



CRITICAL THINKING & INFORMATION LITERACY ACROSS THE CURRICULUM

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Biology

Biology Handbook: *Scientific Process*

1. Why is observation important in science?

What does it mean to be an "objective observer"?

What can affect our ability to observe? Use examples from daily life to defend your answer.

2. List the important steps of the scientific method and briefly describe each step.

3. Claude Lévi-Strauss, a French anthropologist wrote: "The scientific mind does not so much provide the right answers as ask the right questions." How does this relate to the scientific method? (born. 1908) From: *The Raw and the Cooked*, "Overture," sct. 1 (1964).

Using a book of quotations (these are available in the library), find another quote which relates to science. Write down the quote, identify the source of the quote and indicate why you found this particular quote interesting.

4. Scientific studies often include an experimental and a control group. What does this mean? Illustrate your answer with an example.

5. Critically analyze the following reported facts:

a. Eating sweets makes you gain weight.


b. An apple a day keeps the doctor away.

c. All natural, contains no chemicals.

6. What is meant by the term, scientific theory? Find the "Theory of Evolution" in your biology textbook and state it below:

7. What is **creationism**?

In terms of the three scientific principles that underlie all scientific inquiry: natural causality, uniformity in space and time, and common perception, briefly discuss the problems involved in pursuing a scientific study of **creationism**.

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