good and lasting impressions with others.

The way to become a better listener is to practice "active listening". This is where you make a conscious effort to hear not only the words that another person is saying but, more importantly, to try and understand the total message being sent.

In order to do this you must pay attention to the other person very carefully.

You cannot allow yourself to become distracted by what else may be going on around you, or by forming counter arguments that you'll make when the other person stops speaking. Nor can you allow yourself to lose focus on what the other person is saying. All of these barriers contribute to a lack of listening and understanding.

Tip:

If you're finding it particularly difficult to concentrate on what someone is saying, try repeating their words mentally as they say it – this will reinforce their message and help you control mind drift.

To enhance your listening skills, you need to let the other person know that you are listening to what he or she is saying. To understand the importance of this, ask yourself if you've ever been engaged in a conversation when you wondered if the other person was listening to what you were saying. You wonder if your message is getting across, or if it's even worthwhile to continue speaking. It feels like talking to a brick wall and it's something you want to avoid.

Acknowledgement can be something as simple as a nod of the head or a simple "uh huh." You aren't necessarily agreeing with the person, you are simply indicating that you are listening. Using body language and other signs to acknowledge you are listening also reminds you to pay attention and not let your mind wander.

You should also try to respond to the speaker in a way that will both encourage him or her to continue speaking, so that you can get the information if you need. While nodding and "uh huhing" says you're interested, an occasional question or comment to recap what has been said communicates that you understand the message as well.

Becoming an Active Listener

There are five key elements of active listening. They all help you ensure that you hear the other person, and that the other person knows you are hearing what they are saying.

1. Pay attention.

Give the speaker your undivided attention and acknowledge the message.

Recognize that what is not said also speaks loudly.

- Look at the speaker directly.
- Put aside distracting thoughts. Don't mentally prepare a rebuttal!
- Avoid being distracted by environmental factors.
- "Listen" to the speaker's body language.
- Refrain from side conversations when listening in a group setting.

2. Show that you are listening.

Use your own body language and gestures to convey your attention.

- Nod occasionally.
- Smile and use other facial expressions.
- Note your posture and make sure it is open and inviting.
- Encourage the speaker to continue with small verbal comments like yes, and uh huh.

3. Provide feedback.

Our personal filters, assumptions, judgments, and beliefs can distort what we hear. As a listener, your role is to understand what is being said. This may require you to reflect what is being said and ask questions.

- Reflect what has been said by paraphrasing. "What I'm hearing is..." and "Sounds like you are saying..." are great ways to reflect back.
- Ask questions to clarify certain points. "What do you mean when you say..." "Is this what you mean?"
- Summarize the speaker's comments periodically.

Tip:

If you find yourself responding emotionally to what someone said, say so, and ask for more information: "I may not be understanding you correctly, and I find myself taking what you said personally. What I thought you just said is XXX; is that what you meant?"

4. Defer judgment.

Interrupting is a waste of time. It frustrates the speaker and limits full understanding of the message.

- Allow the speaker to finish.
- Don't interrupt with counterarguments.

5. Respond Appropriately.

Active listening is a model for respect and understanding. You are gaining information and perspective. You add nothing by attacking the speaker or otherwise putting him or her down.

- Be candid, open, and honest in your response.
- Assert your opinions respectfully.
- Treat the other person as he or she would want to be treated.

Key Points:

It takes a lot of concentration and determination to be an active listener. Old habits are hard to break, and if your listening habits are as bad as many people's are, then there's a lot of habit-breaking to do!

Be deliberate with your listening and remind yourself constantly that your goal is to truly hear what the other person is saying. Set aside all other thoughts and behaviors and concentrate on the message. Ask question, reflect, and paraphrase to ensure you understand the message. If you don't, then you'll find that what someone says to you and what you hear can be amazingly different!

Start using active listening today to become a better communicator and improve your workplace productivity and relationships.

[source: <http://www.mindtools.com/CommSkill/ActiveListening.htm>]

8) Making a questionnaire

[source: <http://www.action-research.com/uua/question3.html>]

What Questions Are You Going to Pose?

Conducting An Effective Ministerial Search Survey
Prepared for the Unitarian Universalist Association
By Dr. Paul Riedesel

Composing a Written Questionnaire

A questionnaire is a very special kind of document. While it might seem like any reasonable person could type out a bunch of questions, creating a good, user-friendly instrument is very much a craft. You cannot separate the composition of questions themselves from the physical formatting (word processing). We recommend that you compose the document in questionnaire format from the very first draft.

The most user-friendly form is a "booklet" of 4 or 8 pages. That literally means printing on both sides of 11x17 paper and folding in the middle. Any commercial printer can do this, as can better office copiers. Single sheets in the middle (say for a 6-page survey) have a way of getting lost.

There is no end to the rules-of-thumb and good habits used by professionals. Here are some of the major ones.

- Use questions with fixed answer categories as much as possible. Insofar as your main goal is to provide summary tables, you will want to avoid the necessity of analyzing and coding open-ended remarks. On a printed questionnaire, the easiest thing for people to do is to check boxes. This is better practice than having them circle numbers. You need to figure out how to insert nice looking check boxes in whatever word processor you are using.
 - The answer categories must be exhaustive. That is, they need to cover all imaginable possibilities. That does not mean you have to offer dozens of choices, but at least leave an "other" option.
 - If you only want one answer, say that explicitly. If several answers may be checked, say that explicitly. Instructions, by the way, should be in a different font than the questions and answers. Italics or bold will do it.
 - Pre-number the answer categories. This aids greatly in correctly tabulating the results. The numbers should be in a small, subscripted font.
 - It is customary and useful to number the questions. This is essential if there are to be any "skips" in the questionnaire. It will also make it easier for you when you are tabulating the answers.
 - Never split the answer categories across two pages!
-

- Place the easier-to-answer questions at the beginning of the survey. Ones that require more effort to answer, or that are more sensitive in nature (sexuality, or worst of all, money), should appear later.
- Questions that are related to each other should be grouped together as much as possible. Subject headings and brief introductions to the various sections can help.

Note that these categories are exhaustive and exclusive, that multiple answers are explicitly invited, and that the check boxes are pre-numbered.

In which of the following age groups, if any, do you have children living at home?

Check all that apply.

- ₍₁₎ 5 years or younger
- ₍₂₎ Age 6 to 12
- ₍₃₎ Age 13 to 17
- ₍₄₎ Age 18 or older
- ₍₅₎ None of these

Here is a really bad question! Many of us could check several boxes, but is that what is wanted?

How much education do you have?

- ₍₁₎ High school
- ₍₂₎ College
- ₍₃₎ Masters
- ₍₄₎ Doctors

Here is a much better version.

What is the highest level of education you have completed? *Check only one.*

- ₍₁₎ Less than high school
- ₍₂₎ High school or GED
- ₍₃₎ Trade school, associate degree or some college
- ₍₄₎ Four-year college or conservatory degree
- ₍₅₎ Masters degree
- ₍₆₎ Ph.D, M.D., J.D. or similar doctoral-level degree
- ₍₇₎ Other

Certain data you wish to report may describe an entire household, rather than individual members. You must take care to ask questions in such a way that you are accurately describing households.

Here is a tidy solution.

*The next two questions really apply to households. If another person in your household is completing this questionnaire, please agree which **one** of you will answer these questions. If you both answer, the information will be duplicated and thus misleading.*

11. What is your household's annual income from all sources before taxes?

- | | |
|--|--|
| <input type="checkbox"/> (0) <i>Does not apply; someone else in household is answering</i> | |
| <input type="checkbox"/> (1) Less than \$15,000 | <input type="checkbox"/> (6) \$75,000 - \$99,999 |
| <input type="checkbox"/> (2) \$15,000 - \$29,999 | <input type="checkbox"/> (7) \$100,000 - \$149,999 |
| <input type="checkbox"/> (3) \$30,000 - \$44,999 | <input type="checkbox"/> (8) \$150,000 - \$199,999 |
| <input type="checkbox"/> (4) \$45,000 - \$59,999 | <input type="checkbox"/> (9) \$200,000 - \$249,999 |
| <input type="checkbox"/> (5) \$60,000 - \$74,999 | <input type="checkbox"/> (10) \$250,000 or over |

12. How many children 18 or younger live in your household, including any for whom you have primary or joint custody?

- (0) *Does not apply; someone else in household is answering*
- (1) None
- (2) One
- (3) Two
- (4) Three or more

Question Skips

It is sometimes necessary to ask that only certain people answer certain questions. All others would be asked to skip ahead to another question. While it is almost impossible to ensure that everyone will follow the instructions, leave nothing to chance. State explicitly what the "rules" are, and use graphic devices to emphasize what they are to do.

The skip instruction is bolded, and the contingent questions are numbered differently (4a, 4b) and indented. Note that 4a really asks two questions at once--that's OK.

