

How to write a good publishable manuscript

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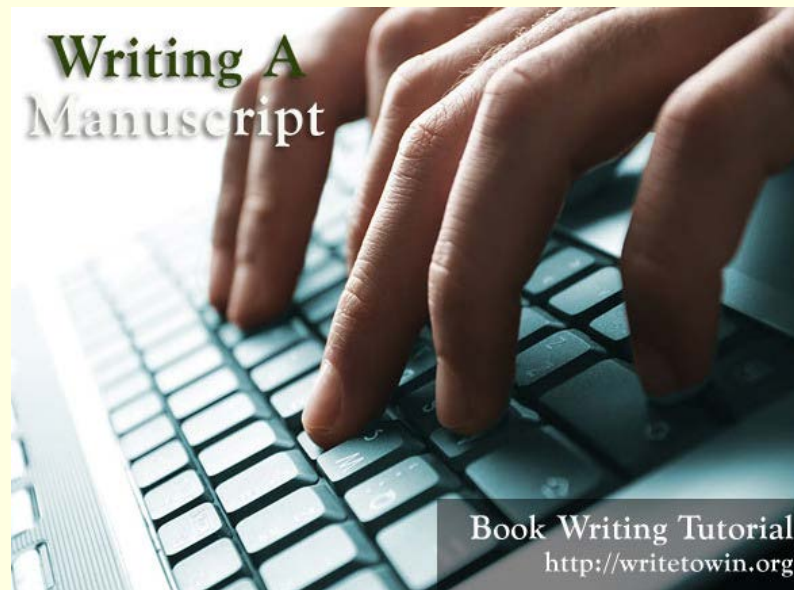
What is the good manuscript?

- A good manuscript leads readers to scientific significance immediately.
 - Content is essential:
 - contain a scientific message that is clear, useful and exciting.
- Presentation is critical:
 - conveys the authors thoughts in a logical manner.
 - Construct on a good format and written in an excellent style.

How to write a good manuscript

- Preparations before starting:
 - Construction of the article.
 - Technical details.
- Check the originality of your idea at the early beginning of your research.
 - Have you done something new and interesting?
 - Is there anything challenging in your work?
 - Is the work directly related to hot topic?
 - Have you provided solutions to any different problems?

**If all answers are yes, then start
preparing your manuscript**



Every paper tells a story

- ❑ the story is *not* what you did, but rather
 - ❖ what you show, new ideas, new insights
 - ❖ why interesting, important?
- ❑ why is the story of interest to others?
 - ❖ universal truths, hot topic, surprises or unexpected results?
- ❑ know your story!

You can write a world class paper

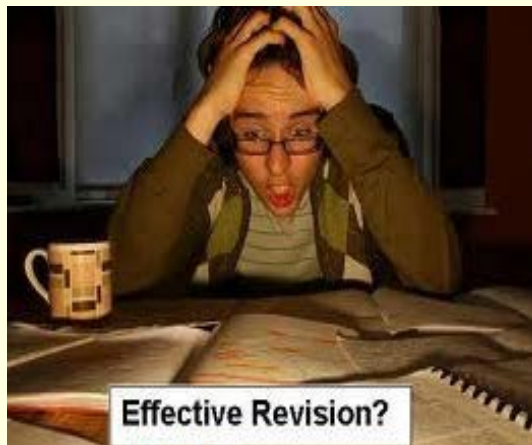
- From title to references
- From submission to revision and acceptance

Your Paper Submissions

You are already associated with the following papers:
You may like to Submit another paper or read the submission rules

TEST (Ref: 6)	
<div>Modify Submission Upload PDF File Change Presenter Withdraw Submission</div>	
Event/Category:	ESEM: Theoretical and Applied Economics
Your Role:	Submitter and Presenter
Other Authors:	n/a
Valid PDF File Uploaded?	<div>A valid PDF file has NOT been uploaded for this paper. Your submission is NOT complete until you upload a valid PDF file. Upload a New/Revised PDF File</div>
Submission Status:	This paper is still Pending

TEST SUBMISSION (Ref: 2)	
<div>Modify Submission Upload PDF File Change Presenter Withdraw Submission</div>	



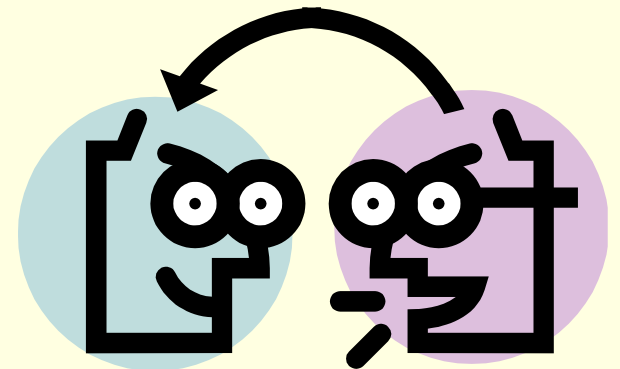
Why write and publish research papers?

- Ideally

- to share research findings and discoveries with the hope of improving healthcare

- Your goal:

**to infect the mind of your reader
with your idea, like a virus**

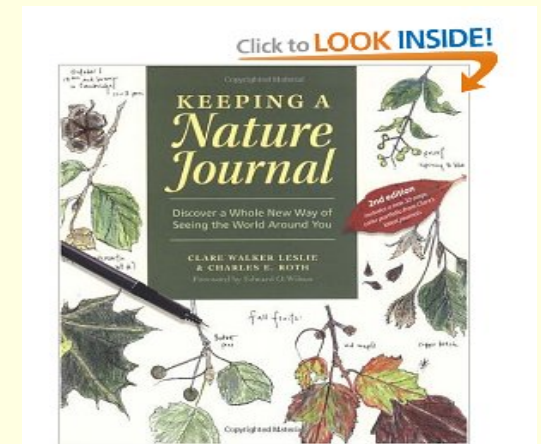


■ Practically

- to get funding
- to get promoted
- to get a job
- to keep your job!

