

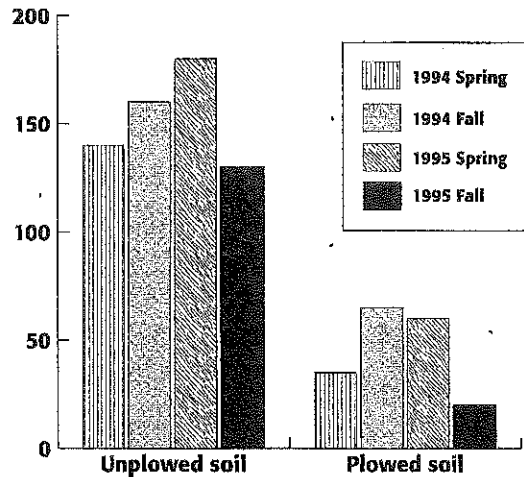
Assessment

HOMework ~ 10 PTS
DUE: WED 1/13

Section: Scientific Methods

Use the information in the graph to answer questions 1-3. Write the letter of the correct answer in the space provided.

Earthworms per square meter



- _____ 1. What question did the scientists who collected this data want to answer?
 - a. Are there more earthworms in the soil in the spring or in the fall?
 - b. What is the effect of plowing soil on the number of earthworms?
 - c. How is the size of earthworms affected by the seasons?
 - d. Does plowing soil affect how fast earthworms grow?

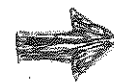
- _____ 2. Where and when were the most earthworms found?
 - a. unplowed soil, spring 1995
 - b. unplowed soil, fall 1994
 - c. unplowed soil, fall 1995
 - d. plowed soil, spring 1994

- _____ 3. What do the data in this graph show?
 - a. Unplowed soil has more earthworms than plowed soil.
 - b. Plowed soil has more earthworms than unplowed soil.
 - c. Plowing of soil has no effect on the number of earthworms.
 - d. The number of earthworms cannot be predicted.

Write the letter of the correct answer in the space provided.

- _____ 4. A hypothesis is
 - a. a fact.
 - b. a type of question.
 - c. a possible answer to a question.
 - d. an experiment.

- _____ 5. A controlled experiment
 - a. tests several different factors at one time.
 - b. has several control groups.
 - c. has more control groups than experimental groups.
 - d. has only one variable.



Vocabulary and Section Summary

Scientific Methods

VOCABULARY

In your own words, write a definition of the following terms in the space provided.

1. scientific methods

2. hypothesis

3. controlled experiment

4. variable

SECTION SUMMARY

Read the following section summary.

- Scientific methods are the ways in which scientists follow steps to answer questions and solve problems.
- Any information you gather through your senses is an observation. Observations often lead to the formation of questions and hypotheses.
- A hypothesis is a possible explanation or answer to a question. A well-formed hypothesis is testable by experiment.
- A controlled experiment tests only one factor at a time and consists of a control group and one or more experimental groups.
- After testing a hypothesis, scientists analyze the results and draw conclusions about whether the hypothesis is supported.
- Communicating results allows others to check the results, add to their knowledge, and design new experiments.