4. Do you have any children in grades K-12 who lived in your household last year?
- (1) Yes
- (2) No → **PLEASE SKIP TO QUESTION 5**
- 4a. Were any of these children enrolled in our religious education program in the past year, and if so, how often did they attend?
- (1) No, were not enrolled
- (2) Yes, attended more than half the time
- (3) Yes, attended half the time or less
- 4b. Were any of these children enrolled in the religious education program of another church in the past year?
- (1) Yes
- (2) No
5. Between September and May, about how many Sundays did you attend services at our church last year?
- (1) Three-quarters or more (at least three times/month)
- (2) At least half, but less than three-quarters
- (3) At least a quarter, but less than half
- (4) Less than a quarter (less than once a month)
- (5) Not sure

Attitudes

Attitude measurement is a specialized field unto itself. Even the experts have yet to agree on the best methods. You may wish to include a section on attitudes, but make sure you know how you are going to present the results and how this data will either 1) help you with your decision making, or 2) help a prospective minister better understand you.

To begin with, be crystal clear what the underlying scale is that you are measuring. There are other dimensions, but you will probably be best off asking about the degree of agreement-disagreement with a series of statements. Again, there are many rules for good research practice. Among them:

Express only one major idea in a statement. Something like "Our minister must have high ethical standards and be a riveting speaker" is called double-barreled or simply "bad."

- Use statements about which reasonable people could disagree. If 99% strongly agree, you've wasted time. Ditto if the question is written in such a way as to imply that there is a "right" (or PC) answer.
- Keep the statements as clear, short and direct as possible. While there is some danger of over-simplification, this is no place for academic prose.
- Avoid using statements that say virtually the same thing.
- Keep the questions inside a common domain, or at least group them by general topic. For instance, you wouldn't stick in a question about air-conditioning the social hall with several others on spiritual practices.
- Be sure that the **scale** you are using (agreement-disagreement usually) actually fits the text of the statement. "I live within five miles of the church" would be a dumb item--it calls for a simple yes/no answer, and is not even an attitude. But I have seen such items used!

You can do worse than offering the five familiar answer categories shown below. Some statisticians would be squeamish, but many other researchers are quite comfortable assigning numeric values of "5" for strongly agree and "1" for strongly disagree. My example uses check boxes, though some would have survey participants circle numbers instead. What you do not want to do is ask people to write in numbers (1-5) or codes like "A" or "SD."

Please check a box for each statement to show how much you agree or disagree with it.						
	Disagree Strongly	Disagree	Neither Agree Nor Disagree	Agree	Agree Strongly	Not Sure
I look to my minister for guidance about personal spiritual practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am not comfortable with traditional religious language such as "prayer" or "God".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Without a strong social action program, our church would be a failure.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The sermons I like best are those where the minister relates personal experiences to religious questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our children need to know about the basic beliefs of Christianity even if we don't agree with them.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9) How to conduct an interview

[source: <http://stringers.media.mit.edu/interview.htm>]

Interviews have four stages that precede the writing of a story:

- arrangements,
- preparation,
- the actual interview and
- the reconstruction.

Arrangements

Spontaneous interviews, except in connection with breaking news, seldom contribute to thoroughness. Once you have decided to interview someone, call in advance to make an appointment. Identify yourself by your name and the name of your publication. If you feel the need to do so or are asked to describe what the story is about, be brief and general. The shape of the story might change as you continue your reporting. If you are interviewing several persons in connection with your story, interview the principal person last, because you will be better prepared based on what you learn from the earlier interviews.

Preparation

Do as much research as possible in advance on the person and/or topic you are working on. Sources might include the library, public records, the internet and people you know who can provide background information. Prepare your questions in advance in writing and bring them to the interview. Refer to them but don't show them to the interviewee, because it creates too formal an atmosphere. Ask other questions as they might arise, based on what the interviewee says or something new that might come to you on the spur of the moment. Bring two pencils (or pens) and paper. A stenographer's notebook is usually easier to handle than a large pad but use whatever is comfortable. Bring a tape recorder if you can but be sure to get the permission to use it from the person you are interviewing. You also should take notes, because it will help in the reconstruction phase, and, yes, tape recorders fail occasionally.

The interview

It is inadvisable to launch right into the interview unless you are only being given a few minutes. Some casual conversation to start with will relax both of you. Questions should be as short as possible. Give the respondent time to answer. Be a good listener. If he or she prattles on, it is appropriate to move on as politely as you can. You might say something such as: "Fine, but let me ask you this". Try to draw out specifics: How long, how many, when, etc.? Absorb the atmospherics of the locale where the interview takes place, with particular attention to what might be a reflection of the interviewee's personality and interests, such as photos of children or bowling trophies or a paper-littered desk or a clean one, etc. Note characteristics of the interviewee that might be worth mentioning in your story, such as pacing, looking out the window to think, hand gestures and the like. Invite the person to call you if she/he thinks of anything pertinent

after the interview. It often happens, so be sure to provide your name, email address and phone number on a card or piece of paper before you leave. If that person has a secretary, be sure to get that person's name and telephone number, too, in case there is some detail that needs followup and, again, leave information as to how you may be contacted. If a photo is needed and is not taken during the interview, be sure to make arrangements then to have one taken at a later time.

Reconstruction

As soon as it's practical after the interview, find a quiet place to review your handwritten notes. In your haste while taking notes, you may have written abbreviations for words that won't mean anything to you a day or two later. Or some of your scribbling may need deciphering, and, again, it is more likely you'll be better able to understand the scribbles soon after the interview. Underline or put stars alongside quotes that seemed most compelling. One star for a good quote, two stars for a very good one, etc.. It will speed the process when you get to the writing stage. One other thing to look for in your notes: the quote you wrote down might not make a lot of sense, unless you remember what specific question it was responding to. In short, fill in whatever gaps exist in your notes that will help you better understand them when writing.

10) Excel: the basics

This handout introduces the basic features of Microsoft Excel, a spreadsheet program on Macintoshes and on computers running Microsoft Windows. The handout covers entering and editing data, formatting, formulas, page setup, and printing spreadsheets.

Starting Excel

You can start Excel by:



1. Double-clicking on the Microsoft Excel application icon. This application is usually in a folder called Excel. An alias for this icon appears on the desktop of the computers in the Student Microcomputer Facility.

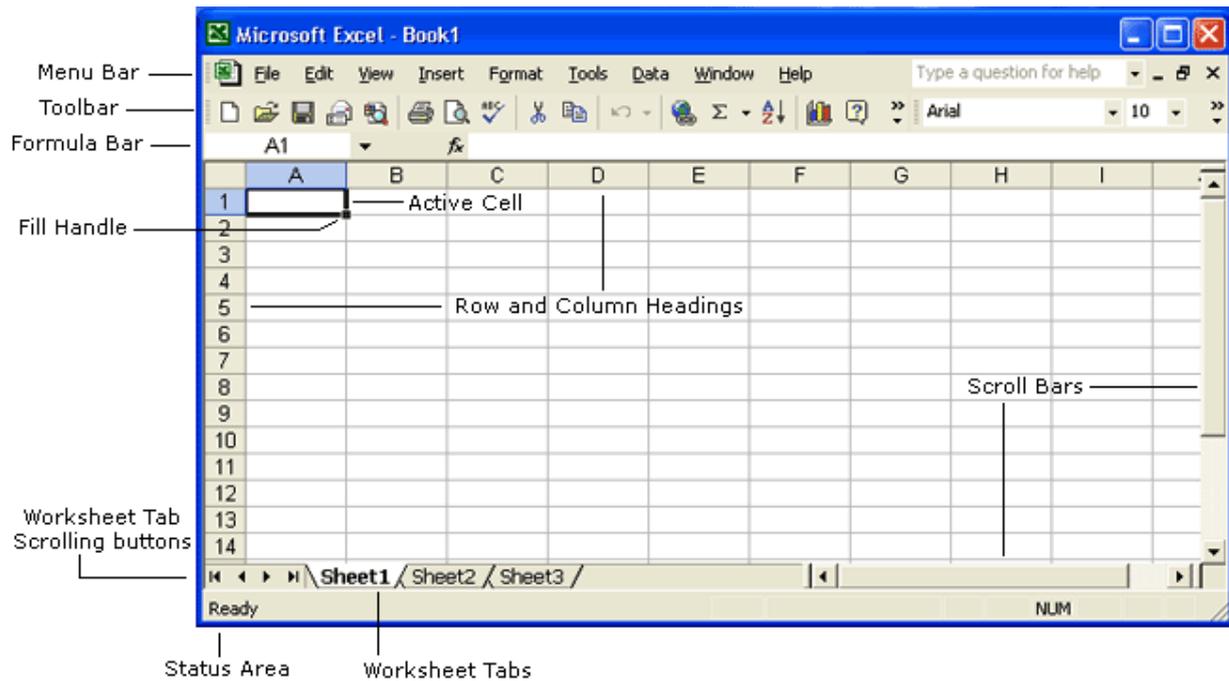


2. Double-clicking on the icon of any Excel document. When you double-click an Excel document, Excel opens with the document already loaded.