A good scientist =


- Good science
- Good writing
- Publication in good journals



Writing papers is a skill


- Good writing is a skill you can learn
- It's a skill that is worth learning:
 - You will get more brownie points (more papers accepted etc)
 - Your ideas will have more impact
 - You will have better ideas

Increasing
importance



Organizing Analysis & Writing

- Use folders to organize your projects
 - One folder per manuscript
 - Data, notes, relevant articles, drafts of the paper, editorial correspondence, etc.



Fragmentation
+ Tree Communities

A Place for Writing

■ Peaceful

- Quiet, isolated, No noise

■ No distractions

- Clear your desk except for things relevant to your paper
- Avoid shared offices if possible.



■ **Don't try to write if you're really tired**

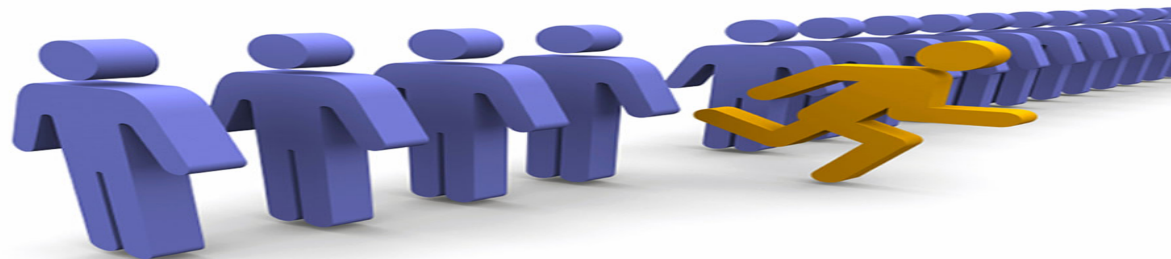
■ Have a nap and then start again fresh

■ Be happy if you get in four good hours a day



Keep writing is Critical

- ~~Work on just one thing at a time~~
- When working on a paper, do a little bit *every day* (even on weekends)
- If you don't feel like writing, just turn on your computer and write one sentence
 - If you don't want to continue then stop—but just getting started is often the hardest part
- Keep going until you finish the manuscript



momentum

Five Steps for Crafting your Paper

- 1) Do lots of analysis to explore your data thoroughly**
- 2) As you work, create publication-quality figures and tables that display your key findings**
- 3) Summarize your main results (including statistical tests) in the Results section as you go.**

4) As you analyze the data, insert ideas within your paper outline.

5) Then write the manuscript, starting with the Introduction and progressing directly through the paper

- **Getting the first draft is the hardest part, so don't be perfectionistic: just write the paper and you can edit it later**



Before you write a paper...chick the following:

- 1. Originality of your Idea**
- 2. Type of Manuscript**
- 3. Who is your readers**
- 4. Choose the right journal**
- 5. Author Guides**

Decide the type of your manuscript

- Full articles/Original articles: the most important papers; often substantial, **completed** pieces of research that are of significance.
- Short communications: usually published for **quick and early** communication of significant and original advances; **much shorter** than full articles (usually strictly limited).
- Review papers: **summarize** recent developments **on a specific topic**; highlight important points that have been **previously reported** and introduce no new information; often submitted **on invitation**.

Paper formatting:

- A standard format is used for scientific articles, in which the author presents the research in an orderly, logical manner.
- This doesn't necessarily reflect the order in which we did or thought about the work.
 - Title | Authors | Abstract, Introduction | Material and Methods | Results (with Tables and figures) | Discussion | Acknowledgement | References

Manuscript preparation

■ Article title

- No more than 15 words
- No excessive punctuation: i.e. no colons, *commas*, “etc.”
- Informative, but not inflated relevance
- Indicate species studied (human versus animal model)

Title

- The title of the paper is the most often encountered part of any paper and therefore has great importance in the success of the paper. Abstracting and indexing services will utilize the title, therefore, all words in the title should be chosen with great care and their association with other words in the title carefully managed.



Assignment 1

**Suggest a title for each of the two
provided abstracts.**

Author listing

- ONLY include those who have made an intellectual contribution to the research
- OR those who will publicly defend the data and conclusions, and who have approved the final version

Authors' contributions

- **AE** designed the study and drafted the manuscript.
- **ABB** helped to draft the manuscript and performed the statistical analysis.
- **LA** provided samples and participated in the design of the study. All authors have read and approved the final manuscript.

Authorship ordering:

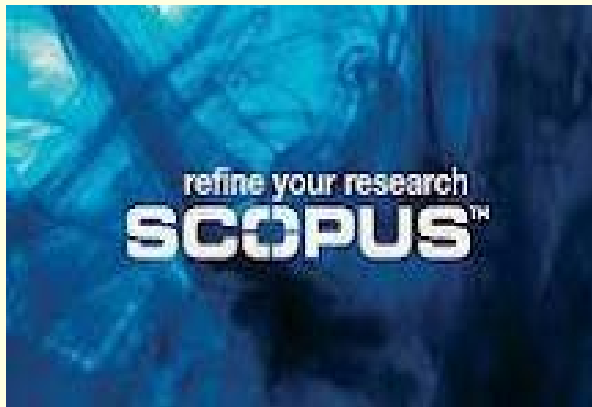
- Most of the journals assume an order based on each author's importance to the study.
- The first author is primarily responsible for collecting and analyzing data, and writing.
- The last one, an established investigator, assumes the overall responsibility for the study.
- The middle authors are listed according to their order of importance to the study.

