

STUDY GUIDE - Ch. 1.4 - Science Benefits From a Cooperative Approach and Diverse Viewpoints

NAME: _____

- Please **PHYSICALLY PRINT OUT** these pages and **HANDWRITE** the answers directly on the printouts. *Typed work or digitally-produced answers will not be accepted.*
 - **Importantly, guided readings are NOT GROUP PROJECTS!!!** *You, and you alone, are to answer the questions as you read. You are **not** to share them with another students or work together on filling it out. You are **not** to copy any answers from any other source including the internet. Please report any dishonest behavior to your instructor to be dealt with accordingly.*
 - **Get in the habit of writing legibly, neatly, and in a NORMAL, MEDIUM-SIZED FONT.** *AP essay readers and I will skip grading anything that cannot be easily and quickly read so start perfect your handwriting.*
 - Please **SCAN** documents properly and upload them to Archie. *Avoid taking photographs of or uploading dark, washed out, side ways, or upside down homework. Please use the scanner in the school's media lab if one is not at your disposal and keep completed guides organized in your binder to use as study and review tools.*
 - **READ FOR UNDERSTANDING** and not merely to complete an assignment. *Though all the answers are in your textbook, you should try to put answers in your own words, maintaining accuracy and the proper use of terminology, rather than blindly copying the textbook whenever possible.*
- 1 . Though earlier we said you typically want only one variable (one independent variable) to vary between your control and your experimental group (often also called the treatment group), in certain situations you may have more than one independent variable in an experiment. Carefully read and study the hypothesis, experimental set up, and the results of the experiment described in the Scientific Skills Exercise on page 23.
- a. This is an example where you see more than one independent variable in the graphs. Independent variables are always plotted along the x-axis in a graph. What are these two independent variables that were manipulated by the researcher in the experiment?
 - b. Dependent variables are always plotted along the y-axis in a graph. What is the dependent variable, the variable being measured, as a result of varying the independent variables?
 - c. Given how many dark brown mice were caught in the light-colored soil on a moonlit night vs how many dark brown mice were caught in the dark-colored solid on a moonlit night, would a dark brown mouse be more likely to escape predation by owls on dark or light-colored soil in the presence of moonlight? **ALWAYS - IN ALL QUESTIONS AND THROUGHOUT THIS COURSE - BACK UP YOUR STATEMENT USING THE DATA GIVEN. ALWAYS QUOTE THE DATA TO BACK UP YOUR CLAIMS & SHOW THE READER WHY YOU SAY WHAT YOU SAY.**
 - d. Is a dark brown mouse more likely to escape predation in moonlight or when there is no moonlight when the mouse is living on the dark-colored soil? **(Again, explain)**

- e. Is a light brown mouse more likely to escape predation in moonlight or when there is no moonlight when the mouse is living on the light-colored soil? **(Again, explain)**
- f. When studying both graphs and so both soil-color and moonlight conditions, under which conditionS would a dark brown mouse be more successful in escaping predation at night? **(Again, explain)**
- g. When studying both graphs and so both soil-color and moonlight conditions, under which conditionS would a light brown mouse be more successful in escaping predation at night? **(Again, explain)**
- h. What combination of independent variables led to the highest predation in environments with light-colored soil? **(Again, explain)**
- i. What combination of independent variables led to the highest predation in environments with dark-colored soil? **(Again, explain)**
- j. What combination of conditions are especially deadly to dark-colored mice? **(Again, explain)**
- k. What combination of conditions are especially deadly to light-colored mice? **(Again, explain)**
- l. What combination of conditions are especially beneficial for the owl who preys on mice? **(Again, explain)**

17. How does **science** differ from **technology**?

18. Proceed to the TEST YOUR UNDERSTANDING section at the end of the chapter. Answer questions 1-8.

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____

8.