Exploring the Excel Interface

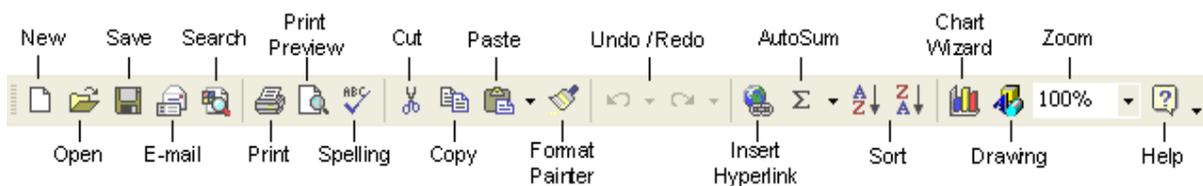
Components of the Excel Window

Besides the usual window components (close box, title bar, scroll bars, etc.), an Excel window has several unique elements identified in the figure below.



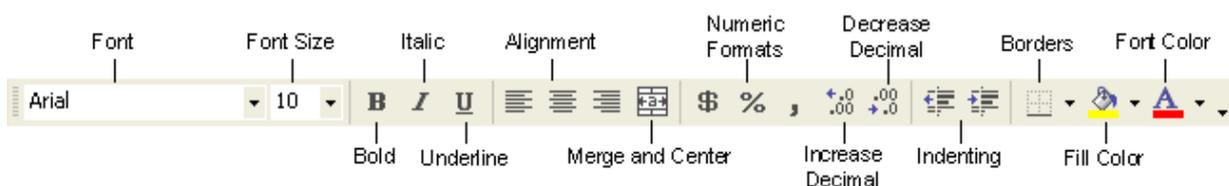
Standard Toolbar

The Standard toolbar, located beneath the menu bar, has buttons for commonly performed tasks like adding a column of numbers, printing, sorting, and other operations. Excel let's you customize the toolbar or even display multiple toolbars at the same time. The Standard Excel XP toolbar appears in the figure below.



Formatting toolbar

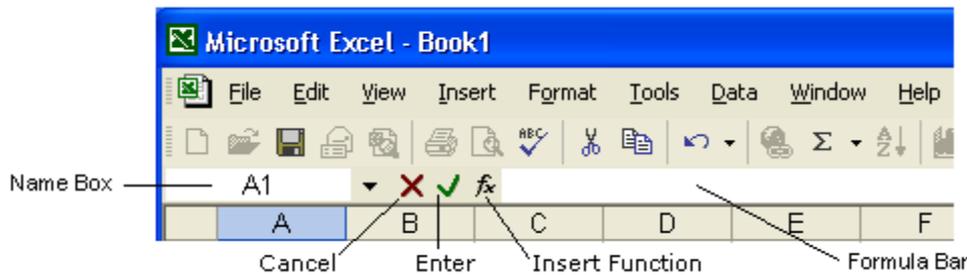
The Formatting toolbar, located beneath the Standard toolbar bar, has buttons for various formatting operations like changing text size or style, formatting numbers and placing borders around cells.



Formula bar

The formula bar is located beneath the toolbar at the top of the Excel worksheet. Use the formula bar to enter and edit worksheet data. The contents of the active cell always appear in the formula bar. When you click the mouse in the formula bar, an X and a

check mark appear. You can click the check icon to confirm and completes editing, or the X to abandon editing.



Name box

The Name box displays the reference of the selected cells.

Row and column headings

Letters and numbers identify the rows and columns on an Excel spreadsheet. The intersection of a row and a column is called a cell. Use row and column headings to specify a cell's reference. For example, the cell located where column B and row 7 intersect is called B7.

Active cell

The active cell has a dark border around it to indicate your position in the worksheet. All text and numbers that you type are inserted into the active cell. Click the mouse on a cell to make it active.

Fill handle

The lower right corner of the active cell has a small box called a Fill Handle. Your mouse changes to a cross-hair when you are on the Fill Handle. The Fill Handle helps you copy data and create series of information. For example, if you type January in the active cell and then drag the Fill Handle over four cells, Excel automatically inserts February, March, April and May.

Worksheet tabs

An Excel workbook consists of multiple worksheets. Use the worksheet tabs at the bottom of the screen to navigate between worksheets within a workbook.

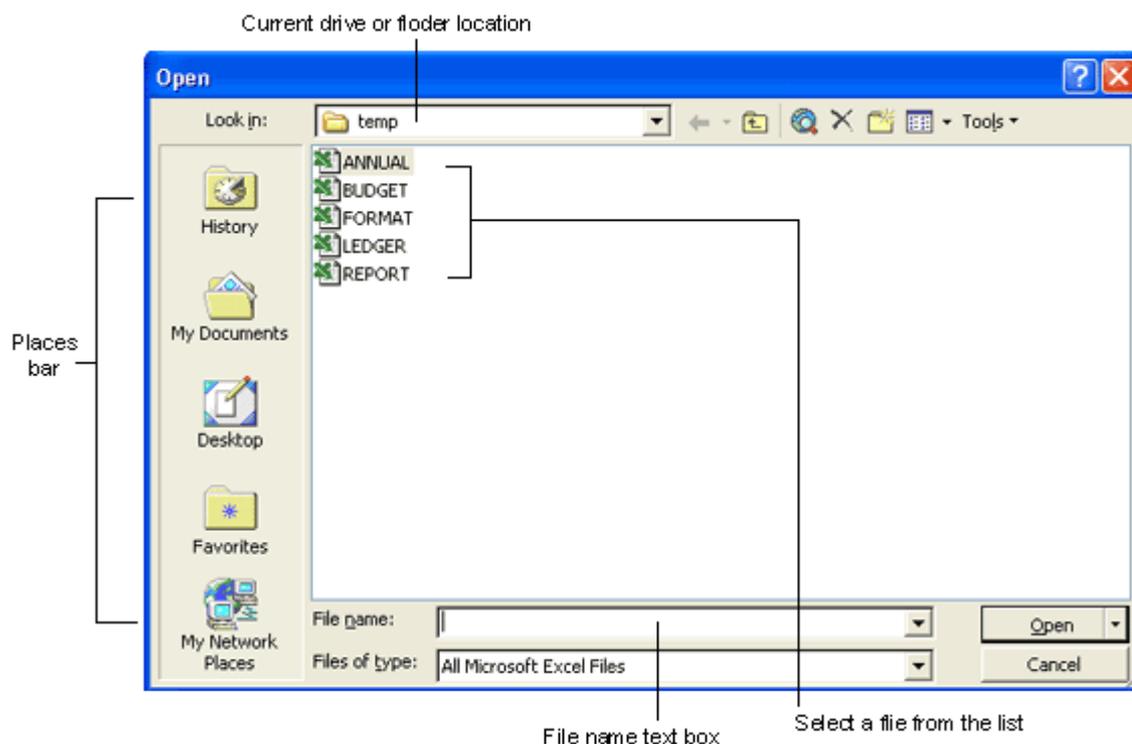
Working with Excel documents

Opening and Closing Documents



To open an existing Excel workbook, choose Open from the File menu or click the Open tool on the toolbar.

Excel will display the Open dialog box, which is similar in appearance and function to the Save As dialog box. It contains a File Name: box for you to type a file name or file specification, a Look In: box to designate a location, and a drop-down menu of file types.



To open a file, select the appropriate location by clicking on the down pointing arrow next to the Look In: selection box. Excel will display all Excel files found there. Select the file you wish to open and click Open to open the file.

Saving a Document

The lower right corner of the active cell has a small box called a Fill Handle. Your mouse changes to a cross-hair when you are on the Fill Handle. The Fill Handle helps you copy data and create series of information. For example, if you type January in the active cell and then drag the Fill Handle over four cells, Excel automatically inserts February, March, April and May.



To save an untitled Excel workbook, from the File menu choose Save As or click the Save button on the toolbar (shown at right). The Excel Save As dialog box is the same as the Open dialog box above except it is labeled "Save As"

The Save As dialog box contains a text box for you to type a specific filename, a "Save File as Type:" box to save your workbook in a different format that other programs can read, a selection box to designate the folder and drive in which to save the file, and a "Places Bar" that offers other locations to save your file.