The abstract:

- The single most important thing about an abstract is that it is a short document that is intended to capture the interest of a potential reader of your paper.
- Thus in a very important sense it is a marketing document for your full paper.
- If the Abstract is poorly written or if it is boring then it will not encourage a potential reader to spend the time reading your work.

The Abstract

- An abstract is a brief, comprehensive summary of the contents of the article;
- It allows readers to survey the content of an article.
- Like the title, is used by abstracting and information services to index the article.



Length of the abstract

- Thus the first rule of Abstract writing is that it should engage the reader by telling him or her what your paper is about and why they should read it.



- The marketing of your proposed paper needs to be done within the word limit of 300 to 500 words. It is poor practice not to use the 300 words and it is considered a bad tactic to go over the limit of 500.



Key words

- Key words are used to find the paper, especially during computerised searches.
- Somewhere between 5 and 10 Key Words are normally required and they should be the words which most closely reflect the content of the paper.



Introduction

- Broad information on topic
 - Previous research
- Narrower background information
 - Need for study
- Focus of paper
 - Hypothesis
- Summary of problem (selling point)

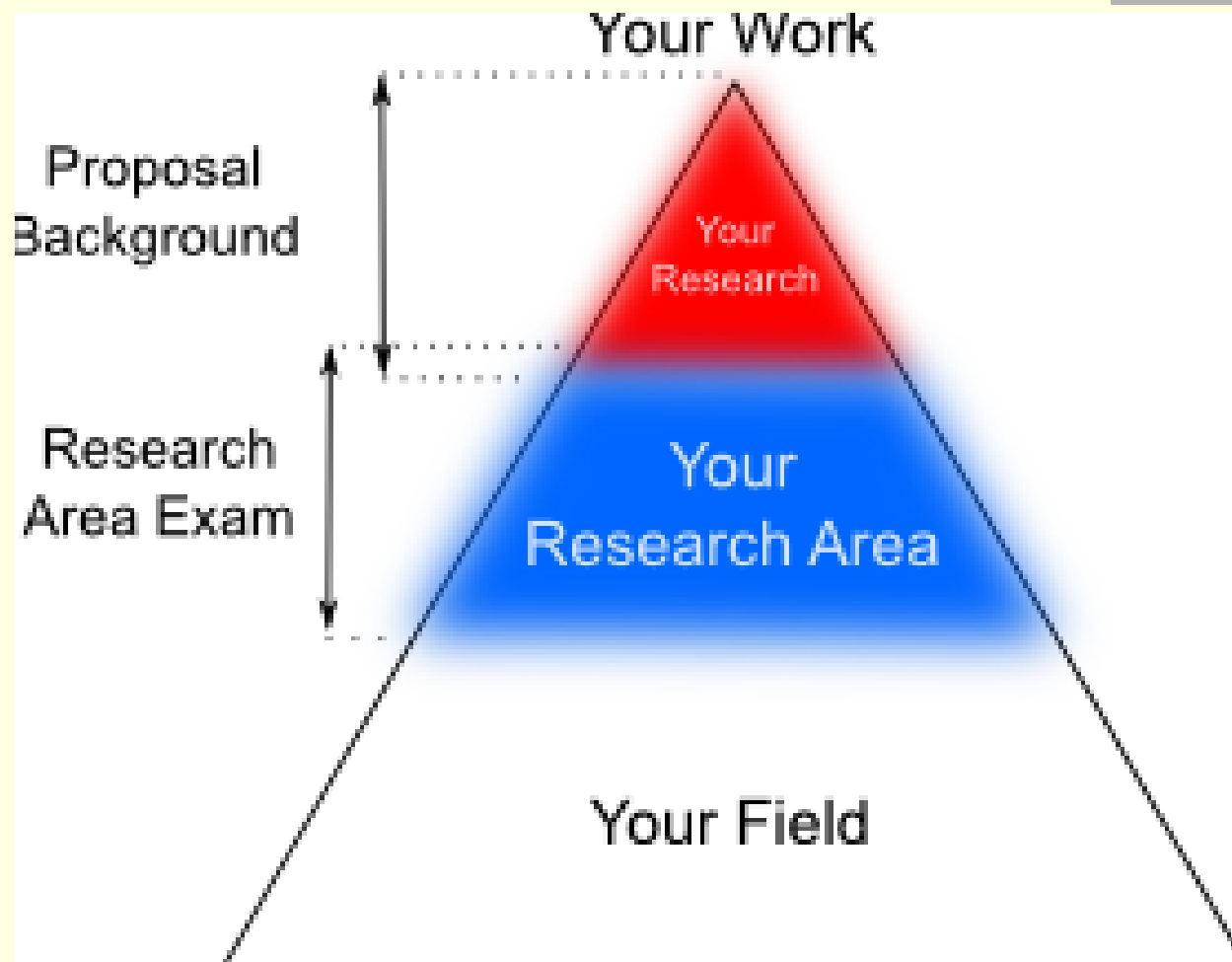
Why narrow your topic?

