

Science Homework

Sections 5A,B, C, D, & E

September 11-15, 2023

Day	Homework
Monday	<ul style="list-style-type: none">Complete pages 1-4Answer questions 1-11
Tuesday	<ul style="list-style-type: none">Complete Page 5Read the experimental scenario and identify the Independent Variable (IV), Dependent Variable (DV), Constant Variables (CV), Control Group (CG), Testable question (TQ), and Hypothesis (HP)
Wednesday	<ul style="list-style-type: none">Review your notes, vocabulary (Quizlet), and resources in <u>Archie under Science Resources</u>
Thursday	<ul style="list-style-type: none">Review your notes, vocabulary (Quizlet), and resources in <u>Archie under Science Resources</u>
Friday	<ul style="list-style-type: none">No Homework! Enjoy your weekend 😊

Reminders

- HW due Monday, September 18th
- Topic 1a Working Like a Scientist Test, Friday 9/15
- HW may be completed on iPads & uploaded to Archie OR printed packet may be turned in.

Science VOCABULARY

Problem Statement
Research
Hypothesis
Manipulated/Independent/Test Variable
Responding/Dependent Variable
Control Variables
Materials
Procedures
Results
Conclusion
Applications
Abstract

[Topic 1a Working Like a Scientist Vocabulary Quizlet](#)



**Name:****Section:**

**QUIZ
REVIEW PACKET
TOPIC 1a: Working like a Scientist**

Assignment Instructions: Read the questions and answer choices carefully. **Underline** the key word/ words. **Select** one of the four answer choices. **Use** the notes in your Science Notebook to answer the following questions.

1. Some scientific tools are used for making observations, and others are used for making measurements. Which of these tools would be **most** useful for observing the behavior of ants?

- A. Hand lens
- B. Metric ruler
- C. Electronic balance
- D. Graduated cylinder

2. Students look out a window for 5min. They record the number of vehicles that pass, the type of vehicle (car, pickup truck, motorcycle, and so on) and the color of the vehicle. What are the students doing?

- A. Concluding
- B. Experimenting
- C. Predicting
- D. Observing



3. Luca read about droughts, in which the rain fall is significantly lower than average. He has noticed that it has not rained much in his area this month. How could he collect data to find out if his area is experiencing a drought?

- A. He could compare the rainfall to other cities.
- B. He could measure the standing water on the ground.
- C. He could measure the rainfall every day for a month and compare those measurements to the average rain fall for that month.
- D. He could measure the temperature each day for a month and compare those measurement to the average temperature for that month.

4. Joseph wonders what kinds of birds live in his neighborhood. What skill will Joseph use to investigate the variety of birds in his neighborhood?

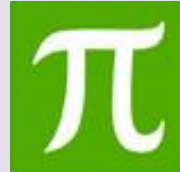
- A. Infer
- B. Observe
- C. Order
- D. Communicate

5. When you perform an experiment, it is important that measurements are accurate. What determines the accuracy of a measurement?

- A. How close it is to the actual value.
- B. The number of times that it is repeated.
- C. The ability of other people to reproduce the measurement.
- D. Whether the results of an experiment match the predicted results.

6. Scientists are not the only ones who gather information. For example, historians gather information to describe what has happened in the past. However, scientists gather information differently than others. Which way of gathering information do **only** scientists use?

- A. Reading
- B. Observing
- C. Recording
- D. Experimenting



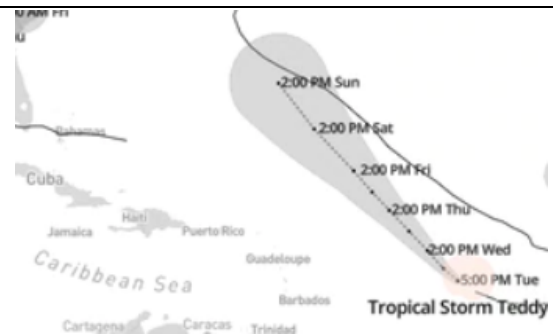
7. Imagine that a scientist suggests that the size of an insect population depends on the temperature. What observations must this scientist make in order to collect evidence to support his or her hypothesis?

- A. The scientist must observe the insect population only in winter.
- B. The scientist must observe the insect population in the laboratory.
- C. The scientist must observe the insect population in different areas.
- D. The scientist must observe the insect population throughout the year.

8. Leo likes doing science experiments. However, he could not understand why the direction said to repeat the experiment three times. Why do scientists repeat their experiments?

- A. To avoid making observations.
- B. To throw out the information they collected earlier.
- C. To develop a new procedure that they can use later.
- D. To make sure that the information they collect is reliable.

9. Meteorologists track hurricanes as they develop over oceans. The following illustration shows the anticipated storm track of a hurricane that developed in August 2009 over the Atlantic Ocean. What are meteorologists doing when they created storm tracks such as this one?



- A. Predicting
- B. Testing their ideas
- C. Explain how a hurricane works
- D. Gathering information to determine the strength of a hurricane.



10. Scientists always develop a plan when they try to learn something about our natural world. Which sequence correctly shows the steps scientists follow in their plan?

- A. Make observations, develop an idea, obtain evidence, suggest an explanation.
- B. Obtain evidence, suggest an explanation, develop an idea, make observations.
- C. Suggest an explanation, obtain evidence, make observations, develop an idea.
- D. Develop an idea, suggest an explanation, obtain evidence, make observations.

11. The control group is the part of an experiment that remains the same and keeps on functioning under “normal” conditions. The outcome of the control group compares to the outcome of the independent variable(s). For example, the control group may be the unpainted aluminum can, if the independent variables are aluminum cans painted with blue, yellow and pink dye. Which of the following represent **control group**?

- A. The normal outside temperature.
- B. The different types of fabric.
- C. The same amount of fish food.
- D. 50ml of water at 80°C.



Assignment Instructions: Read the following Controlled Experiment Scenarios. Identify the Independent Variable (**IV**), Dependent Variable (**DV**), Constant Variables (**CV**) (at least 2) and Control Group (**CG**). Form the Testable Question (**TQ**) and the Hypothesis (**HP**) (**find the Rationale in the scenarios: What did the experimenters think...?**).

A student investigated whether ants dig more tunnels in the light or in the dark. She thought that ants used the filtered light that penetrated the upper layers of earth and would dig more tunnels during the daytime. Ten ant colonies were set up in commercial ant farms with the same number and type of ants per ant farm. The same amount of food was given to each colony, and the colonies were in the same temperature. Five of the colonies were exposed to normal room light and five were covered with black construction paper so they did not receive light. Every other day for three weeks the length of the tunnels was measured in millimeter using a string and a ruler. Averages for the light and dark groups for each measured were then computed. The averages are listed in the following chart.

- **IV:**
- **DV:**
- **CV:**
- **CG:**
- **TQ:**
- **HP:**