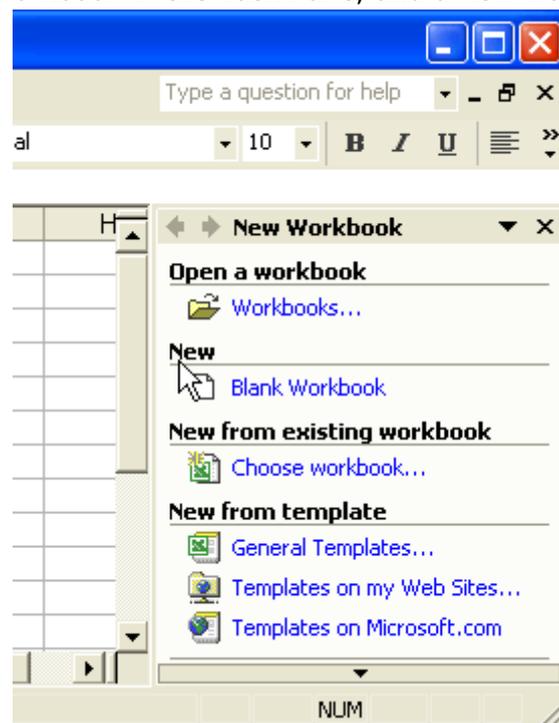
Difference between Save As and Save

Notice on the File menu there is a Save command and a Save As command. Use Save to save an existing workbook with the same name in the same location. Use Save As when you want to save a file with a different name or save it in a different location. For example, suppose you are working on a workbook called BUDGET.XLS. After you edit the workbook, you should save it again using the Save command. The Save command will replace the copy on the hard drive with what is in memory (what you see on your screen). At the end of the day, you might want to save a copy of the file on a diskette to take home. Choose Save As and select the proper drive in the Save As dialog box. This will create another copy of the file on your diskette.

Creating a New Workbook

The lower right corner of the active cell has a small box called a Fill Handle. Your mouse changes to a cross-hair when you are on the Fill Handle. The Fill Handle helps you copy data and create series of information. For example, if you type January in the active cell and then drag the Fill Handle over four cells, Excel automatically inserts February, March, April and May.

 If you are already in Excel and you want to create a new workbook, choose New from the File menu or click the New tool on the toolbar. If you choose New from the file menu the Task Pane will open on the right side of the Excel worksheet. To create a blank workbook, click Blank Workbook in the Task Pane, and a new workbook opens.



Managing Multiple Workbooks

Excel enables you to have more than one workbook open simultaneously. Each open workbook appears on the **Window menu**. The document with the check next to it is the active document. To switch to another document, simply choose that document from the **Window** menu.

To navigate between worksheets within a workbook, click the worksheet tab you want to activate. Double-click a worksheet tab to change its name.

Entering and Editing Data

Entering Data

You can enter text, numbers and dates in an Excel worksheet. In Excel's terminology, numbers and dates are called values and text is referred to as a label. To enter data of any type, click on the cell you want to contain that data, and then type the information you want in the cell. When you begin typing, your data also appears in the formula bar. When you have finished typing the data for the active cell, press the Return or Enter key.

Editing Data

The easiest way to edit the contents of a cell is to select the cell and then retype the entry. The new entry replaces the old contents. For example, to change the number in cell B6 to 199, select cell B6, type 199 and press Return. This method works well with numbers, but is more difficult when editing long text labels or formulas.

The formula bar gives you more flexibility while editing. When the mouse pointer moves into the formula bar, it changes shape to an I-beam, signifying that you can enter or edit text. Text in the active cell appears in the formula bar and you can edit it there. Use the mouse to select the text you want to change in the formula bar and then type the new text. Excel automatically replaces what is selected. Don't forget to press the Return key when you finish editing a cell.

You can also edit labels and values directly in cells. Double-click on the cell you want to edit. This puts an insertion point in the cell. Edit the contents of that cell the same way you would using the formula bar.

Moving the Active Cell

Cell selection and movement around the worksheet are similar operations in Excel. To select a given cell or make it active, simply click on that cell. Use the mouse or the arrow keys to move around the worksheet. For example, if you press the right arrow key twice you move two cells to the right.

Refer to the table below for additional information on using the keyboard to navigate a worksheet.

To move	Press this key
One cell left	Left Arrow
One cell right	Right Arrow
One cell up	Up Arrow
One cell down	Down Arrow
To top of worksheet (cell A1)	Control Home
To last cell containing data	Control End
To end of data in a column	Control Down Arrow
To beginning of data in a column	Control Up Arrow
To end of data in a row	Control Right Arrow
To beginning of data in a row	Control Left Arrow

Go To Command

A quick way to move a large distance on a worksheet is with the **Go To** command on the **Edit** menu. When you select the **Go To** command, a dialog box prompts you to identify the cell. Enter the cell reference and click OK or press Return.

Clearing Cell Contents

To clear the contents of a cell choose **Clear** from the **Edit** menu. Then, select what you want to clear from the cell: All, Formats, Contents, or Notes. Most frequently you will want to clear the Contents of a cell. Pressing the **Delete** key also clears the contents of cells.

Undoing Mistakes

If you make a terrible mistake and you accidentally delete important data. Use the **Undo** command on the **Edit** menu or the Undo tool to correct the mistake.

Copying and Moving Data

Copy selected data from one cell to another with the **Copy** and **Paste** commands, or with the Drag and Drop procedure. If you want to move data instead, use the **Cut** and **Paste** commands, or the Drag and Drop procedure.

These commands and procedures are described below.

Cut

The Cut command extracts the selected data and puts it on the Clipboard, a temporary storage area. The contents of the Clipboard are overwritten with each copy or cut.

Copy

The Copy command puts a copy of the selected data on the Clipboard.

Paste

The Paste command inserts the Clipboard's contents into the active cell. Selected data is replaced by pasted text.

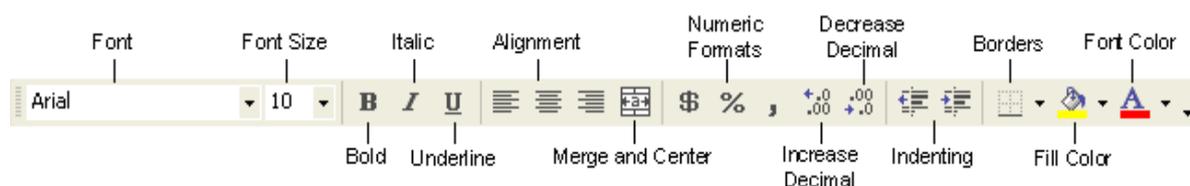
Drag and Drop

This procedure does not involve the Clipboard and works best when moving data a short distance. To move cells, position the mouse on the cell borders. Wait until the mouse changes to a left-pointing arrow. When the mouse is this shape, press and drag the data to the new location.

Formatting Data

Changing formats using the toolbar

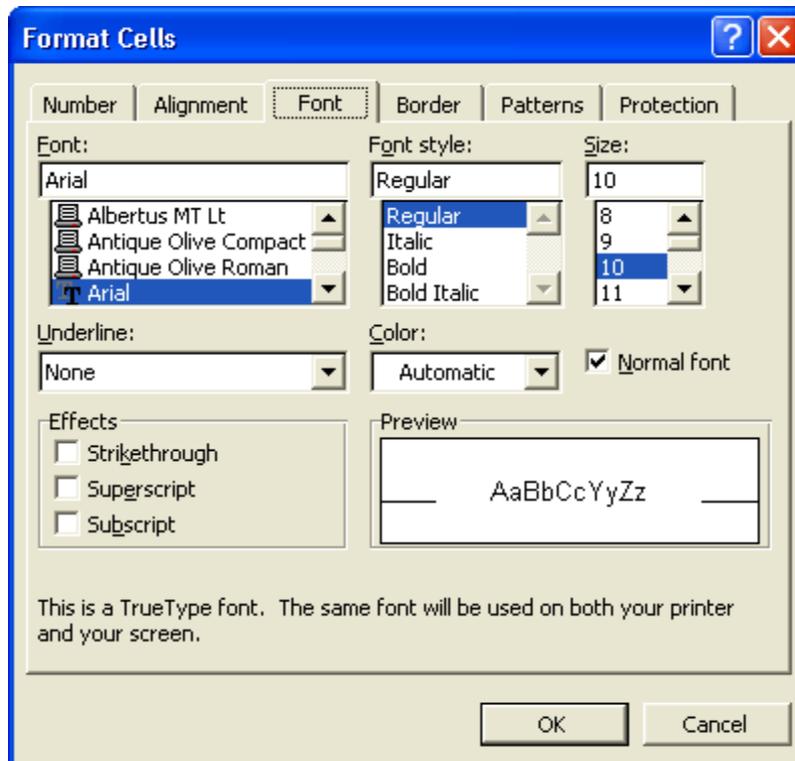
In Excel, you can change text fonts and styles in the worksheet. Excel has a Formatting toolbar to simplify basic formatting tasks. The Formatting toolbar appears in the figure below.



The formatting toolbar has several tools you can use to change formats. The B button makes cells bold, the I button italicizes cells and the U button underlines. Use these buttons to turn formats off as well as on. For example, if cells are bold and you want to turn off that format, select the cells and click the B button. The toolbar also has buttons to change font and size.

Font tab in Format Cells

The formatting toolbar offers quick access to varying text formats. For a more complete selection of formatting options, use the Font tab in the Format Cells dialog box.



In the Font section you can select Font, Size, Style, Color and Effects. Notice the Preview area in the dialog box. This shows a preview of the font and style you select before you click the OK button.