- You're only writing a paper, not a book.
- Your time for reading is limited. The broader the topic the more you must read in order to cover all aspects of that topic.
- You want to study a narrow area deeply, not a broad area superficially.

How can I
narrow
down my idea?



How to narrow your topic?



**Broadest scope, designed to appeal
to diverse readers**

Progressively narrower
scope: concepts, species,

geographical scale, etc.
with a smooth connection
at each transition to avoid

losing any readers
that we started with

**Study goals:
hypotheses**

Introduction

- if reader not excited by intro, paper is lost
- recipe:
 - para. 1: motivation: broadly, what is problem area, why important?
 - para. 2: narrow down: what is problem you specifically consider
 - para. 3: “In the paper, we”: most crucial paragraph, tell your elevator pitch
 - para. 4: how different/better/relates to other work
 - para. 5: “The remainder of this paper is structured as follows”

Know the basics of organized writing

- paragraph = ordered set of topically-related sentences
- lead sentence
 - might tie to previous paragraph
- sentences in paragraph should have logical narrative flow, relating to to topic
- don't mix tenses in descriptive text
- one sentence paragraph is unacceptable.

Study the art of writing

- writing well gives you an advantage
- *writing well helps in getting your work published in top venues*
- highly recommended:
- who do *you* think are the best writers in your area:
study their style

Common mistakes in writing the introduction

- Too much or not enough information i.e:
- Unnecessary Length
- Unclear structure and organisation
- Lack of purpose and direction
- Too many irrelevant details
- Not enough background context
- Too much background context



Put yourself in place of the reader

- less is more:
 - *take the time to write less*
- readers shouldn't have to work
 - won't "dig" to get story, understand context, results
- what does reader know/not know, want/not want?
 - write for reader, not for yourself

-
- Put enough information for reader to understand what you write?
 - no one has as much background/content as you
 - no one can read your mind
 - all terms/notation defined?

Assignment II:

- Suggest the points to be covered in order to write a perfect introduction related to any of the titles below or any suggested point related to your interest.

Oral carnosine supplementation prevents vascular damage in experimental diabetic retinopathy.

Materials and Methods

what did I do to answer my research question?



Materials and Methods

- Provides instruction on exactly how to repeat experiment
 - Subjects
 - Sample preparation techniques
 - Sample origins
 - Field site description
 - Data collection protocol
 - Any computer programs used
 - Data analysis techniques
 - Description of equipment and its use

How to write the Materials and Methods section

- Provide full details so that the experiments are reproducible.
- If the peer reviewer has doubts that the experiments could be repeated, the manuscript will be rejected.



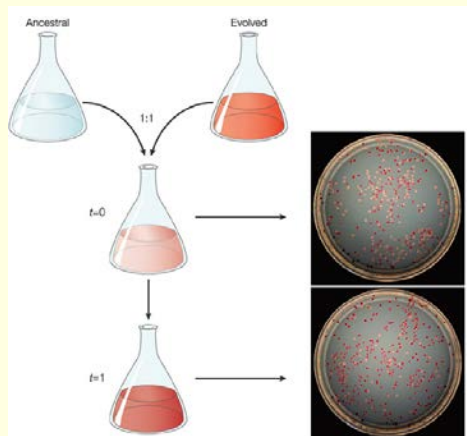
How to write the Materials and Methods section

- Organize the methods under subheadings, with related methods described together (e.g. subjects, experimental design, Measurement of..., Hormonal assays etc...).

-
- Describe the experimental design in detail.
 - Do *not* mix some of the Results in this section.
 - Write in the past tense

Materials

- Must identify accurately experimental animals, plants, and microorganisms used by genus, species and strain
- The source of subjects studied, number of individuals in each group used, their sex, age, and weight must be clearly stated



Materials

If human subjects are used, the criteria for selection should be described, and consent.



Chemicals:

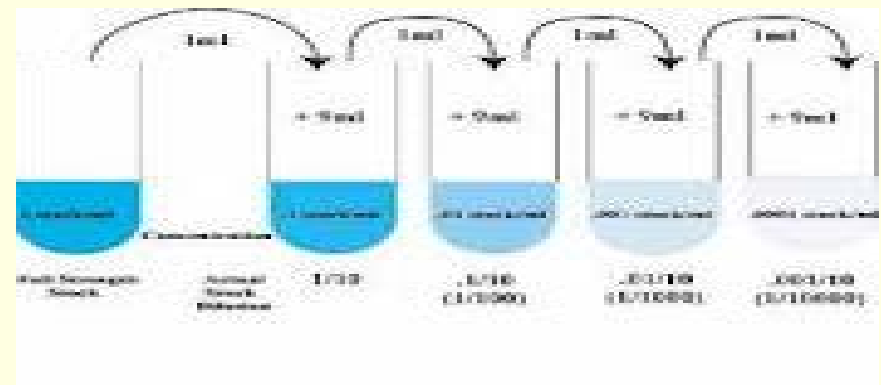
- For chemicals used, include exact technical specifications and source or method of preparation.
- Avoid the use of trade names of chemicals, generic or chemical names are preferred.

-
- Do not include commonly found supplies such as test tubes, pipet tips, beakers, etc., or standard lab equipment such as centrifuges, spectrophotometers, pipettors, etc.
 - If use of a specific type of equipment, a specific enzyme, or a culture from a particular supplier is critical to the success of the experiment, then it and the source should be singled out, otherwise no.
 - Materials may be reported in a separate paragraph or else they may be identified along with your procedures.

