

Article Critique

Biol-1, revised Fall 2015

Objectives:

- The ability to communicate effectively is almost as important as knowledge itself. This paper is an opportunity to improve your ability to communicate in writing.
- Explore topics beyond our textbook. Outside readings provide a different perspective from the textbook, and give details on topics that are of interest to biologists.
- Motivate some discussion of the reliability of information sources.

Instructions:

Phase 1:

1. Choose an article from the following list of periodicals. These journals are written for popular consumption, and give you a taste of some resources available. We will probably do some example searches together in class.

Please find something about which you have some interest! As examples, several articles are on our class webpage. If you have doubts or trouble with your article choice, feel free to email me your article for feedback, or ask for help with your search.

Journals for first report:

New Scientist	Skeptical Inquirer
Science News	Natural History
Discover	Science (the briefs near the front of each issue)
Physician and SportsMedicine	Nature (the briefs near the front of each issue)
Scientific American	

2. Print a copy of your article.
3. Write a citation for the article on the top of the first page.

Citation format: Author names. Year published. Article title. Journal name, Volume number (Edition): Page numbers.

Example: Briggs, C. 2014. Glass blowers and their exposure to thermophilic *Escherichia* in molten products. *Journal of Interesting-Sounding Example Studies*, 31(2): 123-125.

Rubric for Phase 1:	Article turned in:	8 pts
	Citation written at top:	2 pts
	Total:	10 pts

Phase 2:

1. Read your article. I like to start with the pictures and figures, look at the captions, and examine any graphs. Look up unfamiliar words as you go. Make notes in the margins or on a separate sheet regarding your thoughts and questions.
2. One of the best ways to plan your paper is to do all of your reading and note-taking until you understand the material. Then get the original material out of your sight and write your thoughts in your own way.
3. For your paper, your assignment is to write a report in three labeled sections, of increasing importance:
 - (1) Summarize the article, in 2-3 sentences. Please do not quote the article.
 - (2) Discuss how the article relates to what you are learning in our class.
 - (3) Evaluate the scientific quality of the article. (See separate section on skepticism.)

You may find that you need to read ahead in our textbook to acquire the background you need. I hope that you will use your critical thinking abilities and draw on your own experience.

Format:

- No longer than two pages, and double-sided printing is great
- Typed, double-spaced, 1-inch margins, 12-point font

Other tips:

Research: When “research” is used as a noun, it is singular. Examples:

- “*Smith has done years of research.*”
- “*Their lab does research on zebra-fish.*”
- “*She has performed twenty research projects.*”

Species: The word “species” can be either singular or plural. Examples:

- “*There are twelve species of butterflies in my yard.*”
- “*There is only one species of rat in my kitchen.*”

Rubric for Article Critique, Phase 2 Biol-1, C. Briggs, revised Fall 2015		
	Possible	Score
<i>For parts 1-3: Full points=clear, coherent, thorough Half points=incoherent, minimal, or lacking depth and completeness 0=missing</i>		
Part 1: Article summary	4	
Part 2: Connect to class	8	
Part 3: Evaluation of scientific quality: Reliability of article, of author	8	
Hypothesis analysis	2	
Your further questions	4	
No longer than 2 pages	1	
Typed, double-spaced, sections labeled (Part 1, 2, 3)	1	
Grammar, spelling, sentence structure <i>2=impeccable 1=few errors 0=many errors, posing obstacles to comprehension</i>	2	
Total	30	

Evaluating Scientific Quality:

Instructions:

1. Look over these suggestions regarding evaluating sources of information:

Evaluating Sources of Information: adapted from "Evaluating Websites," by D. Distanto, Mt. SAC Library

To evaluate a website, or any other source of information, consider the following:

Are there clues that this is "good" information?

- Date: Is the date the information was written and/or last updated clearly marked?
- Author: Who is responsible for the information on the page? Does the page list professional credentials or experiences which qualify that person/organization as an expert on the topic?
- Affiliations: Is the author identified with any group or organization which might influence his viewpoint?
- Contact Information: Is there a way to contact the author (email, phone number, or postal address)?
- Background: Is the information presented verifiable in outside sources?

Who is responsible for the information being presented?

- Is it from an individual or an organization?
- What are the goals of the author in presenting this information? Potential for "conflicts of interest."
- Are the qualifications that allow the author to speak authoritatively on the topic listed?
- Are the background and expertise of the individual/organization given?
- If you have questions about any of these, email the author and ask.

Where is the information coming from?

- Domain names give basic information on where the data is originating. The domain name is the first piece of information after the http:// of an Internet address. For example, the domain name for Mt. SAC is www.mtsac.edu.
- (Extensions such as .edu or .com can indicate the type of organization that is responsible for the information, but these are not good indicators of reliability.)

Did someone else consider this information to be acceptable?

- Was it reviewed or recommended in a professional journal?
- Was it linked from another site whose authority and reliability you trust?
- Note: Most search engines do not screen or evaluate the sites that they index. Directories and pathfinders are based on the selectivity of their creators.

One way to check your judgement: Can you write a 1 – 2 sentence explanation of why the Internet source is authoritative enough to include in a list of works cited?

2. As practice, compare the two websites below to determine which is more useful and credible:
 - Website #1: "Climate Change Myths." <http://rense.com/general88/climchn.htm>
 - Website #2: "Climate Change." <http://www.epa.gov/climatechange/>
3. Examine your article carefully, with regard to the questions above. Write down what you notice about your article.
4. Note your other observations of the article itself:

	Completeness	Clarity of language and terminology
	Neatness	Citations present or absent
5. Consider the scientific quality of your article:
 - Is a hypothesis given?
 - Is the hypothesis testable or falsifiable? Good example: "All of the sheep in Walnut are orange."
Not good example: "There is an invisible, non-detectable dragon in my garage."
 - Do the ideas in the article fit with other ideas about how our universe works?
 - Has anyone been able to reproduce the author's findings?
6. What further questions came to mind as you read the article? Try to think of questions that start with "How...?", "Why...?", and "What if...?"
7. Summarize your discoveries, in the third section of your article critique.