Alignment

By default, Excel left-aligns labels and right-aligns values in a worksheet. You can change cell alignment using the toolbar or the Format Cells command.

The toolbar has text alignment icons next to the bold and italic icons. You can left-align, right-align, or center text within a cell using these buttons. Select the cell(s) you want to align and click the appropriate alignment button on the toolbar.



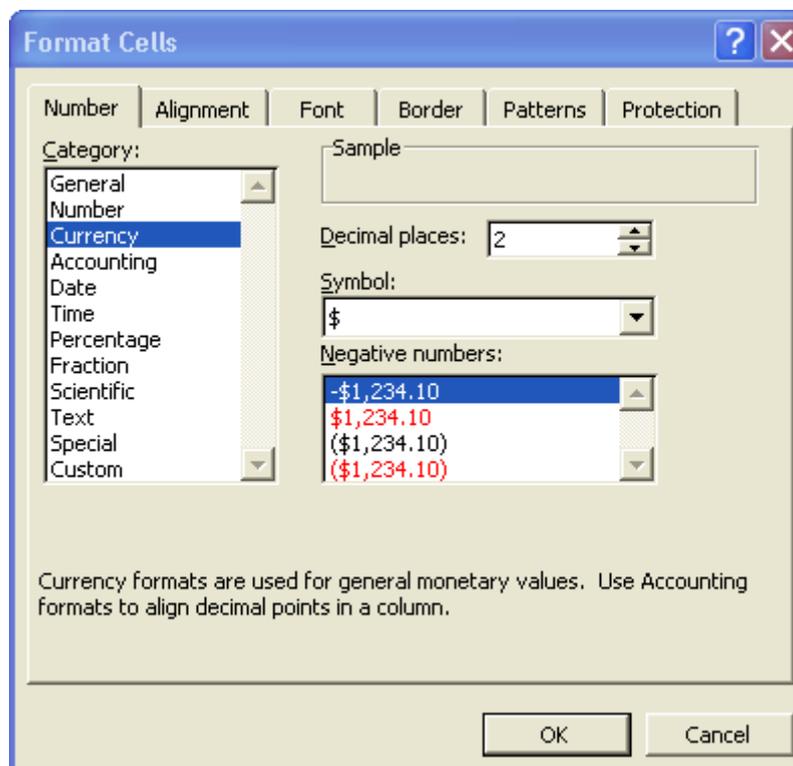
The toolbar also has a button that will center a label over a range of cells, for example centering a title over a report. To center data over a range of cells, select the cell you want to center and the columns you want to center it over and click the Center over Cells button (shown at right).

Format Alignment command

You can also change the alignment of data within cells using the Alignment section of the Format Cells dialog. This dialog box also has options to change the orientation of text (i.e. sideways or vertical) and a box to wrap text within a cell.

Changing Numeric Formatting

To change the format of a number, choose the Cells command from the Format menu. In the Format Cells dialog box, Excel displays different tabs for various formatting types. To change numeric formats, click the Number tab. Select the category you want and then the actual format. For example, to display numbers as currency with two decimal places, select the Currency category, enter 2 for the number of decimal places, and select the appropriate currency symbol. Or to display a number as a percentage, choose the Percentage category and select the number of decimals you want to display.



Placing borders around cells



The toolbar has a button for placing borders around cells. You can also use the Border section of the Format Cells dialog box, which provides more options. Select the cells you want a border on and choose the desired format from either the toolbar or the Format Cells dialog box.

Shading cells



To apply a specific pattern or color to a range of cells, use the Patterns section of the Format Cells dialog box. The sample area in the Patterns dialog box displays what the selected colors and patterns will look like. You can also apply a solid color using the Fill Color tool on the Formatting toolbar.

Changing column width with the Format menu

To change column width using the Format menu, select the column or columns you wish to change and choose Column then Width. In the Column Width dialog box, type a number for the width of the column. The number represents the number of characters that can fit in the cell. The default column width is 10, which means a column is wide enough for ten, Helvetica 10-point characters. Choose Best Fit to automatically widen a column to accommodate the widest label, or click the Hide button to hide the column completely. Hiding columns is useful when you have data that you do not want to print.

* **Changing row height is similar to changing column width.** Select the row(s) you wish to change and choose Row then Height from the Format menu.

Changing column widths by dragging column borders

You can change column widths by dragging column borders with the mouse. Move the mouse pointer to the right hand border of the column you wish to change. The mouse pointer will change shape to a left and right pointing arrow as seen below.

ABC.XLS		
C	D	E

Click and drag the mouse to adjust the column width. Note that when you are adjusting the width in this way, a numeric width indicator appears in the upper left part of the formula bar.

Formulas and Functions

Formulas and functions that perform calculations are the true power of spreadsheets.

Formulas

To build a formula, first select the cell in which you want the results to appear. In Excel, all formulas start with the = sign. After the = sign, type the cells you want to add or subtract along with the mathematical operation you wish to perform. For example, to add the January sales in the worksheet below, the formula would be =B3+B4+B5. If you want to subtract February Widget Sales from January Widget sales, the formula would be =B3-C3.

	A	B	C	D	E	F	G	H
1								
2		January	February	March	April	May	Totals	%'s
3	Widgets	98	39	40	140	240		
4	Figets	122	18	50	150	250		
5	Digets	56	52	60	160	260		
6								
7	Totals							

Building many formulas can quickly become tedious. Fortunately, the **Copy** command described earlier also works with formulas.

Copying Formulas

The easiest way to copy a formula is with the Fill Handle in the lower right corner of the cell. Create your initial formula and then position the mouse on the Fill Handle. When the mouse changes shape to a cross-hair, press and drag over the adjacent cells you want to copy the formula to.

SUM() function

The SUM() function is probably the most common function in Excel. It adds a range of numbers. To build a SUM() function, begin by typing the = sign; all functions begin with the = sign. Next type the word SUM followed by an open parenthesis. You must now tell Excel which cells to sum. Using the mouse, click and drag over the range of cells you wish to add. A dotted outline will appear around the cells and the cell range will be displayed in the formula bar. When you have the correct cells selected, release the mouse button, type a closing parenthesis and press the <Enter> key.

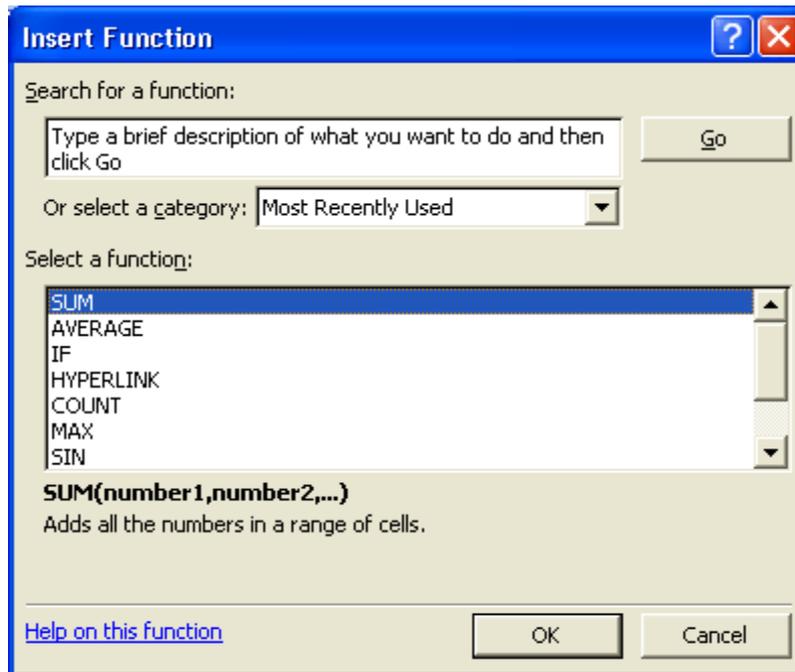
If you do not want to use the mouse, type in the references of the cells you want to sum. For example, to add cells B3 through B5, type =SUM(B3:B5). Excel interprets B3:B5 as the range of cells from B3 to B5.

AutoSum button

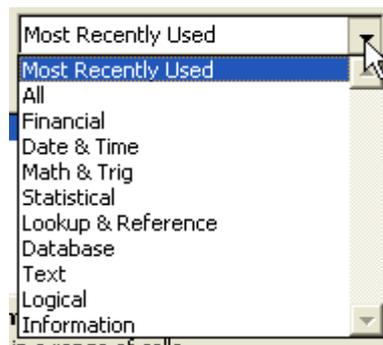
 In Excel, the standard toolbar has a button that simplifies adding a column or row of numbers. The AutoSum button, which resembles the Greek letter Sigma (shown at right), automatically creates a SUM() function. When you click the AutoSum button Excel creates a sum function for the column of numbers directly above or the row of numbers to the left. Excel pastes the SUM() function and the range to sum into the formula bar. If the range is not correct, simply select the proper range with your mouse on the worksheet. When you have the correct range entered, press the <Enter> key to complete the function.

