This document is a guide that a science teacher might prepare for students with the help of an English teacher. The first section provides a rationale for the guide and discusses types of writing done in science classes and the ways this booklet might help students. Guidelines are delineated for answering study guide questions, writing essays, and writing library reports. The final section is a sample manuscript which exemplifies the proper style and appearance of a science manuscript. (T5)
In the past few years many reading specialists in high schools have been functioning as consultants to content area teachers. The objective: To train teachers, content specialists in their own right, how to use the textbooks they assign. The relationship is symbiotic. The reading specialist understands the learning processes; the teachers know the content.

In the same way, English teachers can function as writing consultants to other departments. The objective: To train content area teachers how to teach the writing they assign. Again the relationship is symbiotic. The English teacher understands the writing processes; the content area teachers know the content of the assignments.

Just as most content area teachers recognize that all reading problems cannot be remedied in a reading laboratory, they must also realize that all writing problems cannot be remedied in an English classroom. Besides, English has its own content and it is a rare English teacher who would prefer teaching term paper technique for history to sensory recording. Nevertheless, the English teacher's expertise in writing can be helpful to teachers in other departments.

With released time, English teachers can conduct inservice sessions with any departments that express concern over quality of writing. Inservice sessions could focus on helping teachers develop (1) rationales for students concerning the importance of writing, (2) procedures for helping students fill out study guides, (3) techniques for taking essay tests, (4) tips for composing library reports, and (5) criteria for manuscript appearance.

What follows is a writing guide that a science teacher might prepare for students, with the help of an English teacher:
A GUIDE FOR COMPLETING WRITING ASSIGNMENTS

IN SCIENCE

RATIONALE

Those of you enrolling in this science class will be expected to do a number of assignments that involve writing. Although writing is taught in your English classes, you normally do not confine writing to just English. Scientists engage in much writing—writing up experiments, keeping daily journals of observations, writing articles for professional journals. Just as scientists do writing, so do students in science.

Types of Writing You Will Do

You will engage in many different types of writing in this class. First you will be writing answers to questions and problems presented in the various study guides you will be asked to complete. Although some of these answers will be short, perhaps not even a sentence in length, many of the answers will involve several sentences, even paragraphs.

Second, you will be writing essay examinations approximately every three weeks. Essay examination writing demands that you read and understand the question, organize the question appropriately, and provide the information requested.

Third, you will write occasional library reports. In writing library reports it is important that you read several sources, not just one, that you are able to put the information into your own words, and that you can synthesize, or combine, the opinions of several different sources of information.

How This Booklet Can Help You

This booklet can help you in several ways. First of all, it contains an instructional guide for preparing assignments for each of the types of writing you will do for this class. Second, this booklet contains instructions about the manuscript appearance each paper you submit will take.

It is hoped that this booklet will remain in your notebooks for the duration of this course and that you consult it frequently as you prepare the various writing assignments you turn in for credit.

— Your teacher
ANSWERING STUDY GUIDE QUESTIONS

I. Some study guide questions will demand short answers:

EXAMPLE: What causes the green color that you see on a pond?
(you write) pond scum or algae

II. Occasionally study guide answers will have to be submitted without the guide questions. In that case, do not copy the question but incorporate the question into the answer:

EXAMPLE: What causes the green color that you see on a pond?
(you write) The green color that you see on a pond is caused by pond scum or algae.

III. Sometimes study questions demand more response than a sentence or sentence fragment:

EXAMPLE: Briefly describe the environment of a pond:
(you write) A Pond's Environment.
A pond's water is slow moving or still. Because of this, a scummy growth called algae can be seen on the top and under the water. Ducks and other waterbirds like ponds because of the gentle water and the bugs that live there.
INSTUTIONAL GUIDE #2

Essay Test

I. The first thing you need to do when writing essay questions is to understand what the question is asking you to do. On the next two pages are terms commonly used in essay tests and what they mean.

II. After you understand "direction words" of essay questions, you should think about the type of information the question asks for. For instance, read the following essay question and the types of questions you might ask yourself about it.

EXAMPLE: List the causes and effects of smog.

Questions You Might Ask Yourself

I. What would I be expected to do in a list?
   A. What form would the list take?
   B. How much detail would I have to supply for each cause and effect?

II. What are causes and effects?
   A. Are causes the same as effects—or different?
   B. Is there an effect for every cause?

