

Journal Article Evaluation (JAE) Requirements

The article you choose must be from a credible, current (2010 - 2012) periodical source of scientific information. The article must be related to **biology**, and should be written at a level intended for a scientifically literate audience (not for a general audience). The article **must** include an experiment and contain quantitative data. As you read the article, annotate it with your thoughts, comments, or questions. An annotated copy of the article must be submitted with your evaluation. Acceptable scientific journals include: *American Journal of Psychotherapy*, *American Midland Naturalist*, *American Scientist*, *Bioscience*, *Discover*, *Journal of Cell Biology*, *Journals of Gerontology*, *Journal of Athletic Training*, *The Lancet*, *Nature*, *Neurology*, *Public Library of Science (PLOS)*, *Proceedings of the National Academy of Science (PNAS)*, and *Science*. If you have questions about your source or are unsure if the article you've selected is acceptable, please ask your teacher well in advance of the assignment due date. **Your Journal Article Evaluation MUST include ALL of the following:**

I. Bibliographical citation in APA format: Use Hacker manual

II. Abstract/Introduction:

In a short paragraph (~200 words), explain the purpose(s) and main idea(s) of the article. Explain why the subject is important to modern biology. Include a brief summary of quantitative results (averages, percent change, etc.) and the major conclusion(s).

III. Vocabulary: List and define relevant and/or new terms used in the article.

IV. Evaluation:

- A. Explain, with **significant elaboration** how the article demonstrates (or does not demonstrate) sound experimental design. Each item (#1-5) listed below should be at least one paragraph!
1. Identify & **evaluate** experimental variables, dependent variables, and constants
 2. Explain, **in detail**, the design of the control and experimental groups, and include explanations of technologies and organisms utilized
 3. Identify & **evaluate** attributes of experimental method and data collection method.
 4. Identify & **evaluate** number of trials performed & sample size for each group and/or trial
 5. Provide a **detailed** accounting of the quantitative data collected. Evaluate the reliability of the data (using p-values, statistical analysis provided in the article, or your knowledge of experimental design). Communicate the conclusions discussed in the article and **cite** the data that support conclusions.
 6. Include a graphical representation of the **experimental design** (not the results): flow chart, concept map, or drawing of control and experimental group conditions, etc. This provides a visual way for the reader to grasp **all** features of the experimental design.
- B. Explain how your article relates to bioethics. See C.O.B. page 17. Evaluate the bioethical considerations addressed in your article for **AT LEAST TWO** of the following principles: honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, responsible publication, responsible mentoring, respect for colleagues, social responsibility, nondiscrimination, competence, legality, animal care, and human subjects' protection.
- C. Explain, with a **significant elaboration to demonstrate understanding** how the concepts in the article relate to **TWO** of the major themes of biology. **THIS IS THE MOST IMPORTANT PART OF THE ASSIGNMENT.** Define each theme, and then *cite specific evidence from your article to demonstrate relevance to themes*. Consult outside resources (use in-text citations) and incorporate concepts and ideas learned throughout the year. Use C.O.B. pages 28-29 for applications of themes. Acceptable themes include the following:

Evolution	Energy Transfer	Continuity and Change
Regulation	Interdependence in Nature	Relationship between Structure & Function
<i>(homeostasis)</i>		

Important Reminders:

- All summaries must be typed, and be *at least* 2 full pages in length with 12 pt font, 0.5" margins on all sides
- An annotated copy of the article **must** be attached to JAE (**not** entire journal, periodical)
- All students are required to submit a JAE on the 3rd Friday of each grading term **at the start of class**. You may turn in a second JAE on the 6th Friday of the grading term to replace the score of your first JAE. Failure to submit the first JAE prohibits you from submitting a JAE at the end of the grading term. One JAE score for each grading term will be included in each term grade and is worth 10% of each term grade.
- JAE will be accepted up to 1 day late for 60% credit. **Even if you are sick and have an excused absence, you must turn in your JAE on the due date for full credit.** 'Late' includes summaries turned in after your scheduled class period or the day following an absence. (*Anticipate and eliminate technological problems! Don't procrastinate!*)