Using the Insert Function Button

 The Insert Function Button is located by the Formula Bar. Click the Insert function button in to activate the Insert Function dialog window.

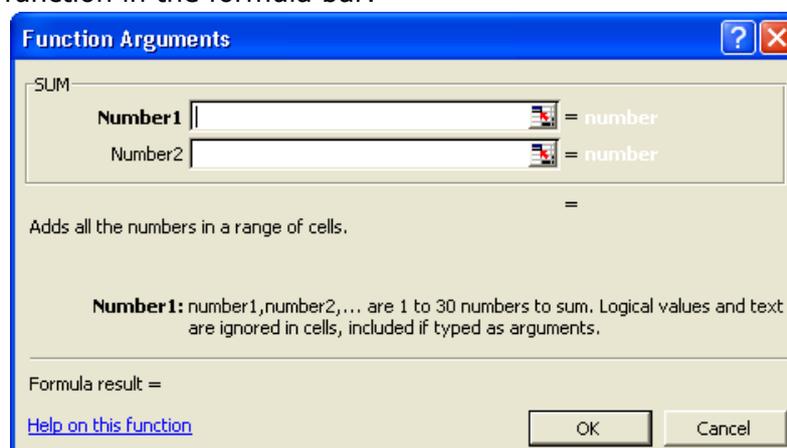


First, choose the Function Category you are interested in from the select a category drop down menu.



Then select the function you want in that category. When you have selected the proper function click OK.

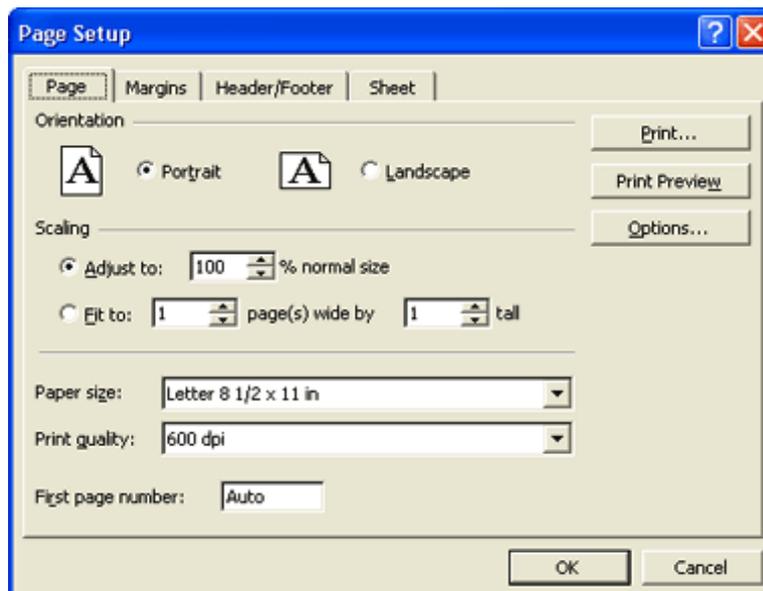
In the Function Arguments dialog box you specify the cells the function will operate on, which are called its arguments. Select the cells with the mouse and click OK. Notice the creation of the function in the formula bar.



Adjusting Page Setup settings

Before you actually print a worksheet, you should provide Excel information about margins, headers, footers, and page orientation. You change these settings using the Page Setup option on the File menu.

The Page Setup dialog box, shown below, has controls for margins, page orientation, headers and footers and whether gridlines and row and column heading should be printed.



To change page margins

To change your margins, click the Margins tab, and enter the measurement for your margin, in inches, in the appropriate text box.

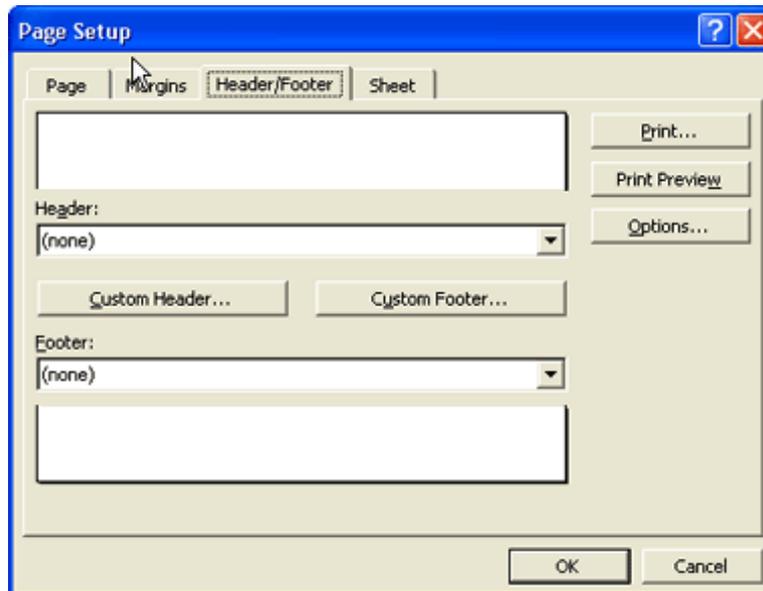
To change page orientation

If you want to change the orientation of the page from portrait (vertical) to landscape (horizontal) click the appropriate button in the Page Orientation section of the Page tab.

To change the header or footer

A header is text that prints at the top of each page. A footer is text that prints at the bottom of each page. Headers and footers often include the name of the file being printed or an alternative title, the date, page number, or additional descriptive information. To change the header or footer, click on the Header /Footer tab in the Page Setup dialog box. The current header and footer will appear at the top and bottom of the dialog box respectively. Click the Custom Header or Custom Footer button to change the existing header or footer.

The header and footer are divided into three sections (left, center and right). Press <Tab> or <Shift Tab> to move from section of the header or footer to another.



Printing

Print preview



Before you actually print, it's a good idea to preview your output on the screen. Choose Print Preview on the File menu to preview your output on screen. Excel's Print Preview screen displays how the document will print on the page, but it is difficult to actually read the text. Notice that the mouse pointer takes the shape of a magnifying glass. You can enlarge the printed image by clicking the Zoom button or by using the magnifying glass. Simply click the magnifying glass on a part of the page you want to enlarge.

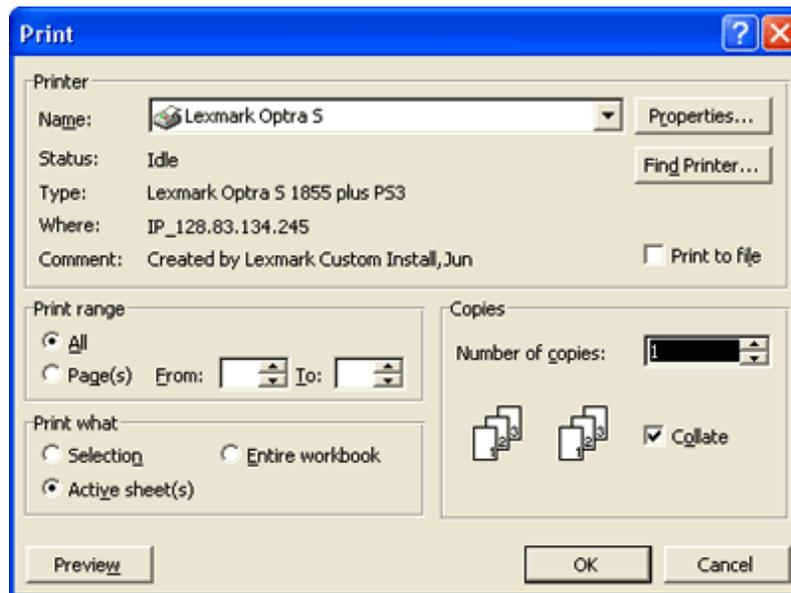
The Print Preview screen also has several buttons at the top of the screen for making adjustments. For example, the Setup button opens the Page Setup dialog box and the Margins button lets you change page margin and column widths to fit more information on one page.

If you are satisfied with how the output appears in the Print Preview screen, the Print button lets you send your output directly to the printer.