Methods

- This part of the manuscript must be clear, precise and concise so that it can be reproducible.
- If the method is new, all details must be provided
- If the method has been previously published in a scientific journal, only the reference should be given with some identification:
e.g. “cells were broken by ultrasonic treatment as previously described by ...”. Preferable than “cells were broken as previously described by “
- Questions such as “how” or “how much” must be answered and not left to be puzzled over
- Methods used for statistical analyses must be mentioned; ordinary ones without comments, but advanced or unusual ones require literature citation

Generalize - report how procedures were done, not how they were specifically performed on a particular day. For example, report "samples were diluted to a final concentration of 2 mg/ml protein;" don't report that "135 microliters of sample one was diluted with 330 microliters of buffer to make the protein concentration 2 mg/ml." Always think about what would be relevant to an investigator at another institution, working on his/her own project.



If well documented procedures were used, report the procedure by name, perhaps with reference, and that's all. For example, the Bradford assay is well known. You need not report the procedure in full - just that you used a Bradford assay to estimate protein concentration, and identify what you used as a standard. The same is true for the SDS-PAGE method, and many other well known procedures in biology and biochemistry.

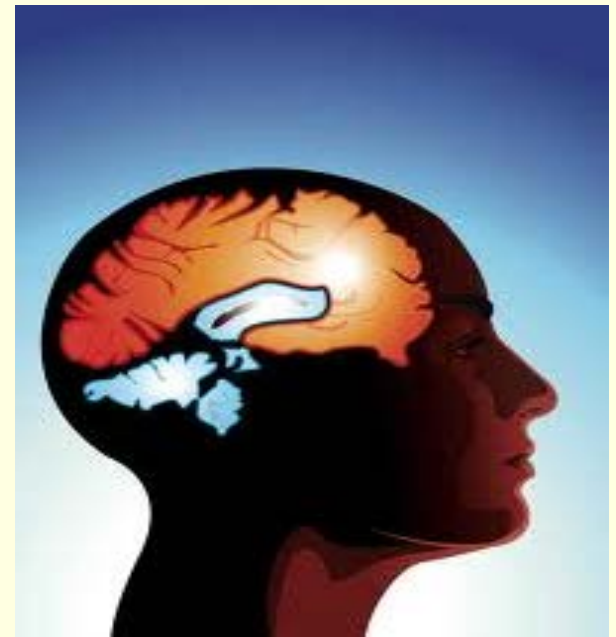
Style

- Do not use active voice when documenting methods without using first person, which would focus the reader's attention on the investigator rather than the work. Therefore when writing up the methods most authors use third person passive voice.
- Use normal prose in this and in every other section of the paper – avoid informal lists, and use complete sentences.

How to write the discussion section



**Now you have to
start thinking in
order to write a
perfect discussion**



Before you put pen to paper:

- Make a list of what you put in the results on scrap paper
- Think about what these results tell you about your hypothesis
- Plan a way to discuss them in a logical order
- Consult your team authors.

The Discussion depends on the nature the work

- If you apply or use new technique you must evaluate the experimental method used.

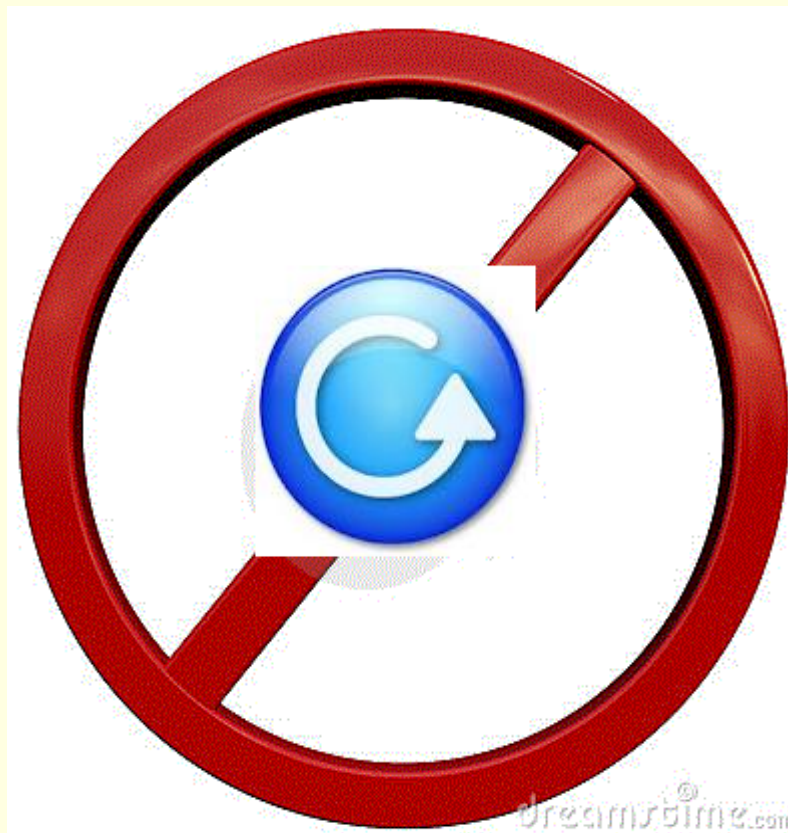


First paragraph

- State major findings
- Paraphrase abstract



REPEAT!



Middle paragraph

- Base each on a major result
- Always focus on your results
- Never discuss prior work without reference to your work
- Refer Tables and Figures

Reference to your hypothesis where these supported

- AND whether your findings are realistic
- Should include references that support and/or challenge your results and ideas
- Should talk up the good, as well as the bad

Last paragraph

- **“In summary...” (2-3 sentences)**
- **Avoid speculation, avoid “need more work”**



-
- **End with a concluding paragraph that sums up:**
 - what you did
 - what you found
 - your main conclusions

Citing References in Scientific Research Papers

Frequently Asked Questions

Why do I have to cite sources in my research paper, anyway?

