

TEST STUDY GUIDE – Introduction to Life Science

7th Grade Mr. Galloway

- * Know the PowerPoint **HANDOUT** notes on Scripture and the Scientific Method
- * Memorize the 7 steps in order of the Scientific Method in the box below, and be able to explain what a Hypothesis is.

The Scientific Method

1. Observation
2. Questions
3. Data Gathering
4. Hypothesis
5. Testing
6. Analysis
7. Conclusion

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4. Hypothesis Stated

- Hypo – Thesis (Underlying **belief**)
- An “If . . . Then” statement
- Makes a **testable** prediction
- Can be proven false (falsifiable).
- Simplified Example:
“**If** plants are sprayed with weed killer, **then** the plants will die.”
- Now you state some hypotheses that can be **tested** (can be verified).

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- * Be sure you understand the purpose and parts of a controlled experiment in the box below:

The “Controlled” Experiment

- **Variables** = factors that can change (like temperature, amount of water, etc.)
- **Independent Variable** = manipulated variable, which is altered by the scientist
- **Dependent Variable** = responding variable, which depends on the independent variable.
- **Two groups** are tested in a controlled experiment (**control** and **experimental**)
 - **Control Group**: all the variables stay the same
 - **Experimental Group**: The scientist manipulates the independent variable to test how the dependent variable responds.

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- * Know the following terms that were on your Quiz last week:

Science
Life Science
Scientific inquiry
SI Units (International System of Measurement)
Measurement
Observation
Data

Inference
Hypothesis
Controlled experiment
Variable
Manipulated (independent) variable
Responding (dependent) variable
Scientific theory

*** KNOW THE FOLLOWING TERMS:**

Marine Biologist – studies life in the sea
EMT – Emergency Medical Technician (ambulances rescuing sick people)
Veterinarian – An animal doctor
Botanist – scientist that studies plants
Park Ranger / Zookeeper
Caring for animals, plants, and parks
Physical Therapist – Helps people with muscle and joint injuries to improve

Bio-Weapon: Spreads viruses or bacteria
Physician – A doctor for treating people
Models or Simulations (p. 8 of text) Model is the process of generating abstract, conceptual, graphical and/or mathematical representations of theories and data
Simulation is the implementation of a model over time

POSSIBLE BONUS:

1. Why did God call the Garden of Eden “very good”, and what was different about the diet then, compared to today’s world of survival of the cruelest?
2. What is the phrase Mr. Galloway made up to help you remember that DNA did not happen by chance?
DESIGNED NOT ACCIDENTAL
3. Spell the chemical name for DNA – Deoxyribonucleic Acid