Sending your workbook to the printer



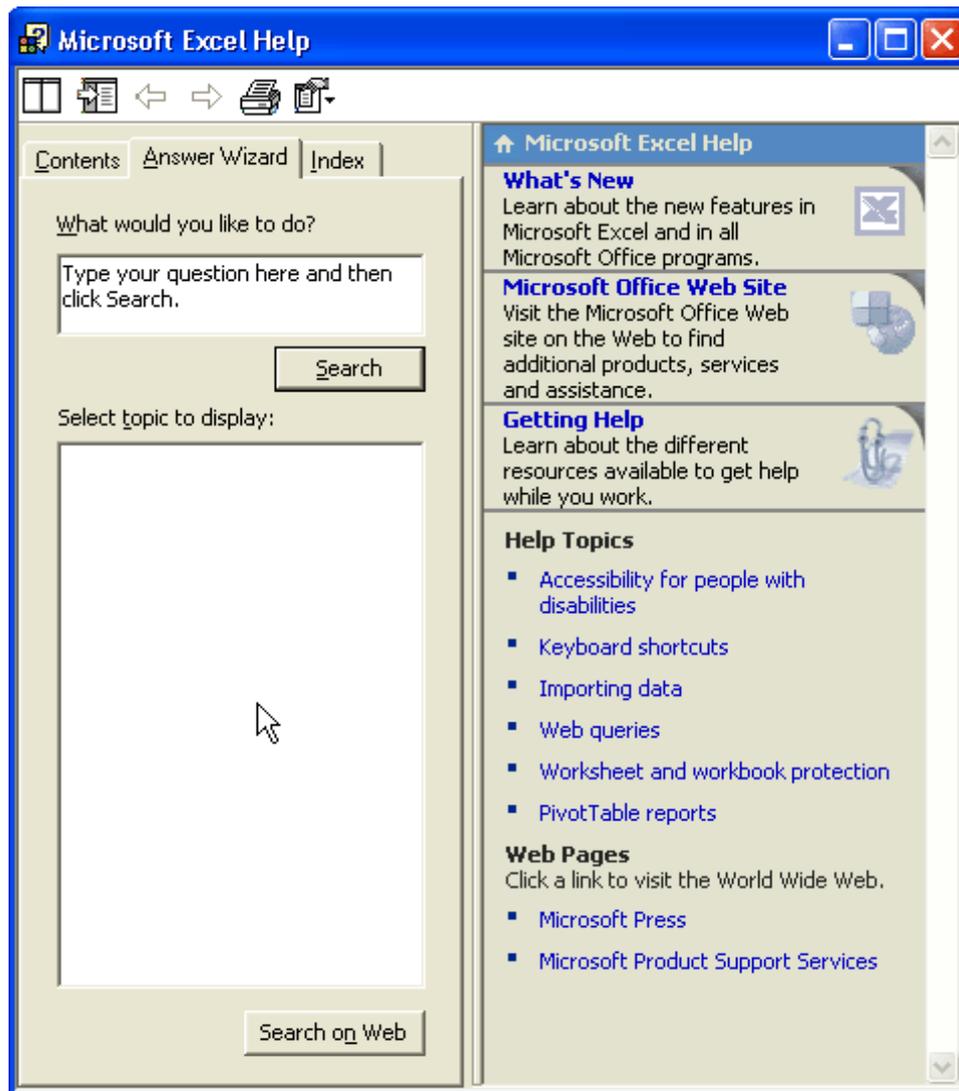
Choosing the Print option on the File menu or clicking the Print button on the toolbar opens a dialog box that lets you change print settings and specify the number of copies to print. The Print dialog box appears below.



Within the Print dialog box, you can select what you want to print, how many copies and which pages. For example, if you only want to print the selected cells, or the entire worksheet you can choose those options.

Getting Help

In the Help System, any topic that has additional information is underlined. To read the information about an underlined topic, click on the topic. The Help System automatically switches to information about the selected topic.



 To expand to the full Help window, click the Show icon.

The Contents Tab

The Contents Tab is a listing of ³books² containing one or more Help topics and even some subbooks. You can open any of these books by double-clicking on it to get information about a topic.

The Answer Wizard Tab

Using the Answer Wizard is similar to using the Office Assistant. You can type in your question or the term you'd like help on, click Search and a list of topics will be displayed. Information on the topic will appear in the right-hand window.

The Index Tab

The Index is an alphabetical listing of key words found in the Help topics. You can either type a word in the first text box or select a topic from the scrolling list displayed below. When you have selected a topic click on the Search button. A list of related topics is

displayed in the third text box. Select the topic of your choice and information about that topic will appear in the right-hand window.

11) Report writing

[source: <http://startup.curtin.edu.au/study/writing/report.cfm>]

Content:

- What is a report?
- Characteristics of an effective report
- Report structure
- Procedure for report writing

What is a report?

A report is a structured written presentation directed to interested readers in response to some specific purpose, aim or request. There are many varieties of reports, but generally their function is to give an account of something, to answer a question, or to offer a solution to a problem.

Characteristics of an effective report

An effective report is:

- appropriate to its purpose and audience;
- accurate;
- logical;
- clear and concise; and
- well organised with clear section headings.

Report structure

One important advantage that a report has over other written communication is that it follows a standardized format. This enables readers to find and focus on specific pieces of information. Most reports are modeled on the following structure (modified where necessary).

- 1) Transmittal document
- 2) Title page
- 3) Table of contents
- 4) Abstract/Executive Summary
- 5) Introduction
- 6) Discussion
- 7) Conclusions
- 8) Recommendations
- 9) Bibliography

Procedure for report writing

The following is a suggestion as to how you might proceed in compiling and presenting a report. There are three stages:

- Planning
- Writing
- Formatting, revising and proof-reading

Stage One: Planning

1. Defining the purpose
 - read the brief carefully
 - identify key words
 - make sure you know what's really being asked
2. Defining the audience
 - determine your audience's level of understanding
 - determine what your audience needs to know
3. Establishing parameters
 - determine the scope and level of detail required
 - determine the length of the report and what can be covered in that length
4. Gathering information
 - make sure the information you gather is relevant, contemporary and factually correct
 - make sure that you transcribe facts and figures correctly

Stage Two: Writing

Write the report in three stages:

- Write the body
- Write the abstract/executive summary
- Write the supplementary material

1. Writing the body

There are four components of the body of the report: the introduction, the discussion, the conclusion and the recommendations.

Introduction

The introduction leads into the main subject matter by giving the necessary background of the report, its aims, premises, scope, limitations, approach intended audience, possible benefits and any instructions that may be useful for the reader. If specialist terms are used in the report, define them clearly.

It puts the discussion in perspective, explains why the report is necessary and gives background information on the subject matter.

Discussion

The discussion is the main body of the report. Use headings and sub-headings. It describes, analyses, interprets and evaluates the procedures, data, findings,

relationships, visual material, methodology and results in the report. This material should be presented in an order that leads logically towards the conclusions and recommendations.

In writing the discussion section of the body, you should:

- pitch at appropriate level
- organise material logically
- use clear, concise language
- give concrete examples

Conclusion

Conclusions are drawn from evidence, analysis, interpretation and evaluation presented in the discussion. No new material should be introduced; the conclusions should follow logically from the Discussion. The Conclusions section should give:

- Conclusions
- Key points
- Main findings

Recommendation

The Recommendation section (when used - not all reports give recommendations) should present your informed opinions, suggestions, possible actions to be taken, applications and recommendations arising from a rational consideration of the discussion and conclusions.

- Be definite
- Be perceptive
- Be imaginative
- Be rational

2. Abstract/executive summary

Once the body of the report is written, write the abstract. The abstract (also known as the Executive Summary) is a concise summary presentation of the essential elements of the report, from the introduction through to and including the recommendations. It should be independent (can be read on its own), comprehensive (covers all the main points), clear and concise. As a general rule it should be short, only 10-15% of the length of the report, and should be written in full sentences and paragraphs. It should include a summary of the following:

- Purpose
- Scope
- Achievements
- Main points
- Conclusions
- Recommendations

3. Writing the supplementary material

Transmittal document

The transmittal document is not part of the report, but accompanies the report. In letter, memo, or minute form, it personalises the report for a specific reader and calls attention to those items or sections in the report which are of particular interest to that person.

Title page

Identifies the report with the following information:

- Title
- Author's name, position and qualifications
- Authority for report
- Place of origin
- Date

Table of contents

The table of contents shows the section titles and major headings listed in order of appearance and indicates page locations. Standard page numbering begins with the Introduction. The Abstract or Executive Summary is usually numbered with lower case Roman numerals (i, ii, iii, iv, etc.)

Bibliography

The bibliography lists all publications either cited or referred to in preparing the report. Use the Referencing System recommended by your School.

Stage Three: Formatting, revising and proof-reading

Apply the following "report checklist"

- 1) Have I fulfilled the purpose of the report?
- 2) Is it written at a level appropriate to its audience?
- 3) Are its facts correct?
- 4) Is it comprehensive?
- 5) Is all the included information relevant?
- 6) Are the layout and presentation well thought out?
- 7) Is the style clear, concise and professional?
- 8) Does the abstract summarise?
- 9) Does the introduction adequately introduce the discussion?
- 10) Is the discussion organised logically?
- 11) Does the conclusions section interpret, analyse and evaluate?
- 12) Are the recommendations reasonable?
- 13) Does the table of contents correspond with the actual contents? Are page numbers correct?
- 14) Have I acknowledged all sources of information through correct referencing?
- 15) Have I checked spelling, grammar and punctuation?
- 16) Have I carefully proof-read the final draft?

12) Plagiarism, referring, citing and falsification

Plagiarism: What It is and How to Recognize and Avoid It

What is Plagiarism and Why is it Important?