Why do I have to use different citation styles?



Who is going to help me if I can't do it?

How do I know when to cite?

What is the difference between a bibliography and works cited page?

Purpose for citing your sources

- Academic Integrity
- Authority
- Prevents Plagiarism
- Identify the sources you used



- It is important to properly cite references in scientific research papers in order to acknowledge your sources and give credit where credit is due.



When to cite

CITE

- Author's idea
- Author's thought
- Author's opinion
- Author's research
- Quotations
- Summary of someone's work / research
- Other people's pictures, illustrations, etc.

DO NOT CITE

- Common knowledge

- Your own thoughts

Your own

Your artwork

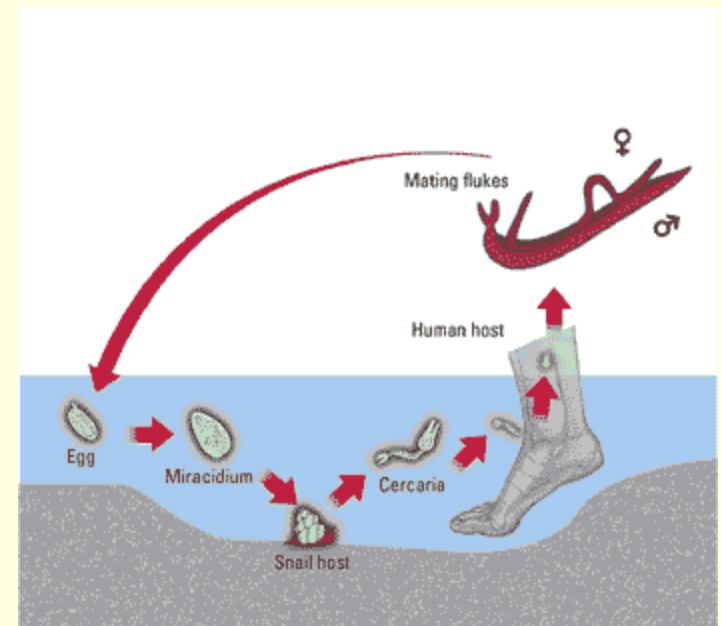
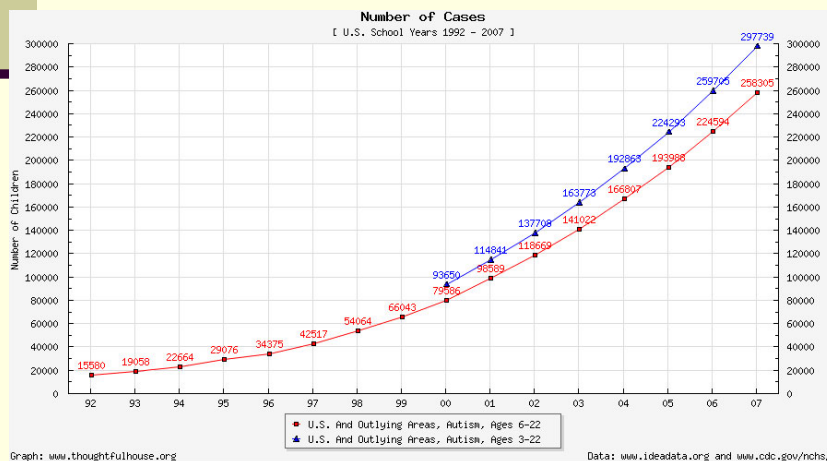


- Science moves forward only by building upon the work of others. There are, however, other reasons for citing references in scientific research papers.
- Citations to appropriate sources show that you've done your homework and are aware of the background and context into which your work fits, and they help lend validity to your arguments.



-
- Reference citations also provide chances for interested readers to follow up on aspects of your work -- they help weave the web of science. You may wish to include citations for sources that add relevant information to your own work, or that present alternate views.

- Furthermore, if you use figures, illustrations, or graphical material, either directly or in modified form, that you did not yourself create or design, you need to acknowledge the sources of those figures.



Two ways of citing information

- **In text Citation: Pointing to where you got your information from (data, quotes, images, facts) inside the body of the text**
- **Bibliography citation**
 - **Complete list of every source you used for the assignment**

Citation Examples

- Single Author
- Multiple authors
- No Author
- Webpage
- Book Chapter

Details of Citing References in your Text

When you cite a reference in your text you should use one of the following three formats:

(1) Mention the author by last name in the sentence and then give the year of the publication in parenthesis:

According to El-Ansary (2011), Saudi autistics recorded high levels of plasma lipid peroxide together with low level of glutathione compared to control subjects.

(2) Give the facts or ideas mentioned by the author and then attribute these facts or ideas by putting both his or her last name and the date in parenthesis:

Saudi autistics recorded elevated levels of plasma short chain fatty acids, cytokines, and lipid peroxides (El-Ansary, 2010).

(3) Quote the author exactly--be sure to put the quoted phrase between quotation marks--and then list the author's name, the date, and the page number in parenthesis:

"Autistic patients from Saudi Arabia are under H₂O₂ stress due to overexpression of superoxide dismutase" (Rodgers, 1983, p. 229).

-
- If you have more than one source by the same author published in the same year, distinguish them both in the in-text citation and in the reference list, by appending the letters a, b, c... to the year, in the order in which the different references appear in your paper. (For example: Allen 1996a, 1996b.)

