



Mastering Science

Every class and most teachers have some special requirements to be successful. To achieve, it is important to adjust your study so you can learn the most and use your time well. While there is no guarantee that any strategy or approach will be effective, all subjects do have some characteristics that make them different. The purpose of this lesson is to help you understand some of these characteristics for science and to study systematically using effective skills.

Characteristics of Science

The primary goal of science is to seek order in nature. Consequently, science is very orderly in terms of topics and the relations between topics. As you study science, you should identify orderly relationships and the variables or issues involved.

Science tends to create categories and structures to classify ideas and objects. For example, in chemistry, the Periodic Table is a way to organize known elements based on their relation to each other. In biology, plants and animals are divided into categories such as “mammal” or “herbivore”. Thus, the characteristics that constitute a class or group are important to know.

Another form of orderly relationship science seeks is between conditions and outcomes. These are often called variables and studied in terms of the effects a change on one variable will have or cause on another. A simple example is the relation between heat and the volume of a gas. As heat (one variable) increases the volume (another variable) expands. As a result, we can state a principle that describes the effects of heat on a gas. Below, we look at using systematic study with science for in-class and home study learning.

**STUDY SMART**

Home Science Learning

PREPARE

- A. Review your notes from class
- B. Think about your class each day and state the main points presented
- C. Survey your text before reading
- D. Set goals for your study

ACT

- A. Read actively
- B. Review all notes regularly
- C. Restate main points in your own words
- D. Make up questions
- E. Discuss main points with others
- F. Relate ideas from one chapter to another
- G. Make notes as you read (outline,

networks)

H. Make a list of what you don't understand

I. Ask for help if you do not understand

TEST

A. Write a summary of main points from memory

B. Work practice activities

C. Check to see if you have met your goals

D. See a tutor for testing

E. Self test using questions you and other make up.

**STUDY SMART**

In-Class Science Learning

PREPARE

- A. Read the textbook before class
- B. Review your reading right before class
- C. Review your notes by reading the summary box
- D. Think of questions to ask your teacher
- E. Predict topics your teacher will present
- F. Set goals for your self

ACT

- A. Listen actively for main idea words
- B. Review and restate frequently

- C. Use organizers to follow your teacher in class
- D. Listen for test questions particularly if your teacher uses an overhead projector
- E. Focus on main points
- F. Monitor your attention and concentration
- G. Take good notes using the systematic note taking strategy

TEST

- A. Up-grade your notes using the systematic note taking strategy
- B. Review your notes
- C. Raise questions you can ask in class
- D. Restate main points to yourself or others
- E. Relate main points to previous classes
- F. Work practice activities
- G. Form study groups with others

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