In college courses, we are continually engaged with other people's ideas: we read them in texts, hear them in lecture, discuss them in class, and incorporate them into our own writing. As a result, it is very important that we give credit where it is due. Plagiarism is using others' ideas and words without clearly acknowledging the source of that information.

How Can Students Avoid Plagiarism?

To avoid plagiarism, you must give credit whenever you use

- another person's idea, opinion, or theory;
- any facts, statistics, graphs, drawings—any pieces of information—that are not common knowledge;
- quotations of another person's actual spoken or written words; or
- paraphrase of another person's spoken or written words.

To help you recognize what plagiarism looks like and what strategies you can use to avoid it, select one of the following links or scroll down to the appropriate topic.

- How to Recognize Unacceptable and Acceptable Paraphrases
 - An Unacceptable Paraphrase
 - An Acceptable Paraphrase
 - Another Acceptable Paraphrase
 - Plagiarism and the World Wide Web
 - Strategies for Avoiding Plagiarism
 - Terms You Need to Know (or What is Common Knowledge?)
-

How to Recognize Unacceptable and Acceptable Paraphrases

Here's the ORIGINAL text, from page 1 of *Lizzie Borden: A Case Book of Family and Crime in the 1890s* by Joyce Williams et al.:

The rise of industry, the growth of cities, and the expansion of the population were the three great developments of late nineteenth century American history. As new, larger, steam-powered factories became a feature of the American landscape in the East, they transformed farm hands into industrial laborers, and provided jobs for a rising tide of immigrants. With industry came urbanization the growth of large cities (like Fall River, Massachusetts, where the Bordens lived) which became the centers of production as well as of commerce and trade.

Here's an unacceptable paraphrase that is **plagiarism**:

The increase of industry, the growth of cities, and the explosion of the population were three large factors of nineteenth century America. As steam-driven companies became more visible in the eastern part of the country, they changed farm hands into factory workers and provided jobs for the large wave of immigrants. With industry came the growth of large cities like Fall River where the Bordens lived which turned into centers of commerce and trade as well as production.

What makes this passage plagiarism?

The preceding passage is considered plagiarism for two reasons:

- the writer has only changed around a few words and phrases, or changed the order of the original's sentences.
- the writer has failed to cite a source for any of the ideas or facts.

If you do either or both of these things, you are plagiarizing.

NOTE: This paragraph is also problematic because it changes the sense of several sentences (for example, "steam-driven companies" in sentence two misses the original's emphasis on factories).

Here's an acceptable paraphrase:

Fall River, where the Borden family lived, was typical of northeastern industrial cities of the nineteenth century. Steam-powered production had shifted labor from agriculture to manufacturing, and as immigrants arrived in the US, they found work in these new factories. As a result, populations grew, and large urban areas arose. Fall River was one of these manufacturing and commercial centers (Williams 1).

Why is this passage acceptable?

This is acceptable paraphrasing because the writer:

- accurately relays the information in the original uses her own words.
- lets her reader know the source of her information.

Here's an example of quotation and paraphrase used together, which is also acceptable:

Fall River, where the Borden family lived, was typical of northeastern industrial cities of the nineteenth century. As steam-powered production shifted labor from agriculture to manufacturing, the demand for workers "transformed farm hands into industrial laborers," and created jobs for immigrants. In turn, growing populations increased the size of urban areas. Fall River was one of these hubs "which became the centers of production as well as of commerce and trade" (Williams 1).

Why is this passage acceptable?

This is acceptable paraphrasing because the writer:

- records the information in the original passage accurately.
- gives credit for the ideas in this passage.
- indicated which part is taken directly from her source by putting the passage in quotation marks and citing the page number.

Note that if the writer had used these phrases or sentences in her own paper without putting quotation marks around them, she would be PLAGIARIZING. Using another person's phrases or sentences without putting quotation marks around them is considered plagiarism **even if the writer cites in her own text the source of the phrases or sentences she has quoted.**

Plagiarism and the World Wide Web

The World Wide Web has become a more popular source of information for student papers, and many questions have arisen about how to avoid plagiarizing these sources. In most cases, the same rules apply as to a printed source: when a writer must refer to ideas or quote from a WWW site, she must cite that source.

If a writer wants to use visual information from a WWW site, many of the same rules apply. Copying visual information or graphics from a WWW site (or from a printed source) is very similar to quoting information, and the source of the visual information or graphic must be cited. These rules also apply to other uses of textual or visual information from WWW sites; for example, if a student is constructing a web page as a class project, and copies graphics or visual information from other sites, she must also

provide information about the source of this information. In this case, it might be a good idea to obtain permission from the WWW site's owner before using the graphics.

Strategies for Avoiding Plagiarism

1. Put in **quotations** everything that comes directly from the text especially when taking notes.
2. **Paraphrase**, but be sure you are not just rearranging or replacing a few words.

Instead, read over what you want to paraphrase carefully; cover up the text with your hand, or close the text so you can't see any of it (and so aren't tempted to use the text as a "guide"). Write out the idea in your own words without peeking.

3. **Check your paraphrase** against the original text to be sure you have not accidentally used the same phrases or words, and that the information is accurate.

Terms You Need to Know (or What is Common Knowledge?)

Common knowledge: facts that can be found in numerous places and are likely to be known by a lot of people.

Example: John F. Kennedy was elected President of the United States in 1960.

This is generally known information. **You do not need to document this fact.** However, you must document facts that are not generally known and ideas that interpret facts.

Example: According to the American Family Leave Coalition's new book, Family Issues and Congress, President Bush's relationship with Congress has hindered family leave legislation (6).

The idea that "Bush's relationship with Congress has hindered family leave legislation" is not a fact but an **interpretation; consequently, you need to cite your source.**

Quotation: using someone's words. When you quote, place the passage you are using in quotation marks, and document the source according to a standard documentation style.

The following example uses the Modern Language Association's style:

Example: According to Peter S. Pritchard in USA Today, "Public schools need reform but they're irreplaceable in teaching all the nation's young" (14).

Paraphrase: using someone's ideas, but putting them in your own words. This is probably the skill you will use most when incorporating sources into your writing. Although you use your own words to paraphrase, you must still acknowledge the source of the information.

[Source: Indiana University: <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>]

13) Presenting

Making a good oral presentation is an art that involves attention to the needs of your audience, careful planning, and attention to delivery. This page explains some of the basics of effective oral presentation. It also covers use of notes, visual aids and computer presentation software.

The audience

Some basic questions to ask about an audience are:

Who will I be speaking to?

What do they know about my topic already?

What will they want to know about my topic?

What do I want them to know by the end of my talk?

By basing the content and style of your presentation on your answers to these questions, you can make sure that you are in tune with your audience. What you want to say about your topic may be much less important than what your audience wants to hear about it.

Planning your presentation

In an effective presentation, the content and structure are adjusted to the medium of speech. When listening, we cannot go back over a difficult point to understand it or easily absorb long arguments. A presentation can easily be ruined if the content is too difficult for the audience to follow or if the structure is too complicated.

As a general rule, expect to cover much less content than you would in a written report. Make difficult points easier to understand by preparing the listener for them, using plenty of examples and going back over them later. Leave time for questions within the presentation.

Give your presentation a simple and logical structure. Include an introduction in which you outline the points you intend to cover and a conclusion in which you go over the main points of your talk.

Delivering your presentation

People vary in their ability to speak confidently in public, but everyone gets nervous and everyone can learn how to improve their presentation skills by applying a few simple techniques.

The main points to pay attention to in delivery are the quality of your voice, your rapport with the audience, use of notes and use of visual aids.

Voice quality involves attention to volume, speed and fluency, clarity and pronunciation. The quality of your voice in a presentation will improve dramatically if you are able to practise beforehand in a room similar to the one you will be presenting in.

Rapport with the audience involves attention to eye contact, sensitivity to how the audience is responding to your talk and what you look like from the point of view of the audience. These can be improved by practising in front of one or two friends or video-taping your rehearsal.

Effective use of notes

Good speakers vary a great deal in their use of notes. Some do not use notes at all and some write out their talk in great detail. If you are not an experienced speaker it is not a good idea to speak without notes because you will soon lose your thread. You should also avoid reading a prepared text aloud or memorising your speech as this will be boring.

The best solution may be to use notes with headings and points to be covered. You may also want to write down key sentences. Notes can be on paper or cards. Some speakers use overhead transparencies as notes. The trick in using notes is to avoid shifting your attention from the audience for too long. Your notes should always be written large enough for you to see without moving your head too much.

Visual aids

Visual aids help to make a presentation more lively. They can also help the audience to follow your presentation and help you to present information that would be difficult to follow through speech alone.

The two most common forms of visual aid are overhead transparencies (OHTs) and computer slide shows (e.g. PowerPoint). Objects that can be displayed or passed round the audience can also be very effective and often help to relax the audience. Some speakers give printed handouts to the audience to follow as they speak. Others prefer to give their handouts at the end of the talk, because they can distract the audience from the presentation.

[source: <http://ec.hku.hk/epc/presentation/>]

Annexes