-
- If the reference you are citing has two authors, use the following format:

Propionic acid induces neurotoxicity in rat pups
(El-Ansary and Al-Daihan., 2011).



-
- If the reference you are citing has more than two authors, use the following format:
 - Omega 3 was found to be protective against propionic acid neurotoxicity (El-Ansary *et al.*, 1985).



Citing different sources of information

- If your source of information is from a personal verbal communication, you would use the following format for the first citation from that person:

In Saudi Arabia the prevalence of autism increased over the last 5 years (Talat 2008, personal communication).



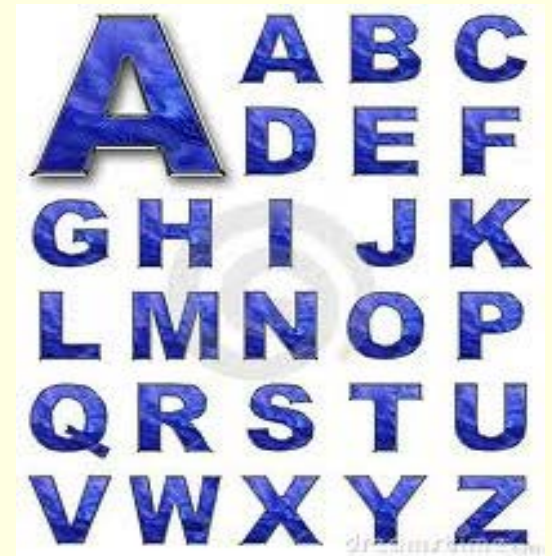
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- If your source of information is from written correspondence (a letter or e-mail), you would substitute the word "written" for the word "personal" above, and you would add the date of the letter (if dated).
 - Personal communications are generally not included in the References Cited or Bibliography section, although unpublished papers, reports or manuscripts should be.

-
- If your source of information has no individual identifiable author, use the name of the organization to which the work can be attributed in place of the author's name:
 - The reference citation style described here is a version of the "Author, Date" scientific style, adapted from the Council of Biology Editors (1994).

-
- For internet sources without any identifiable author or date, simply use the URL address as the in-text citation:
 - As New England is located at the convergence of several distinct storm tracks (http://www.mountwashington.org/mtw_mtn.htm), we expect to find clear differences in isotopic composition among seasons and potentially among different rain storm events (Fig. 1).

Details of Formatting Reference Lists

- Your list of References Cited should include all of the references you cited in your paper, and no more! It should be arranged in alphabetical order by the last name of the first author.
- If you have more than one entry by the same author, they should be further ordered by increasing publication date (more recent papers last).



-
- If you have multiple sources from a single author published in the same year, distinguish them both in the in-text citation and in the reference list, by appending the letters a, b, c... to the year, in the order in which the different references appear in your paper. (For example: Allen 1996a &b.)

“You should include enough information that your readers will be able to find these sources on their own”.

-
- The exact format is not critical, but consistency and completeness is. Reference lists are generally reverse-indented, this just helps the reader to find references to specific authors that much faster.

■ For Books:

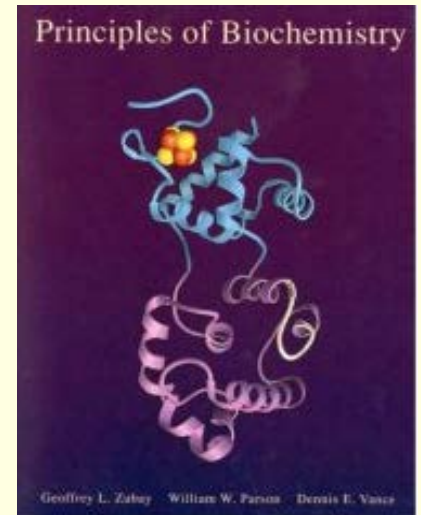
List all authors by last name and initials, separated by commas if there are more than two authors. Put an "and" before the last author in the list. Then put the year of publication, the title of the book (in italics if possible), the publisher, the city, and the number of pages in the book.

One author:

- Gould, S. J., 1983, *Hen's Teeth and Horse's Toes*, W. W. Norton, New York City, 413 p.

Two or more authors:

- Ingmanson, D. E. and Wallace, W. J., 1985, *Oceanography: An Introduction*, Wadsworth, Belmont, CA, 530 p.



■ For Articles or Chapters with separate authors from a Book:

List the author(s) of the article using the same format given above for books, then give the year, the title of the article or chapter (no quotes, italics or underlines), then the name(s) of the editor(s) of the book, followed by "ed." or "eds.". Then put the title of the book (in italics if possible), the publisher, the city, and the page numbers where the article can be found:

Rodgers, J., 1983, The life history of a mountain range-- Appalachians, in Hsu, K. J., ed., *Mountain Building Processes*, Academic Press, Orlando, p. 229-243.

■ For an Article from a Journal or Magazine:

List the author(s) of the article using the same format given above for books, then give the year, the title of the article or chapter (no quotes, italics or underlines), then the title of the journal or magazine (in italics if possible), the volume number of the journal (do not use the publication date), and page numbers where the article can be found: One author:

- Maddox, J., 1987, The great ozone controversy, *Nature*, v. 329, p. 101. Two or more authors: Vink, G. E., Morgan, W. J., and Vogt, P. R., 1985, The Earth's hot spots, *Scientific American*, v. 252, p. 50-57.

