



CRITICAL THINKING & INFORMATION LITERACY ACROSS THE CURRICULUM

Mice and Matter Assignments: Overview

Mice and Matter is an interdisciplinary course involving Chemistry 101, Biology 101, Learning Strategies (HD 120), and CTILAC (English 103). We are using Critical Thinking as a way to explore the chemistry and biology content and to link the two science disciplines.

1. [Pre-/Post-Test](#)
Start with this test to assess where your students are use it to measure student learning.
2. [Reference tools](#)
Using Library Reference Materials
 - o students look up terms relating to evolution
 - o explain those terms to others
 - o group discussion on the different roles of science and religion
3. [Search strategy](#)
Use Library of Congress Subject Headings and the online library catalog to develop research questions related to different topics.
4. [World Wide Web](#)
Use search engines to find information on the Internet and learn how to evaluate web materials
5. [Issues assignment](#)
Look for resources that cover both sides of an issue
6. [Periodicals](#)
Search for periodical articles in electronic databases and learn to evaluate different types of articles
7. [Capstone project](#)
This final poster project pulls together the work from the class.

Mice and Matter Reference Materials Assignment

You will work in groups of 2. Each group is assigned a term relating to evolution. Look up your term using a variety of different reference sources, such as general and specialized encyclopedias and dictionaries.

Work together to understand what your term means. You need to agree on your definition. You will then be asked to explain it to others in class.

Type up your definition, include complete citations for **four** different reference sources you used to find this definition. Bring this to class.

Terms to look up:

- Evolution
- Faith
- Natural Selection
- Paradigm
- Religion
- Supernatural
- Theory

Mice and Matter Search Strategy Assignment

Part I - your research question

Working in groups of 2-3 for this assignment, consider the following list of topics. For each topic come up with at least two different questions that you could use as a basis for a research project. Phrase each of your possible research projects as a question, not a statement.

Example:

Topic - Violence on television and in movies

Possible questions:

- Does TV and movie violence contribute to violent crime?
- Is the rating of TV and movies for violent content an effective method to decrease exposure of young children to violence?

Topics:

- Athletic training
- Cloning
- Gene therapy
- Global warming
- Nuclear power plants
- Smoking
- Spotted owl
- Toxic waste

Part II - Refining your search

Pick one question from the list you have generated and develop a list of key concepts and search terms that you could use to find information. List these below:

Research question:

Search terms and key concepts:

Using the Library of Congress Subject Headings (LCSH) books and the search terms you listed above, identify at least one valid search heading for your concept.

List the LC call numbers associated with this subject heading.

Find under this subject heading narrower and broader terms, and related terms that you might use.

Find any cross-references (See Also) associated with this heading. Use this information to refine your question and search strategy.

Part III - Using OPAC

Using the keywords and search terms your group came up with, search the On- line Public Access Catalog for BCC Library to find **one** book on your topic.

List 5 keywords or search terms from the book that might help you find additional information in other indexes.

Look at the online catalogs for King County Public Library system and the UW Library to find 2 more books on your topic. Using the correct format provide the complete citations for the 3 books.

Mice and Matter Periodicals Assignment

Use the full text databases (ProQuest and EbscoHost) available on the library web page, to find three articles, one from each of the following:

- a. an academic, peer-reviewed, journal
- b. a popular magazine
- c. a large newspaper (not the National Enquirer)

Write a brief summary of the information you found comparing how the three sources differ in presenting information. When writing your summary consider the following questions:

- What aspects of your topic might you have missed if you only looked for articles in one source?
- How does the approach to the topic differ with the source?
- Is there information in one source that does not appear in different source?

Submit your typewritten summary with the correct citation for each article. Attach a copy of each article. At least one article must be a photocopy of an actual journal or newspaper, not "virtual." The others may be full text from a computer.

Topic:

Couples with fertility problems may use in vitro fertilization techniques in order to have a child. This involves stimulating the woman's ovaries to produce many eggs and fertilizing them outside the body with the man's sperm (hence the term 'in vitro'). The zygotes are grown in petri dishes and then several embryos (5 or 6) are transplanted into the woman's uterus. The remaining embryos are usually frozen as a backup supply in case the procedure is unsuccessful or the couple want more children later. If kept frozen these embryos appear able to survive indefinitely.

Mice and Matter World Wide Web Assignment

Search the World Wide Web (WWW) to find a page that provides information on the following issue. Print the page, making sure that your printout includes the URL, title of the page, and the date you found it. Bring FIVE (5) copies of your page to class.