III. Which of the following piece of information would be helpful in writing the essay?
   A. The effects of carbon monoxide on breathing and blood circulation
   B. Population explosion
   C. Automobile manufacturing
   D. Rapid transportation
   E. Inversion levels on coastal areas
   F. Declining property values
Here is the way a good essay question might be answered:

**EXAMPLE:** Describe a pond’s environment.

**The Pond**

A pond is fairly easy to recognize. First of all, unlike rivers and streams, the water has a still surface. Unlike lakes, the pond’s surface is spotted with plant life. Second, much of this plant life consists of algae and scum. These and other forms of pond growth, such as rushes, stimulate an active insect community. The stillness of the water, which fosters the growth of these plants, also is attractive living quarters for water birds, particularly ducks. Third, water, plants, and animals live together effectively. As small fish and insects feed on plants, larger fish and birds feed on the insects. Animals give CO₂ to the plants. You can always find nature’s balance at work in a pond. **End of Sentence.**
INSTRUCTIONAL GUIDE #3
Writing Library Reports

I. The first step in writing library reports is knowing how to put information into your own words. Here are a few exercises to help you paraphrase:

EXAMPLE

Instructions: Read the two paragraphs and answer the questions that follow them.

From the Library Source

More than any other scientist, the American inventor Lee DeForest was responsible for the basic developments which underlie the science and technology of modern vacuum tubes. When DeForest finished his doctoral degree at Yale, specializing in radio waves, he resolved to excel in the new field of wireless communications.

Paraphrase

Lee DeForest was an American inventor who did much of the basic research on vacuum tubes. When he received his doctoral degree at Yale, he decided to make radio waves and communications his major interest.

Questions

1. What are the major differences between the two passages?
2. Give some examples of how the paraphrase uses simpler language than the library source.
3. Why is copying not a worthwhile activity?

Instructions: Paraphrase the following sentence from a library source, using the guide questions to help you.

From the Library Source

DeForest sought to develop a business enterprise of his vacuum tube developments, but he was less successful as a business organizer than as a pioneer in electronics.

Questions to Guide Paraphrase

1. What words would sound less formal than (1) business enterprise, (2) business organizer, and (3) pioneer in electronics?
2. How would you write the one long sentence as two shorter sentences?
3. What are vacuum tube developments?
Instruction: See if you can paraphrase the following paragraph without any guidance:

Sunlight travels a distance of 93 million miles at a speed of 186,000 miles per second before it strikes the earth. Without sunlight, life could not exist on this planet. Light also affects the behavior of most plants and animals, including man.

II. Rather than "crash" for your library report the day before it is due, you should spend enough classroom time working on it so that the final product will be worthwhile. Here are some of the steps that you might go through:

EXAMPLE: Write a report on the various means whereby tigers trap their prey.

Suggested Steps

1. Go to the encyclopedias for overview information. Remember to paraphrase the information on note-cards.

2. Check any bibliographies in the encyclopedia for additional references in the library that you might read.

3. Check the Reader's Guide for magazine articles about tigers trapping their prey.

4. Check the card catalog in the school or city library to locate additional books on the subject. You may not have to read and take notes on an entire book, perhaps only a chapter or group of pages.

5. If you are having difficulty paraphrasing the information, consult your teacher for help.

6. After you have read your information, write what you think is the main idea of your report.

7. After you have your main idea, divide it into smaller aspects and organize your note-cards around these smaller aspects.

8. Write an introductory paragraph in which you indicate what your main idea is and explain what you are going to write about in the rest of the report.

9. Begin writing a paragraph for each one of the smaller aspects that you want to cover.

10. Add a concluding paragraph that ties the whole report together.
11. Have your teacher read your rough draft or exchange it with that of a fellow student. Try to get as many impressions as possible.

12. Rewrite your rough draft in final form, adhering to the rules for manuscript appearance.
MANUSCRIPT APPEARANCE

I. Manuscript Appearance: body of the paper

Title

After you have placed the title on the top line, centered, you should drop down about three lines, indent for your first paragraph, and start to write, double-spacing as you go. You should leave margins on both sides of the paper. By all means, use ink or typewriter, unless otherwise directed.

Do not number the first page, but number all other pages in the upper right hand corner. This will insure that the paper can be reassembled correctly if its various pages become scrambled.

In writing prose, be careful how you divide words at the ends of lines. Do not divide words of one syllable. Consult a dictionary if you wish to divide multiple syllable words correctly. Do not divide words at the ends of lines. Do not write on the bottom line of the paper. Use only 8.5 x 11, three-hole punched paper.

II. Manuscript Appearance: the endorsement

Fold in half lengthwise.

Last name, first name
Science III
Date
Assignment Title

Endorse on punched side
As the title suggests, this is just a beginning. The procedures described may appear simple, even mundane--but they represent a step in the right direction. A new role for the English teacher can emerge--that of writing consultant to other departments.