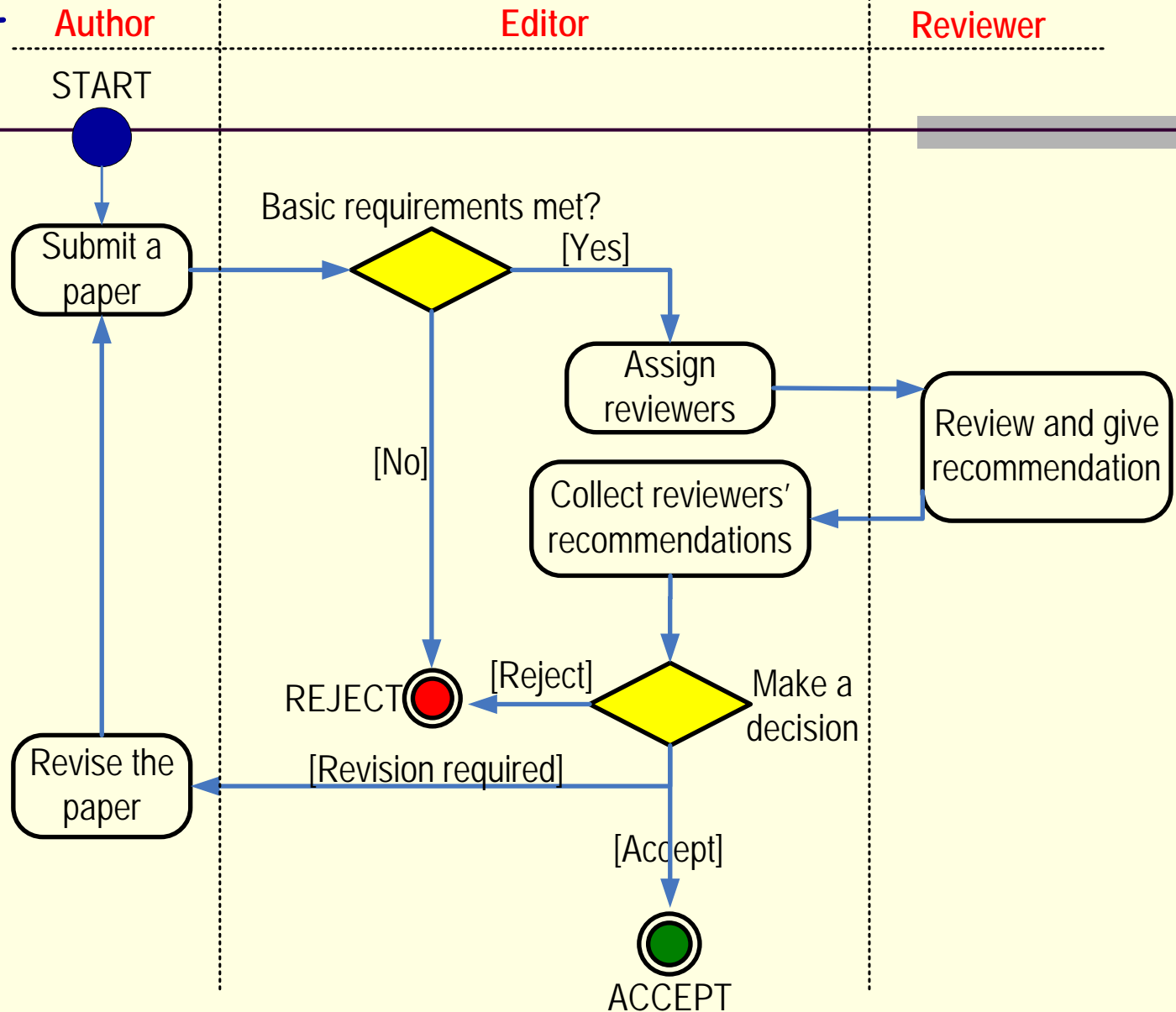
-
- **For Internet sources** Give the author's last name and initials (if known) and the date of publication (or last modification). Next, list the full title of the work (e.g. the specific web page), and then the title of the complete work or site (if applicable) in italics (if possible). Include any version or file numbers, enclosed in parentheses. Most important, provide the full URL to the resource, including the protocol, host address, and the complete path or directories necessary to access the document. Be sure to spell this out exactly! (best to use an electronic "copy" from the "location" box of your browser and "paste" into your word processor). Finally specify the date that *you* last accessed the site, enclosed in parentheses.
 - Focazio, M.J., Welch, A.H., Watkins, S.A., Helsel, D.R., and Horn, M.A., 1999, A retrospective analysis on the occurrence of arsenic in ground-water resources of the United States and limitations in drinking-water-supply characterizations, *U.S. Geological Survey Water-Resources Investigation Report 99-4279*, <http://co.water.usgs.gov/trace/pubs/wrir-99-4279/> (August 1, 2000)



Be familiar to publication steps



Steps to publish your paper



What gets you accepted?


- Attention to details
- Check and double check your work
- Consider the reviews
- English must be as good as possible
- Presentation is important
- Take your time with revision
- Acknowledge those who have helped you
- New, original and previously unpublished
- Critically evaluate your own manuscript
- Ethical rules must be obeyed



Why Papers get Early Rejection (Part 1)

Aims and scope

- Paper is of limited interest or covers local issues only (sample type, geography, specific product, etc.).
- Paper is a routine application of well-known methods
- Paper presents an incremental advance or is limited in scope
- Novelty and significance are not immediately evident or sufficiently well-justified



Publication is another skill you must
be keen to develop