The issue question is:

Should the production and sale of cigarettes be banned in the United States?

You need to find information on the pro (or con) side of this issue i.e. information that supports a "yes" answer to the question. Half the class looks for pro arguments and half look for con arguments.

Mice and Matter Issues assignment

One of the hardest parts of looking at issues is coming up with a suitable issues question - one that is truly controversial for which you can find valid evidence to support both sides of the issue. Remember you must include biological and/or chemical evidence, not just moral or political arguments. This assignment will be a dry run where you will formulate some issues questions and list arguments for and against each issue.

Assignment:

This is your ticket into the group exercise. You should come to class with this completed. You will not be allowed into the group discussion without these questions.

The attached articles may be used a resource to help you formulate questions. You can also use your textbook or other resources for ideas. Do not use the example question as one of your questions.

Write two issues questions. These should be phrased as a question which can be answered with both "yes" and "no". For each question, list one argument in favor of the "yes" position and one in favor of the "no" position.

Example question:

Should doctors be allowed to prescribe marijuana to patients?

- Yes, it has been demonstrated to relieve symptoms of glaucoma and side effects of chemotherapy.
- No, there are other drugs available for these problems. Smoking marijuana leads to other health problems and possible addiction.

Mice and Matter CAPSTONE PROJECT

Each person will work in a group to produce a poster that addresses an issue related to biology and/or chemistry. Remember that for this class, "an issue is something for which informed people disagree". It must be controversial. For this assignment, the issue must also have some interesting biology and/or chemistry associated with it. When presenting

the issue, it is important that there is a scientific basis to support both sides. Ethics are important, but arguments that deal only with what is moral or ethical are not sufficient.

Your poster should be about 2 feet by 3 feet on posterboard or cardboard. It should include:

- A title in large print. The title should grab peoples' attention.
- A statement of the issue.
- Biological and/or chemical concepts necessary to make an informed decision. Assume that the people looking at our poster have not taken Mice and Matter - you need to give them enough information to understand the issue.
- Arguments for both sides of the issue, and your evaluation of the validity of the arguments

Class Presentation

You will also give a short presentation on your issue to the class. All individuals in the group must take part in the presentation: speaking, presenting visual aids, or participating in some way. Presentations should be about 10 minutes with 5 minutes for questions. The form of your presentation is up to you. The presentation should include:

- Statement of the issue.
- Biological and/or chemical concepts necessary to make an informed decision.
- Arguments for both sides of the issue.
- Evaluation of the arguments.

Annotated Bibliography

This is an individual grade. Each group member will submit an annotated bibliography of a minimum of five (5) references. Half the references should be on the pro side of the issue, and half on the con side. **You need to find your own references i.e. a group of 4 people should have a total of 20 different references.**

Citations must be complete and references should be listed in alphabetical order by author's last name. Your references should be from a variety of sources including periodicals, newspapers, World Wide Web, and fulltext databases such as EbscoHost and ProQuest. Reference need to be current. Encyclopedias, including Encarta, are good starting points for your research but are not acceptable references for this project.

Your bibliography will be graded based on the following criteria:

- What is the quality of the references?
- Are the references relevant to the topic?
- Are the citations complete and correctly formatted?

- Are the dates of the references appropriate to the issue?
- Are there periodicals as well as other sources?
- Are the references relevant and appropriate for the issue?

Sample annotation

Annotations include two to three sentences describing the contents of the article and one sentence explaining why the reference is useful to the group.

Bogus, I. M. and B. A. Fraud. 1977. "Faking a bibliographic reference on short notice." Reader's Digest, 154:215-217.

This article includes the most common types of reference fudging including new Internet schemes. It also showed how to spot the phonies. I found that this helped us defend the position that plagiarism is becoming more common.

Grading

You will receive a group grade for the poster and presentation, and an individual grade for the annotated bibliography.

Each group will write up a contract which outlines the poster issue, your research strategy, and the responsibilities of each member of the group. All group members must sign this contract. The contract is due in class you will have the first half hour of class time to finalize your contract. Both the poster and the presentation will be graded on the following criteria:

- Is the issue clearly stated?
- Are pro and con arguments given?
- Are the arguments critically evaluated?
- Is the information presented accurate and relevant?
- Does it explain the chemistry and/or biology?
- Creativity - includes aesthetics and lack of spelling errors etc.
- Participation by all group members.

 **Bellevue Community College**

[Library Media Center](#)

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